



Perceptions of Dementia Threats and Related Advance Care Planning among Adults in Central Vietnam

Nguyen Thu Trang*, Bui Thanh Minh*, Dao Thuy Hang*, Dinh Phuong Linh*,
Le Thi Lan**

Abstract: Understanding dementia beliefs among Vietnamese people is crucial for the development of evidence-based interventions to promote positive help-seeking behaviors when facing the risk of dementia for themselves and their relatives. This study aims to examine the perceived dementia threats to oneself and relatives, and the perceived importance of advance dementia care planning among adults in the Central region of Vietnam, as well as their associated factors. A total of 300 adults, aged from 18 to 59 years, agreed to participate in the study. They were interviewed using a printed questionnaire at home. Results show that the perceived dementia threat to themselves was associated with their employment status, anxiety about aging, knowing someone with dementia, and dementia knowledge. On the other hand, religiosity, income, and worrying about getting dementia in the future significantly contributed to the perceived threat of dementia to their relatives. The perceived importance of advance care planning for dementia was significantly predicted by age, religiosity, dementia knowledge, and perceived threat of dementia to themselves.

Keywords: perception; dementia threats; advance care planning; Vietnamese adults.

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1. Introduction

1.1. Overview of the Dementia Situation in Vietnam

Dementia, a chronic condition associated with cognitive impairment and mostly caused by Alzheimer's Disease (Smith and

Bondi 2013), poses a significant threat to the older population in Vietnam. Using different measures in different settings and areas in the country, the prevalence of dementia in the Vietnamese population varies from 9.4% (Doan Diem Khanh Vuong et al. 2015) to 13.9% (Tran Thi Thuy Ha et al. 2023), 32.4% (Cao Manh Long et al. 2022), and even 46.4% (Nguyen Ngoc Bich et al. 2019). The threat of dementia becomes more pressing given that along with the rapid aging of the Vietnamese population (Tatarski 2016; UNFPA & VCCI 2021), the

* University of Social Sciences and Humanities, Vietnam National University, Hanoi;
email: nttrang.uss@vnu.edu.vn

**Administrative - General Department, Office of Vietnam National University, Hanoi.

proportion of people clinically diagnosed with dementia is estimated to drastically increase from 600,000 recorded cases in 2019 to 1.8 million cases in 2050 (Institute for Training in Preventive Medicine and Public Health 2022; Thanh Hang 2022).

The high prevalence of dementia places a great burden on the public health system. For example, the care cost for patients with dementia in Southeast Asia (SEA) was estimated at USD 185 billion in 2014 (Alzheimer's Disease International and Dementia Australia 2014). With the rise of dementia cases in the coming decades, the estimated care costs will become much higher. In Vietnam, the care costs for people with dementia in 2015 were reported at USD 960 million (Nguyen Tuan Anh et al. 2020). As in many other countries in SEA, the healthcare and social welfare systems serving people affected by dementia remain fragile and under-resourced, with medical services mainly restricted to large hospitals in large metropolitan cities (Dementia 2019). So far, people with dementia mostly rely on their family for informal care (Nguyen et al. 2020; Thanh Hang 2022).

In the current situation, the health outcomes and quality of life of people with dementia largely depend on their family caregivers' care behaviors. Although dementia prevention, early detection, and early intervention should be prioritized, Asian populations have been acknowledged to have poor advance care planning for dementia (World Health Organization 2017). Actual care behaviors of caregivers are shaped by their health beliefs about dementia risk and its preventive strategies.

1.2. The Health Belief Model of Health Behaviors

The adoption of the Health Belief Model (Alyafei and Easton-Carr 2025; Rosenstock

2000) provides a theoretical foundation to establish the underlying mechanism between health belief components and responding health behaviors, including preventive actions. This model was built on the hypothesis that when community-dwelling people perceive health threats, they develop related fears. Perceived benefits of potential health behaviors, such as planning for a healthcare check-up and changes in lifestyles, tend to lead to their intention to act to reduce their fears (Alyafei and Easton-Carr 2025). In other words, people decide to act based on their assessment of perceived threats, which refer to perceived susceptibility and severity of the health threats, and perceived benefits. Other factors that contribute to predicting people's actions in the model are the perceived barriers, self-efficacy, and cues to action (Alyafei and Easton-Carr 2025; Rosenstock 2000). The original model suggests that demographic variables, such as age, gender, and socioeconomic status – including educational level, employment, and income – alter key health belief components, thereby indirectly affecting health behaviors (Alyafei and Easton-Carr 2025; Nelson et al. 2021; Rosenstock 2000). In the modified models applied in the context of dementia care, new factors, such as dementia knowledge and fear (Nelson et al. 2021; Yun and Choi 2025), and exposure to dementia and anxiety about aging (Nguyen 2023), have been added to the model to help better explain the variance of the health belief components.

In the Asian context, a variety of studies have focused on the association between dementia fear or worry, perceived susceptibility, and perceived severity of dementia with preventive behaviors among Chinese (Li et al. 2022), Taiwanese (Tsai et al. 2024), and Korean (Jung and Gu 2024; Lee and Ko 2024; Yun and Choi 2025)

populations. In Vietnam, misconceptions and misunderstandings of dementia remain prevalent. Typically, there has been a widespread belief that dementia is merely a sign of normal aging and advance care planning, and seeking medical help is not necessary (Institute for Training in Preventive Medicine and Public Health 2022; Nguyen Trang et al. 2021; Nguyen Tuan Anh et al. 2021; Nguyen Thanh Binh et al. 2018). Critically, these beliefs deter people from dementia prevention, as well as from seeking diagnosis and treatment services when dementia symptoms appear (Nguyen 2023; T. Nguyen et al. 2021; Thanh Hang 2022). In other words, perceived dementia threats and perceived importance of advance care planning critically shape the actual behaviors of Vietnamese people facing the risk of dementia.

1.3. The Present Study

The existing literature associated with the Vietnamese population, however, exposes a noticeable knowledge gap in their dementia beliefs, particularly their perceived dementia threats and the importance of advance care planning in case they or their relatives show dementia symptoms. These beliefs play a crucial role in predicting the actual help-seeking behaviors that will result in better health outcomes, well-being, and quality of life of the people affected by dementia. In addition, previous studies have established evidence that knowing someone with dementia, being worried about getting dementia or caring for someone with dementia in the future, and being knowledgeable about dementia are significantly associated with Vietnamese people's intention to plan for dementia care (Nguyen 2023). However, very little is known about the relationship between perceived dementia threats to oneself or

one's relatives and the perceived importance of advance dementia care planning.

This situation demands further studies in the specific Vietnamese sociocultural context. It is worth noting that most previous studies were conducted with Vietnamese people residing in the North and South of Vietnam (Nguyen Ngoc Bich et al. 2019; Doan Diem Khanh Vuong et al. 2015; Institute for Training in Preventive Medicine and Public Health 2022; Nguyen Huong et al. 2021; Nguyen Thu Trang 2023; Nguyen Trang et al. 2021). The related perspectives of people from other regions, particularly the central part of the country, are absent from the literature. The risk of dementia in Central Vietnam, indeed, is high. The overall estimated prevalence of dementia in this region in 2015 was reported at 9.4% of the total older population aged 65 years and above (Doan Diem Khanh Vuong et al. 2015). This study sample also revealed the urgent need for medical consultation and services to respond to the risk of the illness. However, only a few healthcare facilities in the largest cities, such as Hanoi and Ho Chi Minh City, provide services for people with dementia (Dang Thu Ha et al. 2021). That said, despite the high risk of dementia among older adults in Central Vietnam, this population has been underserved and understudied.

Addressing the existing practical and knowledge gaps, this article:

- (1) Examines the perceived dementia threats to oneself and relatives among Vietnamese adults in the Central region of Vietnam, as well as their associated factors.
- (2) Investigates the perceived importance of advance dementia care planning and associated factors.

2. Research Methods

2.1. Study Design, Setting, and Participants

The present study utilized a cross-sectional design and was approved by the Institutional Review Board of a university based in Hanoi (IRB approval certificate #1677/CN-XHNV, code #XHNV-108). Data associated with this specific article were a subset of a larger dataset collected in Hue city, Central Vietnam. The larger study investigated dementia perceptions, stigma, and associated health behaviors among urban community-dwelling adults in different parts of the country. The selected samples, therefore, targeted individuals who met the inclusion criteria of being non-cognitively impaired adults living in and being familiar with the healthcare system in urban areas. The research team collaborated with local district officials to screen a list of potential participants in the selected district¹ in the city. Invited potential participants were those who were at least 18 but not older than 59 years of age, had been living in the district (former administrative unit) for at least three years, and were able to understand and communicate with the research team without cognitive or sensory-related difficulty. Using purposive sampling and with the support of local officials, the research team successfully recruited 300 eligible participants.

Participant characteristics. A total of 300 adults, relatively evenly distributed between men and women, aged from 18 to 59 years, with an average age of 40.10 ($SD = 10.65$) from Hue city, participated in the study. Most of them were married, currently working either part-time or full-time, having a lower monthly income (less than 9 million VND), and having never known or cared for anyone with dementia. As Vietnam has implemented universal healthcare, public health insurance was affordable, resulting in the fact that most participants had health insurance. In this sample, the proportion of those with higher education (holding a college degree or above) and self-reported as non-religious was slightly higher than their counterpart groups. They also reported a moderate level of anxiety about aging ($M = 53.63$, $SD = 5.28$) and dementia knowledge ($M = 17.64$, $SD = 2.17$) (Table 1).

¹ Data were collected in 2023, when the district-level administration was still in effect. Since July 1, 2025, Vietnam has restructured its local government into a two-tiered system consisting of the provincial level (provinces and centrally-run cities) and the communal level (communes and wards). The district-level of administration was abolished. Therefore, the district unit reported here is now under the administration of the communal level.

Table 1: Descriptive characteristics of the key study variables ($N = 300$)

| Variables | n (%) or [Min - Max] | Mean (SD) |
|---|----------------------|---------------|
| Demographic characteristics | | |
| Age | [18 – 59] | 40.10 (10.65) |
| Gender | | |
| Male | 154 (51.33) | |
| Female | 146 (48.67) | |
| Marital status | | |
| Married | 223 (74.33) | |
| Other (single, separated/divorced, widowed) | 77 (25.67) | |
| Religiosity | | |
| No | 190 (63.33) | |
| Yes | 110 (36.67) | |
| Education | | |
| High school/Vocational school and below | 125 (41.67) | |
| College and above | 175 (58.33) | |
| Employment status | | |
| Currently working (full-time or part-time) | 261 (87.00) | |
| Not working | 39 (13.00) | |
| Monthly income | | |
| Lower income (under 9 million VND) | 211 (70.33) | |
| Higher income (9 million VND and above) | 89 (29.67) | |
| Have health insurance | | |
| No | 10 (3.33) | |
| Yes | 290 (96.67) | |
| Knowing someone with dementia | | |
| No | 241 (80.33) | |
| Yes | 59 (19.67) | |
| Having taken care of someone with dementia | | |
| No | 263 (87.67) | |
| Yes | 37 (12.33) | |
| Key measures | | |
| Anxiety about aging ($\alpha = 0.71$) | [31 – 83] | 53.63 (5.28) |
| Dementia knowledge ($\alpha = 0.77$) | [10 – 23] | 17.64 (2.17) |
| Worrying about getting dementia in the future | | |
| No | 132 (44.00) | |
| Yes | 168 (56.00) | |
| Worrying about caring for someone with dementia | | |
| No | 163 (54.33) | |
| Yes | 137 (45.67) | |
| Importance of advance care planning | | |
| No | 47 (15.67) | |
| Yes | 253 (84.33) | |

2.2. Procedures

A group of local research assistants were selected and trained to strictly follow the research ethical requirements and study protocol during data collection. Research assistants visited participants who agreed to participate in the study at their homes to conduct face-to-face interviews using printed questionnaires and pens. The research assistants explained the study protocol, as well as participants' rights, before collecting written informed consent from each participant. Each interview lasted 40 minutes on average. For a complete interview, each participant received an incentive of 30,000 VND. All collected questionnaires were then cleaned and digitally recorded in an Excel file. No identifiable information was recorded, and assigned ID numbers were used instead. The data were stored in a password-protected folder in a secured computer, and data access was restricted to the principal investigator and key researchers.

2.3. Measures

Outcome variables. The three outcome variables in the study were: (O1) perceived threat of getting dementia for oneself in the future, (O2) perceived threat of having someone with dementia to care for in the future, and (O3) perceived importance of advance care planning in case of dementia. These variables were measured by asking respondents whether they were worried about getting dementia themselves (no/yes), worried about caring for someone with dementia in the future (no/yes), and whether they believed that advance care planning for dementia for themselves or their relatives was important (no/yes).

Key predictors. Key predictors included two binary variables: knowing someone

with dementia (no/yes) and having ever cared for someone with dementia (no/yes), in addition to two latent variables of dementia knowledge and anxiety about aging.

Dementia knowledge. This latent variable was measured using the Alzheimer's Disease Knowledge Scale (Nordhus et al. 2012). From a list of 30 items, respondents were asked to choose whether each statement was true or false. For each correctly chosen answer, the respondent gained one point, resulting in maximum possible score of 30 points. This scale was found to be reliable in the study ($\alpha = 0.77$).

Anxiety about aging. This variable was assessed as a latent variable with 20 items using the Anxiety about Aging Scale (Lasher and Faulkender 1993). The items reflected different aspects of the fears of older people about getting old, looking older, and other perceived losses. Respondents rated their degree of agreement on a four-point scale running from 1 to 4. This scale was also reported to be reliable when used with the targeted sample ($\alpha = 0.71$).

Covariates. A variety of covariates were included in the study, including: age (as a continuous variable), gender (male/female), marital status (married/other, such as single, separated/divorced, widowed, or cohabited without a marriage license), religiosity (no/yes), highest education (high school or vocational school and below/college and above), employment status (currently working full-time or part-time/not working), monthly income (lower income: under 9 million VND/higher income: 9 million VND and above), and having health insurance (no/yes).

2.4. Data Analysis

First, descriptive analyses were conducted to describe the variables included in the study. Second, model assumptions and missing values were examined before conducting logistic regressions; the results showed no assumption violations, as well as no pattern of missing values and no other problems with missing data in the intended models. Third, three models of logistic regression were performed, including: perceived dementia threat on oneself (Model 1), perceived dementia threat to relatives (Model 2), and perceived importance of advance care planning (Model 3). In three models, covariates and four key predictors (knowing someone with dementia, caring for someone with dementia, anxiety about aging, and dementia knowledge) were all included. Perceived dementia threat to oneself was added to Model 2 to further investigate its role in predicting the perceived dementia threat to relatives. In Model 3, both perceived dementia threat to oneself and perceived dementia threat to relatives were both added to examine their role in predicting participants' perceived importance of advance care planning. Model goodness-of-fit was examined using a likelihood ratio test and pseudo- R^2 value. All analyses were conducted using the statistical software StataIC 16 and a p -value < 0.05 was set as the statistical significance level.

3. Research Results: Perceptions of Dementia Threats and Related Advance Care

As shown in Table 1, when discussing the future, more participants expressed their worry about getting dementia themselves (56%), but did not worry about caring for someone with dementia (54.33%). Most of them (84.33%), on the other hand, indicated

that advance care planning for dementia was important.

Table 2 summarizes the results of three logistic regression models on perceived dementia threat to oneself (Model 1), perceived dementia threat to relatives (Model 2), and perceived importance of advance care planning (Model 3). In predicting perceived dementia threat to oneself, Model 1 was statistically significant, with $\chi^2(11, 300) = 99.12, p < 0.05$. Employment status, anxiety about aging, knowing someone with dementia, and dementia knowledge were significant predictors of participants' perceived dementia threat to themselves. To be more specific, participants who were still working and those knowing someone with dementia were 2.44 and 14.90 times, respectively, more likely to be worried about getting dementia in the future than their counterparts. Conversely, those having higher dementia knowledge (OR = 0.78, 95%CI [0.69, 0.89]) were found to be less likely to be worried about getting dementia in the future.

Model 2 was also statistically significant, with $\chi^2(12, 300) = 130.84, p < 0.05$. The perception of the risk of dementia threatening a relative was 2.38 and 24.22 times, respectively, more likely to be found among those who were religious and those worrying about developing dementia themselves in the future. Adults with higher income, on the other hand, were less likely to worry about caring for someone with dementia in the future (OR = 0.49, 95%CI [0.24, 0.99]).

Model 3 was statistically significant ($\chi^2(13, 300) = 45.60, p < 0.05$). Although age, religiosity, dementia knowledge, and perceived dementia threat to oneself were all significant predictors, the odds ratios for age and dementia knowledge were just slightly above 1. Meanwhile, participants being

religious and those worrying about getting dementia in the future were 5.00 and 3.63 times, respectively, more likely to believe

that advance care planning for dementia was important.

Table 2: Logistic regression models of perceptions of dementia threats to oneself (Model 1) and relatives (Model 2), and the importance of advance care planning (Model 3)

| | Model 1 (N = 300) Perceived dementia threat to oneself | | Model 2 (N = 300) Perceived dementia threat to relatives | | Model 3 (N = 300) Perceived importance of advance care planning | |
|--|---|---------------|---|----------------|--|---------------|
| | OR | 95% CI | OR | 95% CI | OR | 95% CI |
| Age | 0.99 | (0.96, 1.03) | 1.00 | (0.97, 1.04) | 1.04* | (1.00, 1.08) |
| Gender (Female) | 1.08 | (0.61, 1.91) | 1.01 | (0.55, 1.87) | 0.73 | (0.35, 1.50) |
| Marriage status (Married) | 1.10 | (0.51, 2.36) | 0.61 | (0.27, 1.36) | 0.76 | (0.29, 1.97) |
| Religiosity (Yes) | 0.73 | (0.41, 1.32) | 2.38* | (1.21, 4.67) | 5.00* | (1.91, 13.09) |
| Educational level (Higher education) | 1.25 | (0.66, 2.35) | 1.93 | 0.99, 3.74) | 1.40 | 0.64, 3.04) |
| Employment status (Working) | 2.44* | (1.01, 5.89) | 0.53 | (0.20, 3.74) | 1.85 | (0.68, 5.02) |
| Income (Higher income) | 1.36 | (0.71, 2.59) | 0.49* | (0.24, 0.99) | 1.10 | (0.50, 2.44) |
| Anxiety about aging | 1.18* | (1.11, 1.26) | 0.98 | (0.21, 1.04) | 0.95 | (0.88, 1.02) |
| Knowing someone with dementia (Yes) | 14.90* | (3.69, 60.26) | 1.31 | (0.45, 3.77) | 0.89 | (0.19, 4.21) |
| Caring of someone with dementia (Yes) | 0.71 | (0.13, 3.85) | 1.67 | (0.47, 5.89) | 0.63 | (0.10, 3.84) |
| Dementia knowledge | 0.78* | (0.69, 0.89) | 1.00 | (0.86, 1.16) | 1.25* | (1.06, 1.48) |
| Perceived dementia threat on oneself | -- | | 24.22* | (10.95, 53.54) | 3.63* | (1.41, 9.33) |
| Perceived dementia threat on relatives | -- | | -- | | 0.65 | (0.27, 1.56) |
| Summary statistics | | | | | | |
| Log likelihood | -156.21 | | -141.40 | | -107.43 | |
| χ^2 (df) | 99.12* (11) | | 130.84* (12) | | 45.60* (13) | |
| Pseudo R ² | 0.2408 | | 0.3163 | | 0.1751 | |

Note: OR: Odd ratio, CI: Confidence interval, *: $p < 0.05$

4. Discussion and Implications

Understanding dementia beliefs among Vietnamese people is crucial for the development of evidence-based interventions to promote positive help-

seeking behaviors when facing the risk of dementia to themselves and their relatives. The results of the present study significantly contribute to the limited empirical evidence on the relationship between perceived dementia threats to oneself and relatives,

and the perceived importance of advance dementia care planning, as well as their associated factors. Among adults in central Vietnam, the perceived dementia threat to themselves was associated with their employment status, anxiety about aging, knowing someone with dementia, and dementia knowledge. On the other hand, religiosity, income, and worrying about getting dementia in the future significantly contributed to their perceived threat of dementia to their relatives. The perceived importance of advance care planning for dementia was significantly predicted by participant age, religiosity, dementia knowledge, and perceived threat of dementia to themselves.

Among the factors found to be associated, dementia knowledge appears to be significant, as it predicted lower odds of perceiving oneself as being at risk of dementia and higher odds of perceiving the importance of advance care planning for dementia. This finding is consistent with the existing literature, in which dementia knowledge critically shapes individuals' dementia care planning, such as the intention to seek professional screening for themselves or their relatives if some dementia symptoms appear (Institute for Training in Preventive Medicine and Public Health 2022; Nguyen Thu Trang 2023; Nguyen Tuan Anh et al. 2021). The consistent finding of the present study again emphasizes the critical role of community education in raising dementia awareness and promoting constructive health behaviors, including positive help-seeking behaviors when needed.

Another important finding of this study is its establishing of a relationship among key outcome variables. To be more specific, the perceived threat of dementia to oneself significantly predicted both the perceived threat of dementia to relatives and the

perceived importance of advance care planning. It is reasonable and predictable that when a person worries about getting a health problem, they also worry that other family members, particularly those in the same age range, may have the same condition. In addition, this finding is aligned with the Health Belief Model (Rosenstock 2000), in which perceived susceptibility helps predict the intention to act in case an illness appears. Previous studies with Asian populations who share similar cultures, such as Chinese, Taiwanese, and Korean, consistently highlighted the relationship between dementia fear or worry and preventive behaviors (Jung and Gu 2024; Li et al. 2022; Tsai et al. 2024; Yun and Choi 2025).

Not only do the findings of the study support the underlying mechanism of the relationship between the core health belief components and intention to act, but they also highlight the roles of other important factors to health beliefs and behaviors, such as dementia knowledge and fear, as suggested in the Modified Health Belief Model in the dementia context (Nelson et al. 2021; Yun and Choi 2025a). A body of recent literature has demonstrated the role of knowledge in dementia beliefs and behaviors in diverse contexts (Ahsan et al. 2022; Ashworth et al. 2022; Chang and Hsu 2020; Nguyen Thu Trang 2023). Being consistent with the modified model and the existing literature, this study provides evidence of the associations between adults' dementia knowledge and their perceived dementia threat to oneself, as well as between them and perceived importance of advance care planning. These findings validate the modified model, as well as suggest the review and continued expansion of the Health Belief Model in the dementia context.

In addition, a variety of studies on dementia perception and attitudes among Vietnamese people already highlight the role of demographic characteristics and exposure to dementia or contact with people with dementia. For example, age, gender, employment status, income, knowing and caring for someone with dementia, and anxiety about aging have been found to be associated with both positive and negative beliefs about dementia, including dementia stigma (Institute for Training in Preventive Medicine and Public Health 2022; Nguyen 2023, 2024; Nguyen Tuan Anh et al. 2020; T. A. Nguyen et al. 2021; T. Nguyen et al. 2021). In line with the literature, the present study provides evidence on the predictive role of employment status, knowing someone with dementia, and anxiety about aging in perceived dementia threat to oneself, of income in perceived threat to relatives, and of age in perceived importance of advance care planning. It is possible that religiosity helps provide a means, such as the use of the Buddhist concept of karma (the rule of cause and effect), for adults to make sense of their relative's potential illness. Besides, common religious beliefs on gratitude, compassion, and acts of good deeds tend to shape the care intention of Vietnamese people for their sick relatives (Nguyen Trang and Levkoff 2020; Nguyen Trang et al. 2021).

This study has several limitations. Although it tried to explore the dementia beliefs of adults in Central Vietnam, which have been absent from the literature, the sample size was small, and participants were recruited from a dense metropolitan district only. The study findings, therefore, cannot account for the perspectives of other groups of adults in Central Vietnam. The three outcome variables using single-item questions were another limitation of the study. These limitations call for future

studies to further their investigation with larger sample sizes and more diverse samples in different settings in Central Vietnam, particularly the remote and rural areas.

Despite the limitations, the present study makes an important contribution to the literature, which highlights the large knowledge gaps in dementia beliefs of Vietnamese adults in less-represented areas in the country. The study results underscore the role of constructive and preventive health beliefs in promoting proper help-seeking behaviors and medical planning. They also suggest the need for the development of contextualized and culturally appropriate educational interventions, such as awareness-raising campaigns, for adults and other age groups living in the community to improve understanding of dementia and of available sources of help when needed.

Declaration of AI Use

The authors clarify that no such AI tools as ChatGPT, Claude, and generative translation tools were utilized during the research and drafting process. Only the free version of Grammarly for Windows was used for proofreading in the editing process.

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