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Relationships among Social Capital, Positive Aspect, and Caregiver Burden in Dementia Families: A Mediating Model

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Abstract

Objective: To investigate the current situation and influencing factors of care giving burden among family caregivers with dementia and to analyze the Positive Aspect of caregivers between Social Capital and Caregiver Burden. **Methods:** A total of 205 elderly dementia patients and family caregivers were select from 3 tertiary hospital by convenience sampling method in Zhengzhou. The general information questionnaire. The Social Capital Scale for Caregiver of People with Dementia, The Positive Aspect of Care giving scale and The Caregiver Burden Inventory were utilized for investigation. **Results:** In this study the scores of the Social Capital Scale of Caregivers with dementia were (48.76 ± 6.44), the scores of the Positive Aspect of Care giving scale were (37.41 ± 4.29), and the scores of the Caregiver Burden Inventory were (64.43 ± 10.89). The results of multiple linear regression analysis showed that patient's age, patient's disease duration, social capital, and positive feelings were the main influencing factors of caregiver's burden of care ($P < 0.05$); the total score of social capital was negatively correlated with the total score of the burden of care ($r = -0.432$, $P < 0.001$), and the positive feelings were negatively correlated with the burden of care ($r = -0.537$, $P < 0.001$), the positive feelings played a partial role between social capital and the burden of care capital and care giving burden with an indirect effect was −0.207 and a mediation effect percentage of 28.3%. Conclusion: The burden of family caregivers is at a medium-high level, and it is recommended that the medical, social levels fully mobilize the social support system of caregivers from the caregivers' conditions, increase the level of the caregivers' social capital, and pay attention to the positive feelings of the caregivers and regulate them in time social alleviate the burden of their care giving.

Keywords

Dementia, Care Giving Burden, Social Capital, Positive Feelings, Mediating Role

1. Introduction

Alzheimer's disease is a chronic, progressive brain disease that primarily results in a gradual decline in memory, thinking ability, judgment, and daily living skills [1]. According to the "Alzheimer's Disease Patients" Family Survival Research Report [2], there are around 10 million dementia patients in China, accounting for approximately one-fifth of the global dementia patient population. It is projected that the number of patients will exceed 40 million by 2050. The increasing number of dementia patients and the rising need for care pose a significant challenge to China's socio-economic development. Due to the specific, complex, and long-term nature of dementia, family caregivers bear the burden of physical, psychological, and financial care, which requires significant personal resources [3] [4]. Social capital encompasses the social resources accumulated through relationships with social groups such as family, friends, and neighbors, fostering trust, cooperation, and reciprocity [5]. Studies indicate that high levels of social capital can enhance the well-being of family caregivers of dementia patients and enable them to receive support from neighbors and friends in addressing the challenges by caregivers, and helping them to ease the care burden [6]-[8]. Positive feeling of caregiving refers to the positive experience brought by caregiving experience to caregivers, which can help caregivers improve the mental and behavioral symptoms of patients with dementia, improve caregivers' happiness and personal adaptability, and reduce caregiving burden and depressive symptoms. At present, most studies focus on the current status of caregivers' care burden and positive feelings [9] [10], but no studies have analyzed the current level of social capital, care burden and positive feelings of family caregivers with dementia and the relationship among them. Therefore, the purpose of this study is to investigate the current situation and influencing factors of the care burden of family caregivers with dementia in the elderly, and to analyze the internal relationship among the three by using structural equation model, explore the impact of social capital and positive feelings on the care burden, and provide a certain theoretical basis for the care system of family caregivers with dementia, so as to provide reference for targeted intervention measures to alleviate the care burden.

2. Methods

2.1. Study Population and Data Collection

Dementia patients and family caregivers from the geriatric memory clinics and geriatric medicine wards of three tertiary-level A hospitals in Zhengzhou City from November 2023 to January 2024 were selected for the study using the convenience sampling method. Inclusion criteria for caregivers: 1) age ≥ 18 years; 2) being the primary caregiver of the patient for ≥6 months; 3) informed consent and voluntary participation in this study. Exclusion criteria: 1) employed professional caregivers; 2) hearing, communication, and psychiatric abnormalities. Patient inclusion criteria: 1) age ≥ 60 years, receiving care mainly at home; 2) clinically diagnosed with the diagnostic criteria for dementia according to the World Health Organization's International Classification of Diseases, 9th or 10th edition [11]. According to the sample size calculation method of the status quo survey, the sample size was estimated to be 10 - 20 times the number of entries on the main scale [12], and the sample size was determined to be at least 188 by considering the 20% sample dropout rate. 210 questionnaires were distributed for this study, and 5 invalid questionnaires were excluded, resulting in the inclusion of a valid sample size of 205, with an effective return rate of about 97.6%. The study was approved by the Ethics Committee of the Second Affiliated Hospital of Zhengzhou University, and informed consent was obtained from all study participants. The survey was carried out by three members of the research team and three trained investigators, using questionnaires to recruit dementia patients and family caregivers who met the inclusion criteria from the hospital outpatient department. The researcher introduced the purpose, significance, and methodology of the study to the family caregivers, and after confirming their understanding and obtaining their consent, they filled out the questionnaires on their own, while those who were unable to fill in the questionnaire on their own were filled in on behalf of the researcher. The survey was conducted in an anonymous manner, and the questionnaires were distributed and returned on site. The survey was anonymous, and the questionnaires were returned on the spot.

2.2. Variables and Measures

General demographic questionnaire: 1) the family caregiver's gender, age, relationship with the patient, education level, marital status, occupation, monthly income, length of caregiving, and knowledge of the disease; and 2) the patient's gender, age, duration of the disease, severity of the disease, and ability to take care of himself or herself.

2.3. Caregiver Burden Inventory

Translated by the scholars from Taiwan Region such as Chou [13] and Chineseized by Zhang Rui [14], the questionnaire was used to assess the burden of care for family caregivers of dementia, including five dimensions, namely, physical burden, emotional burden, social burden, time-dependent burden, and developmental limitation burden, with a total of 24 items, which were scored on a Likert scale of 4, ranging from "Strongly Agree". There were 24 items, all scored on a Likert 4 scale from "strongly agree" (4 points) to "strongly disagree" (0 points), with a total score of 0 to 96, and the Cronbach's alpha coefficient of the questionnaire was 0.912.

2.4. Positive Aspect of Caregiving Scale

Developed by Tarlow [17] and Chineseized by Zhang Rui [13] to form the Chinese version of the PAC, it is used to measure the level of positive feelings of caregivers. The scale consists of two dimensions, self-affirmation (6 entries) and life outlook (3 entries), for a total of 9 entries. Each item is rated on a 5-point Likert scale, with a score of 1 - 5 from "strongly disagree" to "strongly agree", and the total score is the sum of the scores of each item, with higher scores indicating a higher level of positive feelings among caregivers. The Cronbach's alpha coefficient for the scale was 0.820.

2.5. Social Capital Scale for Caregiver of People with Dementia

The SCCD was compiled by Furukawa [15] and translated and revised into Chinese by Lu [16], including three dimensions of reciprocity (6 items), trust (5 items), and neighborhood support (4 items), for a total of 15 items, each of which was scored on a 5-point Likert scale from "strongly disagree" to "strongly agree". Each entry was rated on a 5-point Likert scale from "Strongly Disagree" to "Strongly Agree" with a value of 1 to 5 points, and the total score ranged from 15 to 75, with higher scores indicating higher social capital; the Cronbach's alpha coefficient was 0.757.

2.6. Data Analysis

Data analysis was conducted using SPSS 26.0 and AMOS 24.0 software. Frequency counts and component ratios were employed for data tabulation, while mean ± standard deviation was utilized for statistical descriptions in accordance with normal distribution. Group comparisons of care burden scores were performed using independent samples t-tests or one-way ANOVA. Pearson correlation analyses were used to investigate the relationships between social capital, positive feelings, and care burden. Furthermore, multivariate linear regression was applied to analyze the influencing factors of family carers' burden of care, and AMOS 24.0 software was employed to examine the relationship between carers' social capital, positive feelings, and burden of care; a statistically significant difference was defined as $P < 0.05$.

3. Results

3.1. Descriptive

This study included 205 individuals diagnosed with dementia and their family caregivers; detailed demographic information is presented in **Table 1**. Univariate analysis of the outcomes revealed statistically significant differences ($p < 0.05$) in caregivers' gender, education level, duration of patient care, patient knowledge, patient's gender and age, degree of dementia, as well as the patient's self-care ability, monthly income level, and overall caregiving burden score.

3.2. Variable Scores

In this study, the social capital of dementia caregivers was (48.76 ± 6.44) points,

Table 1. Participant characteristics (n = 205).

Variable	*n*	Mean ± SD	*P*	Variable	*n*	Mean ± SD	*P*
Age			0.506	Knowledge of the disease			0.007
18 - 60	103	64.28 ± 13.169		Clearly knowledge	30	67.30 ± 9.567	
50 - 60	61	63.56 ± 7.381		Knowledge	29	58.93 ± 12.115	
60 - 70	41	66.10 ± 8.777		Part Knowledge	146	64.93 ± 9.567	
Caregiver gender			0.022	Gender of the patient			0.022
Male	84	63.95 ± 11.493		Male	84	65.12 ± 9.991	
Female	121	65.12 ± 9.991		Female	121	63.95 ± 11.493	
Relationship with patients			0.891	**Age of the patient**			<0.001
Children	113	64.26 ± 10.774		60 - 70	32	69.66 ± 4.929	
Spouse	62	64.97 ± 11.204		71 - 80	64	68.84 ± 11.793	
Relative	30	63.97 ± 11.009		>80	109	60.30 ± 9.958	
Education level			<0.001	**Patient course**			0.037
Junior school	91	65.90 ± 10.630		<3 years	48	60.94 ± 14.134	
High school	78	64.65 ± 9.869		3 - 5 years	67	65.81 ± 9.014	
College degree	35	60.22 ± 12.755		>5 years	90	65.27 ± 10.892	
Profession			0.830	**Degree of dementia**			0.029
Farmer	96	65.01 ± 11.079		Mild	33	51.48 ± 5.52	
Worker	78	63.56 ± 10.470		Moderate	77	48.16 ± 7.03	
Personnel	30	64.70 ± 11.736		Serious	95	48.31 ± 6.03	
Monthly income level			<0.001	**Self-care ability**			<0.001
<3000	80	67.11 ± 10.285		Cannot	94	65.30 ± 10.944	
3 - 5000	73	64.52 ± 9.403		Part	98	66.09 ± 8.819	
>5000	52	60.17 ± 12.494		Full	13	65.30 ± 10.944	
Take care of patients time			0.013				
<1 years	55	63.15 ± 9.836					
1 - 3 years	30	62.10 ± 11.445					
3 - 5 years	56	68.43 ± 7.027					
>5 years	64	63.13 ± 10.892					

the positive feelings of caregivers were (37.41 ± 4.29) points, and the total score of caregiver care burden was (64.43 ± 10.89) points, and the scores of each dimension are shown in **Table 2**.

3.3. Correlation

The Spearman correlation analysis showed that social capital was negatively correlated with the total caregiver burden score in this study (rs = −0.432, P < 0.001), and that caregiver positive feelings were negatively correlated with the caregiver burden score (rs = −0.537, P < 0.001), as shown in **Table 3**.

Table 2. Variables and items scores.

Variable	Items	Score range	Score	Entry equalization
Total Social Capital Score	15	15 - 75	48.76 ± 6.44	3.25 ± 0.43
Reciprocity	6	6 - 30	18.17 ± 4.13	3.03 ± 0.69
Degree of trust	5	5 - 25	17.07 ± 2.42	3.41 ± 0.48
Neighborhood support	4	4 - 20	13.54 ± 2.69	3.38 ± 0.67
Positive Feelings Total Score	9	9 - 45	37.41 ± 4.29	4.16 ± 0.48
Self affirmation	6	6 - 30	24.13 ± 4.29	4.02 ± 0.72
Life prospect	3	6 - 18	12.99 ± 2.02	4.33 ± 0.67
Total care burden	24	0 - 95	64.43 ± 10.89	2.68 ± 0.45
Physiological burden	4	0 - 16	12.63 ± 2.74	3.16 ± 0.69
The social burden	5	0 - 20	10.18 ± 3.82	2.04 ± 0.76
Emotional burden	5	0 - 20	9.36 ± 3.72	1.87 ± 0.74
Time-dependent burden	5	0 - 20	16.67 ± 2.93	3.33 ± 0.59
Development constraint burden	5	0 - 20	15.59 ± 3.78	3.12 ± 0.76

Table 3. Correlation between caregiver social capital, positive feelings and caregiver burden.

Variable	Social capital	Reciprocity	Degree of trust	Neighbourhood support	Self affirmation	Life prospect	Positive feeling	Care burden
Social capital	1.000							
Reciprocity	0.768**	1.000						
Degree of trust	0.711**	0.291**	1.000					
Neighbourhood support	0.581**	0.044	0.364**	1.000				
Self affirmation	0.257**	0.174*	0.180**	0.190*	1.000			
Life prospect	0.186**	0.145*	0.100	0.137*	0.634**	1.000		
Positive feeling	0.269**	0.182**	0.179*	0.208**	0.922**	0.781**	1.000	
Care burden	−0.432**	−0.306**	−0.380**	−0.231**	−0.462**	−0.446**	−0.537**	1.000

Note: ***P* < 0.001.

3.4. Caregiving Burdens Influencing Factors

Taking social capital as the dependent variable, and 12 single-factor variables with statistically significant results (caregiver gender, education level, time spent caring for the patient, level of understanding of the disease, patient gender, age, degree of dementia, disease course, ability to self-care, monthly income level, positive feelings of the caregiver, social capital) as independent variables, a multiple linear regression analysis was conducted. The results of the collinearity diagnostics showed that the tolerance ranged from 0.408 to 0.807, the variance inflation factor ranged from 1.239 to 2.451, indicating that there was no multicollinearity among the independent variables. The results showed that the patient's gender, disease course, positive feelings, and level of education were the main influencing factors of social capital for caregivers of patients with dementia, accounting for 50.7% of the total variation, as shown in **Table 4**.

Table 4. Linear regression analysis of social capital of family caregivers of elderly dementia patients (n = 205).

variable	*B*	*SE*	*β*	*t*	*P*	95%*CI*
(constant)	70.711	10.196		6.936	<0.001	50.602 - 90.821
Patient age	6.131	1.054	0.417	5.817	<0.001	4.052 - 8.210
Patient course	4.640	1.053	0.339	4.407	<0.001	2.563 - 6.717
Positive feeling	−0.664	0.115	−0.336	−5.753	<0.001	−0.892 - −0.436
Social capital	−0.362	0.101	−0.214	−3.581	<0.001	−0.562 - −0.163

3.5. Construction and Validation of Structural Equation Models

Based on the relevant analyses and literature review guidance [6] [17], the study makes the following hypotheses by incorporating positive affect as a mediating variable, social capital as an antecedent factor into the model, and establishes a model to analyze the relationships between social capital, positive affect, and caregiver burden of elderly dementia patients. The model is tested using the maximum likelihood method, and the model is modified to meet the evaluation criteria: chi-square/degrees of freedom (X^2/df) = 1.670 < 3, fit index (GFI) = 0.954, adjusted fit index (AGFI) = 0.916, comparative fit index (CFI) = 0.956, non-normed fit index (TLI) = 0.900, incremental fit index (IFI) = 0.957, all of which are greater than 0.90, and the incremental fit index (IFI) is 0.957, indicating that the model fits well. The path analysis results show that social capital can directly affect caregiver burden and positive affect, and can indirectly affect caregiver burden through positive affect. The effect decomposition results of the path analysis are shown in **Table 5**.

In order to better verify the significance of the mediating effect, the original data was resampled 5000 times using the Bootstrap method to construct a 95% bias-corrected confidence interval. The results show that the 95% CI of the total effect, direct effect, and indirect effect of the model do not include 0, indicating that the positive affect of caregivers exists as a mediating role between social capital and caregiving burden. Among them, the direct effect of social capital on caregiving burden for dementia family caregivers was −0.524 (P < 0.05, 95%CI was −0.678 - −0.361), the mediating effect was −0.207 (P < 0.001, 95%CI was −0.310 - −0.103), and the direct effect accounted for 71.7%, while the mediating effect accounted for 28.3%.

Table 5. Path analysis effect decomposition results of the model (standardized).

Path	Path coefficient	Standard erro	Threshold	Standardized path coefficien	*P*
Social Capital → Positive feelings	0.834	0.319	2.616	0.295	0.009
Social capital → Care burden	−0.464	0.150	−3.088	−0.571	0.002
Positive feelings → Care burden	−0.151	0.043	−3.516	−0.571	<0.001

4. Discussion

4.1. Current Status and Influencing Factors of the Burden of Family Caregivers of Dementia

This study shows that the current social capital of elderly dementia caregivers is (64.43 ± 10.89) points, which is at a medium-high level. The results of this study are lower than those of Wu's study (74.28 ± 10.30) points. The reason for this may be that the sample of this study comes from a municipal third-class hospital with better medical conditions and social resources, which can relieve some of the caregivers' caregiving pressure. From the dimensions, the time-dependent and developmentally limited burdens are higher. The reason for this is that the dementia patient's memory and speech function are impaired, and their daily living functions are affected. The caregiver depends heavily on the patient, and the caregiver's time-dependent burden is heavy. As the caregiver spends more time and energy on the care of the dementia patient, the caregiver pays less attention to himself/herself and has not had enough time to develop what is needed [18]. The caregiver's own development is limited. The multiple linear regression analysis shows that general information, such as the patient's age and course of the disease, is an influencing factor for caregiving burden ($P < 0.001$). As the patient's age increases, the patient's physiological functions decline, and the disease has a long course. The patient's daily self-care ability declines significantly, and it is easy to develop related complications such as pneumonia and pressure sores. The daily care needs increase, and the caregiver's care burden increases. This study suggests that family caregivers have a heavier caregiving burden, and healthcare professionals should provide more support and assistance to family caregivers to alleviate their caregiving burden.

4.2. Social Capital of Family Caregivers of Dementia has a Direct Predictive Effect on Care Burden

The results of this study show that the level of social capital has a direct negative impact on the caregiver's care burden ($\beta = -0.464$, $P < 0.05$). The higher the level of social capital, the lighter the caregiver's care burden, consistent with the view of Zoppe [19]. Social capital includes reciprocity, trust, and neighborhood support. First, caregivers enhance each other's care confidence and self-efficacy by sharing knowledge and skills and learning from each other [7]. In the interaction process, caregivers establish social trust with others, which enables them to receive more support and understanding when facing care pressure, effectively utilize social resources, and produce a positive impact on maintaining the caregiver's physical and mental health and burden relief [20]. In addition, neighborhood support is one of the core features of social capital [21]. People with dementia often suffer from cognitive impairment and abnormal behavior and are often stigmatized, so neighbors are unwilling to contact them, leading to social isolation [22]. However, studies have shown that neighbors are the first to offer help to caregivers. When patients have wandering or agitated symptoms, friendly interactions between neighbors can provide help to family caregivers, alleviate the patient's behavior symptoms, and relieve the caregiver's care burden [23]. Support should be provided to caregivers from various perspectives, including healthcare providers, communities, and society. Healthcare workers can contact family caregivers through social platforms and provide them with information support. Communities should organize more publicity campaigns to promote knowledge of dementia, encourage caregivers and community members to actively participate in community-organized publicity and service activities, and raise public awareness and understanding of dementia. The society should pay attention to dementia patients and provide policy support. It should also provide economic assistance to dementia families, establish long-term care systems, and provide friendly community services. A systematic social support network system should be established that is oriented towards hospitals, communities, and society, which will bring positive impacts on enhancing the social capital level of family caregivers, reducing caregiving burdens, and improving care outcomes.

4.3. Mediating Effect of Positive Feelings between Social Capital and Care Burden of Family Caregivers with Dementia

The results of the model in this study show that social capital of family caregivers has a direct positive effect on caregivers' positive feelings ($\beta = 0.830$, $P < 0.05$), and social capital exerts an indirect effect on caregivers' burden through positive feelings ($\beta = -0.151$, $P < 0.001$), with positive feelings playing a partial mediating role in between, which is consistent with the findings of Wang Li [24]. Higher social capital can bring caregivers support and emotional comfort, enhance positive feelings, and make them feel needed [25]. Positive feelings reflect caregivers' subjective feelings, including self-affirmation and life outlook. The more support and help caregivers receive, the more positive feelings they will have. When caregivers face care challenges they cannot overcome on their own, they can mobilize their personal social capital to actively cope with difficulties, enhance self-efficacy, and improve their sense of self-worth. At the same time, positive feelings can promote caregivers' self-psychological adjustment, enabling them to adopt a positive and optimistic attitude towards negative emotions, to a certain extent enhancing their ability to perceive care risks, and ultimately enabling them to actively cope with care challenges and alleviate care burdens [26]. Families, communities, and society should provide support and recognition to caregivers from all aspects to enhance their positive feelings. In addition, healthcare professionals should regularly assess the mental state of caregivers and provide psychological counseling and guidance to family caregivers, guiding them to express positive emotions, recognize themselves, enhance their self-esteem and life outlook, and alleviate their caregiving burden.

5. Conclusion

In summary, this study explored the current status and influencing factors of caregiver burden in elderly dementia families. The results showed that the caregiver's age and disease duration were general influencing factors of caregiver burden, while social capital and positive feelings were independent influencing factors. The mediation analysis showed that social capital and positive feelings had direct effects on caregiver burden, and positive feelings played a partial mediating role between social capital and caregiver burden. However, this study only surveyed elderly dementia caregivers in Zhengzhou City and did not investigate the level of social capital among dementia caregivers in the grassroots or remote areas. The sample representativeness has limitations, and it is suggested to expand the sample source and sample size for further in-depth investigation in the future.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

References

[1] Zhuo, X.F., Yan, Y.-J., Lin, R., *et al.* (2019) Construction of Expressive Art Therapy Program for Mild and Moderate Senile Dementia Patients. *Chinese Journal of Nursing Management*, **23**, 1286-1291. (In Chinese)

[2] People's Daily Online (2020) First Domestic Alzheimer's Patients Family Living Conditions Research Report Released. http://health.people.com.cn/n1/2020/0110/c14739-31543666.html

[3] Jia, R.C. (2019) Research on the Major Challenge and Countermeasures Brought by Senile Dementia to Public Health. *China Health Economics*, **38**, 44-47. (In Chinese)

[4] Jia, L., Du, Y., Chu, L., Zhang, Z., Li, F., Lyu, D., *et al.* (2020) Prevalence, Risk Factors, and Management of Dementia and Mild Cognitive Impairment in Adults Aged 60 Years or Older in China: A Cross-Sectional Study. *The Lancet Public Health*, **5**, e661-e671. https://doi.org/10.1016/s2468-2667(20)30185-7

[5] Eberl, A. (2020) The Effect of Informal Caregiving on Social Capital Investments. *Social Science Research*, **85**, Article ID: 102319. https://doi.org/10.1016/j.ssresearch.2019.06.010

[6] Papastavrou, E., Andreou, P., Middleton, N., Tsangari, H. and Papacostas, S. (2015) Dementia Caregiver Burden Association with Community Participation Aspect of Social Capital. *Journal of Advanced Nursing*, **71**, 2898-2910. https://doi.org/10.1111/jan.12762

[7] Lu, N., Jiang, N., Sun, Q. and Lou, V.W.Q. (2019) Community Social Capital and

Positive Caregiving Experiences among Adult-Children Caregivers of Older Adults with Disabilities in Urban China. *Research on Aging*, **42**, 3-12. https://doi.org/10.1177/0164027519876095

[8] Coll-Planas, L., Nyqvist, F., Puig, T., Urrútia, G., Solà, I. and Monteserín, R. (2016) Social Capital Interventions Targeting Older People and Their Impact on Health: A Systematic Review. *Journal of Epidemiology and Community Health*, **71**, 663-672. https://doi.org/10.1136/jech-2016-208131

[9] Li, R.Z., Song, J., Jin, Z.H., *et al.* (2019) Analysis of Positive Feelings and Influencing Factors of Family Caregivers of Dementia Patients. *Journal of Nursing Science*, **39**, 97-101. (In Chinese)

[10] Wei, W.J., Chen, Y. and Wei, Z.H. (2019) Analysis of Positive Feelings and Its Influencing Factors among Caregivers of Inpatients with Dementia in Zhengzhou City. *Modern Preventive Medicine*, **46**, 380-384.

[11] Tian, J.Z., Xie, H.G., Wang, L.N., *et al.* (2020) Chinese Guidelines for the Diagnosis and Treatment of Alzheimer's Disease and Dementia (2020 Edition). *Chinese Journal of Geriatrics*, **40**, 269-283. (In Chinese)

[12] Zheng, W.J. and He, F. (2019) Calculation Method of Sample Size in Current Investigation. *Preventive Medicine*, **32**, 647-648. (In Chinese)

[13] Zhang, R. and Li, Z. (2007) A Study on the Reliability and Validity of the Chinese Version of the Positive Feelings Scale for Caregivers. *Chinese Journal of Nursing*, No. 12, 1068-1071. (In Chinese)

[14] Zhang, R. (2007) A Study on Caregiving Experience of Caregivers of Patients with Senile Dementia. Peking Union Medical College.

[15] Furukawa, H. and Greiner, C. (2020) Developing a Social Capital Scale for Family Caregivers of People with Dementia. *Geriatric Nursing*, **41**, 740-746. https://doi.org/10.1016/j.gerinurse.2020.04.002

[16] Lu, M.M. and Xie, B.Q. (2019) Sinicization and Validity Test of Social Capital Scale for Family Caregivers of Dementia. *Journal of Nursing Science*, **38**, 90-94. (In Chinese)

[17] Tarlow, B.J., Wisniewski, S.R., Belle, S.H., Rubert, M., Ory, M.G. and Gallagher-Thompson, D. (2004) Positive Aspects of Caregiving: Contributions of the REACH Project to the Development of New Measures for Alzheimer's Caregiving. *Research on Aging*, **26**, 429-453. https://doi.org/10.1177/0164027504264493

[18] Guan, Z., Huang, C., Sun, M., Bai, X. and Tang, S. (2023) Caregiving Burden and Positive Aspects of Caregiving in Schizophrenia: Mediating Roles of Hope and Social Support. *Archives of Psychiatric Nursing*, **45**, 7-13. https://doi.org/10.1016/j.apnu.2023.04.024

[19] Wu, Q.H., Feng, Y., Lin, S.B., *et al.* (2019) Study on the Correlation between Care Burden, Coping Style and Acceptance Behavior of Primary Caregivers of Patients with Alzheimer's Disease. *Journal of General Nursing*, **20**, 4533-4596.

[20] Zoppei, S., Lasalvia, A., Bonetto, C., Van Bortel, T., Nyqvist, F., Webber, M., *et al.* (2014) Social Capital and Reported Discrimination among People with Depression in 15 European Countries. *Social Psychiatry and Psychiatric Epidemiology*, **49**, 1589-1598. https://doi.org/10.1007/s00127-014-0856-6

[21] Glanville, J.L. and Story, W.T. (2018) Social Capital and Self-Rated Health: Clarifying the Role of Trust. *Social Science Research*, **71**, 98-108. https://doi.org/10.1016/j.ssresearch.2018.01.002

[22] Gibson, A., Holmes, S.D., Fields, N.L. and Richardson, V.E. (2019) Providing Care

for Persons with Dementia in Rural Communities: Informal Caregivers' Perceptions of Supports and Services. *Journal of Gerontological Social Work*, **62**, 630-648. https://doi.org/10.1080/01634372.2019.1636332

[23] Burgener, S.C., Buckwalter, K., Perkhounkova, Y., Liu, M.F., Riley, R., Einhorn, C.J., *et al.* (2013) Perceived Stigma in Persons with Early-Stage Dementia: Longitudinal Findings: Part 1. *Dementia*, **14**, 589-608. https://doi.org/10.1177/1471301213508399

[24] Ward, R., Rummery, K., Odzakovic, E., Manji, K., Kullberg, A., Keady, J., *et al.* (2022) Taking Time: The Temporal Politics of Dementia, Care and Support in the Neighbourhood. *Sociology of Health & Illness*, **44**, 1427-1444. https://doi.org/10.1111/1467-9566.13524

[25] Wang, L., Wu, S.Q., Shi, Y., *et al.* (2022) Correlation Analysis of Anxiety Depression and Social Support Status of Family Caregivers of Patients with Senile Dementia at Home. *Chinese Journal of Modern Nursing*, **28**, 2289-2295.

[26] Devi, F., Yuan, Q., Wang, P., Tan, G.T.H., Roshan Goveas, R., Ng, L.L., *et al.* (2020) Positive Aspect of Caregiving among Primary Informal Dementia Caregivers in Singapore. *PLOS ONE*, **15**, e0237677. https://doi.org/10.1371/journal.pone.0237677