Journal of Clinical and Nursing Research, 2025, Volume 9, Issue 1
http://ojs.bbwpublisher.com/index.php/JCNR
Online ISSN: 2208-3693
Print ISSN: 2208-3685

Analysis of Daily Life, Spiritual Comfort, and Fall Safety Care Needs of Elderly People in Urban and Rural Areas

Fang Zheng*, Xiaojing Tang, Xinyue Zhang

Tangshan Vocational & Technical College, Tangshan 063000, Hebei Province, China

Corresponding author: Fang Zheng, 1149380200@qq.com

Abstract: *Objective:* To examine the daily life care, spiritual comfort, and fall safety care needs of the elderly in urban and rural areas of Tangshan, along with their influencing factors. *Methods:* From August 2022 to April 2023, an investigation was conducted among urban and rural elderly individuals aged over 75 years in Tangshan City using the Activities of Daily Living Scale, the Revised Community Elderly Fall Risk Assessment Tool, and the Loneliness Scale. *Results:* The study included 750 urban and 740 rural elderly individuals aged over 75 years. Matrix analysis revealed a significant proportion of fall safety care needs across various daily life and spiritual care requirements. Multiple factor analysis indicated that advanced age, lower education levels, a greater number of chronic diseases, and lower levels of family and social support were associated with higher care demands among the elderly in both urban and rural areas. These differences were statistically significant ($P < 0.05$). *Conclusion:* The elderly in urban and rural areas demonstrate a high demand for fall safety care. Particular attention should be given to individuals with lower education levels, those who are widowed, those with multiple chronic diseases, and those with low levels of family and social support to better meet the diverse care needs of this population.

Keywords: Elderly people; Daily life care needs; Spiritual comfort needs; Fall safety care needs; Matrix analysis

Online publication: February 14, 2025

1. Introduction

In 2019, the population of elderly individuals aged 65 years and above in China reached 176 million [1], with the size of this demographic exhibiting sustained and rapid growth. Aging contributes to an increase in the number of disabled and semi-disabled individuals [2], a decline in skeletal muscle endurance and physical flexibility, and a rise in sensory disorders, anxiety, depression, loneliness, and other psychological challenges [3]. These factors underscore the growing need for comprehensive care.

Current research, both domestically and internationally, primarily focuses on the care needs of elderly

individuals in community settings, with limited attention to rural elderly populations, particularly middle-aged and elderly individuals. Therefore, this study seeks to investigate the three primary types of care needs among middle-aged and elderly populations in urban and rural areas, along with the factors influencing these needs.

2. Materials and methods

2.1. General information

From August 2022 to March 2023, surveys were conducted among middle-aged and elderly individuals aged 75 years and older in urban and rural areas of the Tuanjie Building and Youyili communities in Tangshan City, as well as Xiaoji Town in Fengnan District, Tangshan City.

Inclusion criteria: Individuals aged 75 years and above; residing in the area for more than one year; having no significant communication barriers; and willing to participate and cooperate in the survey.

Exclusion criteria: Individuals with severe mental illnesses and those who were absent during the investigation period.

A total of 1,498 survey questionnaires were distributed, and 1,490 valid questionnaires were collected, resulting in an effective response rate of 99.47%.

2.2. Methods

All questionnaires were administered by uniformly trained investigators during household surveys, and the questionnaires were collected on-site. The survey included the following components:

(1) General information: This section included data on gender, age, marital status, and educational level.

(2) Daily Living Ability Scale [4]:

(a) A total of 14 items.

(b) The total score ranges from 14 to 56 points.

(c) A score of 14 indicates complete functionality and no need for assistance.

(d) Scores between 14 and 22 indicate low demand due to varying degrees of functional decline.

(e) Scores above 22 signify significant functional impairment and are classified as high demand.

(3) Revised Community Elderly Fall Risk Assessment Tool [5]:

(a) Comprising 13 items, the total scale score ranges from 0 to 45 points.

(b) A score of 0 indicates no risk of falling and is categorized as no need.

(c) Scores between 0 and 12 reflect a low risk of falling, categorized as low demand.

(d) Scores greater than 12 indicate a high risk of falling and are categorized as high demand.

(4) Loneliness Scale [6]:

(a) Consisting of 20 items, it uses a four-level frequency rating system.

(b) The total score ranges from 20 to 80 points, with higher scores indicating greater loneliness.

(c) Scores between 20 and 34 indicate low levels of loneliness, categorized as low need.

(d) Scores between 35 and 49 reflect moderate loneliness, categorized as moderate need.

(e) Scores above 50 represent high levels of loneliness, categorized as high need.

(5) Family Support Scale (PSS Fa) [7]:

(a) Comprising 15 items, the total score is 15 points.

(b) Higher scores indicate better family support.

(c) A score of 10 or above signifies high levels of family support, while scores below 10 indicate low levels of family support.

(6) Social Support Rating Scale (SSRS) [7]:

(a) This scale includes 11 items.

(b) Higher scores correspond to better levels of social support.

(c) Scores below 22 are classified as low, scores between 22 and 44 are considered moderate, and scores above 44 are categorized as high.

3. Result

3.1. General information of the research subjects

The general characteristics of the research subjects include 750 elderly individuals residing in urban areas (50.3%) and 740 in rural areas (49.7%). The sample consisted of 735 males (49.3%) and 755 females (50.7%), with an age range of 75–100 years and an average age of 79.30 ± 5.024 years.

3.2. Matrix analysis of care needs for elderly people in urban and rural areas

The three levels of daily care needs, initially classified as "high," "low," and "none," were redefined as "high," "medium," and "low," respectively. Similarly, the three levels of safety care needs were redefined using the same terminology, while the classifications for mental care needs remained unchanged. A total of 27 combinations were derived from the intersections of mental care needs (UCLA), safety care needs (FROP), and daily living care needs (ADL). The results demonstrated a significant proportion of moderate to high safety care needs across various combinations of daily life and mental care needs, as shown in **Table 4**.

3.3. Univariate analysis of care needs for elderly people in urban and rural areas

The care needs of elderly individuals aged 75 and above in urban and rural areas exhibited statistically significant differences based on gender, region, age, educational level, marital status, family support, and social support (all $P < 0.05$). Relevant data are presented in **Tables 2–9**.

Table 1. Distribution of three types of care needs combination matrices for elderly people in urban and rural areas

Project category		Mental care needs [*n* (%)]								
		High			Medium			Low		
		Security care needs			Security care needs			Security care needs		
		High	Medium	Low	High	Medium	Low	High	Medium	Low
Daily life care	High	160 (5.8)	40 (1.4)	0 (0.0)	145 (5.2)	73 (2.6)	0 (0.0)	40 (1.4)	33 (1.2)	0 (0.0)
	Medium	34 (1.2)	105 (3.8)	4 (0.1)	73 (2.6)	218 (7.8)	1 (0.0)	37 (1.3)	141 (5.1)	2 (0.1)
	Low	16 (0.6)	145 (5.2)	19 (0.7)	63 (2.3)	542 (19.5)	66 (2.4)	38 (1.4)	484 (17.4)	50 (1.8)

Table 2. Gender distribution of total care demand combination for elderly people in urban and rural areas

Gender	n	Care groups and categories [*n* (%)]									
		1	2	3	4	5	6	7	8	9	10
Male	735	25 (1.7)	158 (10.6)	10 (0.7)	124 (8.3)	16 (1.1)	157 (10.5)	21 (1.4)	90 (6.0)	53 (3.6)	81 (5.4)
Female	755	3 (0.2)	115 (7.7)	7 (0.5)	120 (8.1)	39 (2.6)	138 (9.3)	22 (1.5)	131 (8.8)	91 (6.1)	89 (6.0)

Note: The χ^2 value is 53.270, and the *P*-value is 0.000.

Table 3. Age distribution of total care demand combination for elderly people in urban and rural areas

Age (years)	*n*	Care groups and categories [*n* (%)]									
		1	2	3	4	5	6	7	8	9	10
75–79	831	18 (1.2)	204 (13.7)	11 (0.7)	168 (11.3)	39 (2.6)	185 (12.4)	23 (1.5)	101 (6.8)	48 (3.2)	34 (2.3)
80–84	396	6 (0.4)	52 (3.5)	4 (0.3)	58 (3.9)	7 (0.5)	76 (5.1)	9 (0.6)	69 (4.6)	43 (2.9)	72 (4.8)
85–100	263	4 (0.3)	17 (1.1)	2 (0.1)	18 (1.2)	9 (0.6)	34 (2.3)	11 (0.7)	51 (3.4)	53 (3.6)	64 (4.3)

Note: The χ^2 value is 231.562, and the *P*-value is 0.000.

Table 4. Urban and rural distribution of total care demand combination for elderly people in urban and rural areas

Area	*n*	Care groups and categories [*n* (%)]									
		1	2	3	4	5	6	7	8	9	10
Urban	740	2 (0.1)	148 (9.9)	1 (0.1)	150 (10.1)	39 (2.6)	118 (7.9)	31 (2.1)	104 (7.0)	69 (4.6)	78 (5.2)
Rural	750	26 (1.7)	125 (8.4)	16 (1.1)	94 (6.3)	16 (1.1)	177 (11.9)	12 (0.8)	117 (7.9)	75 (5.0)	92 (6.2)

Note: The χ^2 value is 80.515, and the *P*-value is 0.000.

Table 5. Distribution of marital status of total care demand combination for elderly people in urban and rural areas

Marital status	*n*	Care groups and categories [*n* (%)]									
		1	2	3	4	5	6	7	8	9	10
Married	516	3 (0.2)	131 (8.8)	1 (0.1)	117 (7.9)	31 (2.1)	88 (5.9)	15 (1.0)	61 (4.1)	35 (2.3)	34 (2.3)
Widowed	510	8 (0.5)	56 (3.8)	5 (0.3)	60 (4.0)	12 (0.8)	84 (5.6)	16 (1.1)	106 (7.1)	75 (5.0)	88 (5.9)
Single or divorced	464	17 (1.1)	86 (5.8)	11 (0.7)	67 (4.5)	12 (0.8)	123 (8.3)	12 (0.8)	54 (3.6)	34 (2.3)	48 (3.2)

Note: The χ^2 value is 164.704, and the *P*-value is 0.000.

Table 6. Distribution of educational level of total care demand combination for elderly people in urban and rural areas

Education degree	*n*	Care groups and categories [*n* (%)]									
		1	2	3	4	5	6	7	8	9	10
Illiterate	346	1 (0.1)	30 (2.0)	1 (0.1)	43 (2.9)	14 (0.9)	58 (3.9)	14 (0.9)	63 (4.2)	50 (3.4)	72 (4.8)
Primary	628	8 (0.5)	120 (8.1)	5 (0.3)	92 (6.2)	25 (1.7)	133 (8.9)	23 (1.5)	100 (6.7)	63 (4.2)	59 (4.0)
Middle	343	10 (0.7)	77 (5.2)	8 (0.5)	74 (5.0)	14 (0.9)	65 (4.4)	5 (0.3)	40 (2.7)	20 (1.3)	30 (2.0)
High school and above	173	9 (0.6)	46 (3.1)	3 (0.2)	35 (2.3)	2 (0.1)	39 (2.6)	1 (0.1)	18 (1.2)	11 (0.7)	9 (0.6)

Note: The χ^2 value is 139.696, and the *P*-value is 0.000.

Table 7. Distribution of the number of chronic diseases in the total care demand combination for elderly people in urban and rural areas

Chronic diseases	*n*	Care groups and categories [*n* (%)]									
		1	2	3	4	5	6	7	8	9	10
0	435	16 (1.1)	117 (7.9)	5 (0.3)	80 (5.4)	18 (1.2)	85 (5.7)	11 (0.7)	50 (3.4)	30 (2.0)	23 (1.5)
1–2	752	8 (0.5)	128 (8.6)	10 (0.7)	111 (7.4)	27 (1.8)	150 (10.1)	20 (1.3)	126 (8.5)	82 (5.5)	90 (6.0)
≥ 3	303	4 (0.3)	28 (1.9)	2 (0.1)	53 (3.6)	10 (0.7)	60 (4.0)	12 (0.8)	45 (3.0)	32 (2.1)	57 (3.8)

Note: The χ^2 value is 86.829, and the *P*-value is 0.000.

Table 8. Distribution of family support of the total care demand combination for elderly people in urban and rural areas

Family support	*n*	Care groups and categories [*n* (%)]									
		1	2	3	4	5	6	7	8	9	10
Low	1,095	14 (0.9)	128 (8.6)	14 (0.9)	166 (11.1)	40 (2.7)	243 (16.3)	30 (2.0)	188 (12.6)	123 (8.3)	149 (10.0)
High	395	14 (0.9)	145 (9.7)	3 (0.2)	78 (5.2)	15 (1.0)	52 (3.5)	13 (0.9)	33 (2.2)	21 (1.4)	21 (1.4)

Note: The χ^2 value is 166.999, and the *P*-value is 0.000.

Table 9. Distribution of social support of the total care demand combination for elderly people in urban and rural areas

Social support	*n*	Care groups and categories [*n* (%)]									
		1	2	3	4	5	6	7	8	9	10
Low	85	0 (0.0)	1 (0.1)	0 (0.0)	3 (0.2)	1 (0.1)	21 (1.4)	1 (0.1)	19 (1.3)	13 (0.9)	26 (1.7)
Medium	1,365	28 (1.9)	251 (16.8)	17 (1.1)	229 (15.4)	53 (3.6)	270 (18.1)	41 (2.8)	202 (13.6)	130 (8.7)	144 (10.0)
High	40	0 (0.0)	21 (1.4)	0 (0.0)	12 (0.8)	1 (0.1)	4 (0.3)	1 (0.1)	0 (0.0)	1 (0.1)	0 (0.0)

Note: The χ^2 value is 109.131, and the *P*-value is 0.000.

3.4. Multivariate analysis of care needs for elderly people in urban and rural areas

The 10 subtypes of dependent variable care needs were categorized into two levels, with subtypes 1–5 classified as low needs and subtypes 6–10 as high needs. Variables that showed statistically significant differences in the univariate analysis were included as independent variables in a binary logistic regression analysis. The findings indicated that elderly individuals aged 75 and above in urban and rural areas who were older, resided in rural regions, were widowed, had lower education levels, suffered from more chronic diseases, and reported lower levels of family and social support exhibited significantly higher care needs ($P < 0.05$). Detailed results are presented in **Table 10**.

Table 10. Multivariate analysis of care needs for elderly people in urban and rural areas

Item	β	Sx	Wald χ^2	P	OR	95% CI
Age	0.648	0.090	51.644	0.000	1.912	1.602–2.281
Area	-0.462	0.204	5.136	0.023	0.630	0.422–0.939
Marital status	0.258	0.115	5.059	0.024	1.294	1.034–1.620
Education degree	-0.364	0.071	25.989	0.000	0.695	0.604–0.799
Chronic diseases	0.448	0.090	24.901	0.000	1.565	1.312–1.865
Family support	-1.037	0.135	59.301	0.000	0.354	0.272–0.461
Social support	-1.888	0.327	33.334	0.000	0.151	0.080–0.287

4. Discussion

The findings of this study indicate a significant proportion of moderate to high fall safety care needs across various levels of daily life and mental care requirements. This suggests that middle-aged and elderly individuals in both urban and rural areas exhibit the greatest demand for fall safety care. Greater emphasis should therefore be placed on addressing fall safety care for this demographic.

The results reveal that care needs among elderly individuals in urban communities are higher than those in rural areas, differing from the findings of Zhai *et al.* [8]. Many elderly individuals in rural areas remain actively engaged in labor, maintain relatively good physical health, and experience greater ease in moving about compared to their urban counterparts. Additionally, rural elderly individuals often prefer outdoor activities and tend to interact more frequently with neighbors.

The study also indicates that older individuals have higher caregiving needs, aligning with the research findings of Chen *et al.* [9]. With advancing age, the ability of elderly individuals to perform daily activities diminishes. Physical limitations further restrict their engagement in outdoor activities, leading to a higher susceptibility to psychological issues such as anxiety and depression. Additionally, aging reduces skeletal muscle endurance and reaction time, thereby increasing the risk of falls and elevating the need for care.

Widowed elderly individuals demonstrate higher caregiving needs, consistent with Lima-Costa *et al.*'s findings [10]. Without the companionship of a spouse, widowed individuals often lack emotional support and assistance in addressing challenges, thereby increasing their care requirements.

Higher educational attainment among the elderly is associated with lower caregiving needs, as supported by Xu *et al.*'s research [11]. Elderly individuals with greater educational backgrounds are more likely to read health-related materials, adopt healthier lifestyles, and seek timely medical intervention, thereby mitigating disease progression and reducing care needs.

The results further highlight that elderly individuals with a greater number of chronic diseases exhibit higher care needs, consistent with the findings of Kong *et al.* [12]. A higher prevalence of chronic illnesses often correlates with poor physical health and increased medication use. Given the reduced metabolic capacity of elderly individuals, the side effects of medications—such as dizziness, impaired consciousness, and decreased balance—heighten the risk of falls and amplify their need for care.

Additionally, elderly individuals with higher levels of family support exhibit lower caregiving needs, corroborating the findings of Hong and Lu [13]. A supportive family environment enables timely assistance with physical and mental health issues. Close communication between family members and elderly individuals provides both material and emotional support, preventing issues such as disease exacerbation, anxiety, and depression, thereby reducing care requirements.

Similarly, higher levels of social support are associated with lower caregiving needs, consistent with Chen *et al.*'s findings [7]. Active social engagement among the elderly, including participation in outdoor activities and frequent interactions with neighbors, promotes physical fitness, alleviates negative emotions, and lowers the incidence of anxiety and depression, ultimately reducing care needs.

5. Conclusion

In conclusion, middle-aged and elderly individuals in both urban and rural areas demonstrate a high demand for fall safety care. Greater attention should be directed toward this issue, and appropriate measures should be implemented to address their care needs effectively.

Funding

Model Study on the Care Effectiveness of Intergenerational Care for Disabled Elderly in Rural Areas under the Background of Silver Age (School level Project Y24-08)

Disclosure statement

The authors declare no conflict of interest.

References

[1] National Bureau of Statistics. http://www.ce.cn/xwzx/gnsz/gdxw/201901/23/t20190123.shtml

[2] Jiang Z, Li Y, Wang X, et al., 2019, A Case-Control Study on the Relationship Between Common Chronic Diseases and Disability in Elderly People Living at Home. Chinese Journal of General Practice, 22(13): 1587–1591.

[3] Tabatabaei SZ, Ebrahimi F, Rahimi R, et al., 2016, Anybody Hear Us? Attempting to Meet the Psychological Care Needs of Older People: An Ethnographic Approach. International Journal of Medical Research & Health Sciences, 5(7S): 613–619.

[4] Du Y, Chen C, 2019, The Current Situation and Influencing Factors of Daily Life Care Needs of Elderly People in Tangshan City. Chinese Journal of Gerontology, 39(7): 1723–1726.

[5] Tao Y, Chen J, Guan Y, et al., 2017, Risk Factors and Prevention Strategies for Falls among Elderly People Living at Home in the Community. Chinese Nursing Management, 17(7): 910–914.

[6] Victor CR, Pikhartova J, 2020, Lonely Places or Lonely People? Investigating the Relationship Between Loneliness and Place of Residence. BMC Public Health, 20(1): 778. https://doi.org/10.1186/s12889-020-08703-8

[7] Chen C, Hao X, Zhang M, et al., 2019, The Correlation Between Diverse Support Systems in Family, Community, and Society and Loneliness in Elderly People. Chinese Journal of Gerontology, 39(11): 2788–2791.

[8] Zhai H, Ma G, Li X, 2018, Analysis of Daily Living Activities Ability and Influencing Factors of Rural Elderly People. Preventive Medicine, 30(10): 1044–1046.

[9] Chen X, Hou L, Shen Y, et al., 2020, The Degree of Disability and Influencing Factors among Elderly People in Chengdu. Chinese Journal of Gerontology, 40(8): 1757–1761.

[10] Lima-Costa MF, Mambrini JV, Peixoto SV, et al., 2016, Socioeconomic Inequalities in Activities of Daily Living Limitations and in the Provision of Informal and Formal Care for Noninstitutionalized Older Brazilians: National Health Survey, 2013. Int J Equity Health, 15(1): 137. https://doi.org/10.1186/s12939-016-0429-2

[11] Xu R, Mao K, Wang F, et al., 2019, Current Status of Daily Living Activities of Rural Elderly. Chinese Journal of Gerontology, 39(23): 5837–5840.

[12] Kong L, Zhang Z, Ye Y, et al., 2016, Analysis of the Psychological Comfort Needs and Influencing Factors of Elderly Community Residents in Xianning City. Nursing Research, 30(34): 4267–4270.

[13] Hong W, Lu N, 2017, Informal Care and Health Behaviors among Elderly People with Chronic Diseases. Journal of Health Population & Nutrition, 36(1): 40–48.