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Research Progress on Risk Assessment Tools and Interventions for Dementia in the Elderly

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Abstract: Dementia in the elderly has emerged as a critical public health issue both in China and globally. The substantial and annually increasing number of elderly individuals with dementia poses not only significant challenges to economic and social sustainability but also exerts immense pressure on family economic ethics and social culture. In light of this, this study reviews assessment tools, risk and protective factors, and the current state of interventions for dementia in the elderly, aiming to provide insights for the identification, prevention, and intervention nursing of dementia in the elderly.

Keywords: Dementia in the elderly; Assessment; Influencing factors; Intervention; Review

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1. Introduction

With the intensification of population aging, geriatric syndromes such as dementia, falls, and pain have become major threats to elderly health, with dementia being the most prevalent [1,2]. The global number of elderly individuals with dementia has reached 152 million, with an average of one case diagnosed every three seconds [3]. In 2020, China reported 15.07 million cases of dementia among individuals aged 60 and above, accounting for one-fourth of the global total. It is projected that by 2030, the economic impact of dementia in China will reach $114.2 billion [4,5]. Dementia, characterized by its long course, high disability rate, and incurability, has become a significant threat to the health of our people and social development. Currently, dementia has not been fully included in the medical insurance reimbursement catalog or the list of chronic disease support in our country, imposing a substantial economic and medical burden on families and society [6]. The "Healthy China 2030" Plan Outline proposes strengthening effective interventions for elderly dementia. Early identification and prevention and control of dementia are crucial in addressing this disease [7,8]. In summary, this paper reviews assessment tools, influencing factors, and intervention methods for elderly dementia, providing references for future related research.

2. Assessment tools for elderly dementia

Dementia assessment scales are important tools for diagnosing, staging, evaluating, monitoring symptoms, and assessing treatment efficacy, primarily based on neuropsychological and cognitive psychology theories. The Chinese Guidelines for the Diagnosis and Treatment of Dementia and Cognitive Disorders recommend assessing dementia from three aspects: cognitive function, social and daily living abilities, and psychiatric and behavioral symptoms [9]. Research on dementia assessment tools abroad is extensive, with mature scale applications. In China, neuropsychological examinations are currently primarily conducted by psychiatrists. The following is an introduction to commonly used assessment tools for elderly dementia.

2.1. Assessment of dementia status

2.1.1. The mini-mental state examination (MMSE)

The Mini-Mental State Examination (MMSE) is a commonly used screening tool for dementia [10]. It consists of 30 questions covering five areas: orientation, memory, attention and calculation, recall ability, and language ability, with each question worth one point, totaling 30 points. The original cut-off scores are as follows: illiteracy ≤ 17 points, primary school education ≤ 20 points, and middle school education or above ≤ 24 points, with higher scores indicating better cognitive function. This scale demonstrates good reliability and validity, with both sensitivity and specificity exceeding 80% [11]. However, its results are susceptible to the influence of various diseases, educational attainment, mental and emotional states, and consciousness levels.

2.1.2. The Montreal cognitive assessment (MoCA)

The Montreal Cognitive Assessment (MoCA) is utilized for rapid screening of dementia, encompassing eight domains: visuospatial/executive function, naming, memory, attention, language fluency, abstract thinking, delayed recall, and orientation, totaling 30 points [12]. Individuals with less than 12 years of education receive an additional 1 point for calibration. A score of ≥ 26 is considered normal, with higher scores indicating better cognitive function. While the MoCA exhibits excellent reliability and validity, it may not effectively evaluate elderly populations with varying occupations and educational backgrounds [13].

2.1.3. The clinical dementia rating (CDR)

The Clinical Dementia Rating (CDR) is employed for diagnosing dementia and assessing its severity, covering six aspects: memory, orientation, judgment/problem-solving, social affairs, home life/hobbies, and personal care [14]. Scores are categorized as follows: 0 for normal, 0.5 for suspected dementia, and 1 or above for dementia. The CDR demonstrates a sensitivity of 95% and a specificity of 100% in screening for dementia among normal elderly individuals. However, this scale is primarily designed for Alzheimer's disease (AD) and should be used with caution when evaluating non-AD types of dementia [15].

2.1.4. Alzheimer disease assessment scale-cognitive subscale (ADAS-cog)

The Alzheimer Disease Assessment Scale-cognitive subscale (ADAS-cog) measures key cognitive domains in Alzheimer's Disease (AD), encompassing 12 items such as memory, orientation, language, and advanced stages of dementia [16]. The maximum score is 70, with higher scores indicating more severe cognitive impairment. However, this scale is not suitable for evaluating patients with very mild or very severe cognitive impairment, struggles to differentiate underlying causes, fails to assess the executive function of the

individuals being evaluated, and is susceptible to the influence of the educational background of those being assessed. Karin et al. suggested that the scale may exhibit a ceiling effect when evaluating patients with mild AD, rendering it unsuitable for early diagnosis [17].

2.1.5. The Japanese long-term care insurance system

The Japanese Long-Term Care Insurance System, operational for over two decades, has achieved notable success in dementia assessment [18]. The system covers individuals aged 65 and above, as well as patients aged 40 to 64, and employs the "Long-Term Care Certification Survey" for evaluation. This survey includes 74 basic survey items and five intermediate assessment groups (physical function or daily activities, life skills, cognitive ability, psychiatric and behavioral symptoms, and social life adaptability). The special medical indicator group consists of 12 medical indicators reflecting the applicant's special medical needs [19]. Based on the assessment results, insured individuals are classified into eight levels, ranging from independent living, requiring support levels 1 or 2, to requiring long-term care levels 1–5. The dementia assessment indicators encompass 28 items, covering cognitive ability, psychiatric and behavioral symptoms, and adaptability to social life.

Existing domestic tools for assessing cognitive function in dementia need further refinement. It is essential to develop dementia-specific evaluation tools tailored to China's national conditions and applicable to different types and stages of dementia.

2.2. Assessment of daily living and social abilities

2.2.1. The activity of daily living scale (ADL)

The Activity of Daily Living Scale (ADL) is primarily used to evaluate the daily living abilities of subjects, encompassing the Physical Self-Maintenance Scale and the Instrumental Activities of Daily Living Scale [20]. It consists of 20 items with a total score of 100 points, where a lower score indicates more severe functional impairments. The "2018 China Guidelines for the Diagnosis and Treatment of Dementia and Cognitive Disorders" recommend conducting instrumental daily living ability or social function assessments for all patients who may have cognitive impairments.

2.2.2. The relevant outcome scale for Alzheimer's disease (ROSA)

The Relevant Outcome Scale for Alzheimer's Disease (ROSA) assesses cognitive abilities, daily living abilities, and caregiver burden in patients with Alzheimer's disease (AD), and is used for follow-up and observation of drug efficacy. The scale comprises six dimensions and 16 items: cognitive dimension (3 items), communication dimension (3 items), behavioral dimension (5 items), functional/daily activities dimension (3 items), quality of life dimension (1 item), and caregiver burden dimension (1 item) [21]. Before using the scale, it is necessary to understand the severity of the patient's condition and assess their functional level based on specific interaction scenarios. Each item is scored on a scale of 0 to 10, with higher scores indicating better patient abilities/quality of life and lighter caregiving burden.

2.2.3. The InterRAI dementia assessment and staging tool (IDEAL)

The InterRAI Dementia Assessment and Staging Tool (IDEAL) was developed by the International Association of Gerontology and Geriatrics in 2015. It aims to design an easy-to-use, international, multidimensional clinical staging scale for dementia to facilitate the development of corresponding staged

care plans [22]. This tool covers seven dimensions: Activities of daily living, physical health, cognitive function, behavioral and psychological symptoms, social support, informal care, and professional care. The IDEAL (InterRAI Dementia Assessment and Care Tool) can comprehensively evaluate the overall functioning of elderly individuals with dementia and focus on their care needs. However, it has low precision in assessing individual domains and requires use by professionally trained personnel, which limits its widespread adoption.

2.3. Assessment of behavioral and psychological symptoms

2.3.1. The Cornell scale for depression in dementia (CSDD)

The Cornell Scale for Depression in Dementia (CSDD) includes five factors: Emotional-related symptoms, abnormal behaviors, somatic symptoms, sleep disorders, and thought disorders, totaling 19 items [23]. By interviewing patients and their caregivers, the patient's performance over the past week is evaluated. As it primarily relies on caregiver information, the Cornell Scale for Depression in Dementia (CSDD) avoids the impact of cognitive and language impairments on the assessment, reduces the concealment of depressive symptoms, and demonstrates good reliability and validity, making it suitable for evaluating the depressive state of patients with Alzheimer's disease (AD).

2.3.2. The Johns Hopkins dementia care needs assessment (JHDCNA)

The Johns Hopkins Dementia Care Needs Assessment (JHDCNA) is used to identify the incidence and correlates of unmet needs among elderly individuals with dementia and their informal caregivers in the community [24]. It consists of 43 items covering seven dimensions: cognitive symptom management, neuropsychiatric symptom management, general healthcare, home/personal safety, activities of daily living, legal issues/advanced care planning, and healthcare financing. Each item is assessed as "needed", "if needed", and "met". The reliability and validity of this tool have not been clearly reported, and it is currently only used in the surrounding areas of Johns Hopkins University, with its generalizability subject to discussion.

2.3.3. The long-term care needs scale for Chinese elderly patients with dementia

The Long-term Care Needs Scale for Chinese Elderly Patients with Dementia aims to assist the government in standardizing the assessment of long-term care needs for elderly individuals with dementia and improving the management level of dementia care [25]. This tool includes 30 items across four dimensions: daily living care services, basic and specialized nursing services, psychological comfort and mental health services, and family care support services. Scores are assigned as follows: 1 for "none", 2 for "a little", 3 for "some", 4 for "quite a bit", and 5 for "a lot", with higher scores indicating greater levels of need. This scale demonstrates good reliability and validity, but it has only been used in five cities so far, and its reliability requires further validation.

In recent years, domestic scholars have increasingly emphasized the assessment of elderly individuals with dementia. However, most of them utilize foreign-localized scales, which exhibit discrepancies in practical application, lack evidence-based support and effectiveness evaluation, and thus face limitations in widespread adoption. When selecting authoritative scales, it is essential to tailor them to China's national conditions and conduct pre-assessment, covering psychological, physiological, perceptual and communicative, as well as social interaction abilities. In the future, assessment tools should be optimized to

comprehensively and accurately evaluate dementia risk, facilitating early detection and intervention.

3. Factors influencing dementia in the elderly

Due to low societal awareness of dementia and insufficient professional support, the diagnosis rate of dementia among the elderly remains relatively low [26]. Early symptoms of dementia in the elderly are often overlooked as normal signs of aging. In China, the consultation rates for mild and severe dementia patients are only 14% and 34%, respectively, with approximately 49% of dementia patients being perceived as experiencing normal aging. The confirmed diagnosis rate of dementia is merely 21% [27]. Furthermore, social stigma and the sense of shame associated with the disease discourage patients and their families from seeking medical attention. Particularly in underdeveloped regions, early identification of dementia patients is challenging, and a confirmed diagnosis often takes 3–5 years. By the time of their first consultation, 40% of patients are already in the moderate stage of dementia, missing the opportunity for early intervention [28]. Epidemiological studies indicate that addressing key risk factors can significantly reduce the incidence of dementia [29]. Early identification of dementia in the elderly has emerged as a significant challenge for the healthcare service system.

3.1. Risk factors

Early identification and prevention constitute the core of dementia prevention and control. Livingston et al. pointed out that approximately 40% of dementia cases worldwide can be attributed to 12 modifiable risk factors, encompassing cardiovascular disease factors (such as diabetes and hypertension), lifestyle habits (including smoking, excessive alcohol consumption, lack of social interaction, and physical inactivity), and living environment (such as air pollution) [30,31]. Cerebrovascular diseases are also common causes of cognitive impairment, falling under the broad category of vascular cognitive impairment [32]. Evidence indicates that age, genetic characteristics, and systemic vascular diseases are major risk factors for dementia [33]. Additionally, deficiencies in vitamins or nutritional levels are also associated with dementia, and excessive intake or combination of medications can induce cognitive deficits as a result of neurotoxic effects [34]. Conversely, vitamin D deficiency also increases the risk of dementia [35]. Research has also indicated that a high BMI is associated with the risk of dementia in the elderly, highlighting the importance of preventing overweight [36]. Liu Han refined the risk factors for Alzheimer's disease (AD) dementia and vascular dementia, finding that the risk factors for AD dementia include age, female gender, low educational level, lack of physical activity, cardiovascular disease, and depression, among others, while vascular dementia is associated with age, male gender, lack of physical activity, smoking, and cardiovascular disease, among others [37]. Therefore, timely identification and reduction of these modifiable risk factors can promote a healthy lifestyle and improve the quality of life for elderly individuals with dementia.

3.2. Protective factors

The occurrence of dementia is related to multiple factors such as aging, genetics, and environment, but certain protective factors can delay or prevent its onset. Research indicates that aerobic exercise, a Mediterranean diet, and participation in social and cognitive activities can reduce the risk of Alzheimer's Disease (AD) and delay disease progression [38]. Greece has postponed the onset of dementia by controlling modifiable risk factors and recommends a Mediterranean diet to reduce the risk of cognitive decline [39].

Since the 20th century, improvements in living standards, education, and healthcare have been considered instrumental in the decline of dementia incidence in Western countries [40]. Some scholars believe that brain health is influenced by a wide range of factors, including early development, environment, lifestyle, and educational attainment, and that higher levels of childhood education and lifelong educational achievements can reduce the risk of dementia [41]. Thus, enhancing the impact of these protective factors can help prevent dementia and reduce its incidence.

4. Current status of dementia interventions in the elderly

Currently, there is insufficient global understanding of dementia, and no effective preventive or curative treatments are available; only the progression of the disease can be controlled. Elderly dementia patients typically survive only 5 to 10 years from onset to death, experiencing a decline in orientation, memory loss, and an inability to care for themselves, which causes immense suffering to both patients and their families. There is an urgent need to explore effective interventions to reduce the number of affected individuals and lower economic costs.

4.1. Cognitive interventions

Cognitive interventions are currently the most common low-risk, cost-effective approach, playing a crucial role in the prevention and control of dementia in the elderly. They not only effectively improve neuropsychiatric symptoms but also address life issues (such as cultural and social challenges) caused by dementia. Santos GD et al. significantly improved the episodic memory of individuals with mild cognitive impairment and healthy elderly people through an 8-week intervention involving interactive imagery, spatial memory techniques, face-name association, text memory, and other methods [42]. Another study indicated that cognitive stimulation therapy can enhance cognitive function and alleviate depression in dementia patients [43]. However, a meta-analysis also pointed out that this therapy has limited effects on improving quality of life and neuropsychiatric symptoms, necessitating further verification through large-sample, high-quality randomized controlled trials [44]. In recent years, traditional Chinese medicine techniques have also achieved positive results in interventions for elderly dementia patients [45–47]. Although cognitive interventions have been proven to enhance cognitive abilities and improve memory in elderly individuals with dementia, due to widespread issues in related research such as small sample sizes, failure to distinguish dementia types, neglect of high-risk groups for dementia, and inconsistent intervention forms and evaluation indicators, the short-term and long-term effects of various therapies on different types and severities of dementia patients still need further clarification.

4.2. Self-management

Self-management is a dynamic self-regulation process aimed at helping individuals effectively control chronic diseases by utilizing skills and knowledge, with a focus on enhancing problem-solving abilities and behavior change, as well as actively participating in disease management. Gale SA proposed that maintaining daily functional abilities and quality of life should be the driving goals of dementia management [48]. As a chronic disease, elderly dementia requires longitudinal care, ongoing consultation, and psychosocial support provided by specialized clinical healthcare professionals. The “Risk Reduction of Cognitive Decline and Dementia Guidelines” issued by the World Health Organization (WHO) suggests reducing the risk of

dementia through various healthy lifestyles, such as engaging in moderate physical activity weekly, following a Mediterranean diet, quitting smoking, limiting alcohol consumption, etc. [49,50]. It also recommends actively managing hypertension, controlling diabetes, regulating dyslipidemia, intervening in depression with medication or psychotherapy as early as possible, and promoting social activities. Additionally, controlling body weight and promptly identifying and managing hearing impairment can help reduce the risk of dementia. Research in Austria has shown that caregivers can provide independent, personalized, and professional care by guiding patients in daily life and life skills training, offering valuable insights for the overall care of elderly individuals with dementia in China [51]. LARNYO E elucidated the importance of wearable devices in managing dementia patients. It is recommended to increase investment in wearable medical devices for elderly dementia patients and improve their utilization rate [52].

4.3. R nursing model

The 3R nursing model is based on theories of neurology and cognitive psychology, encompassing reminiscence therapy, reality orientation, and reminiscence activation [53]. Hou Xiaonan discovered through nine group activities that the 3R therapy had a positive impact on cognitive improvement in elderly individuals with mild dementia [54]. Other scholars have effectively improved dementia symptoms and enhanced long-term living abilities and quality of life in elderly dementia patients through reality orientation training combined with 3R interventions [55]. The 3R nursing model has also demonstrated significant effects in improving cognitive function, daily living abilities, and quality of life in AD patients, as well as delaying the progression of dementia [56,57]. However, due to the specificity and progression of dementia, the duration of interventions needs to be reasonably planned to ensure sustained effectiveness. The 3R nursing model has been proven effective for short-term control of behavioral and psychological symptoms of dementia, yet its long-term efficacy remains to be validated.

Dementia represents a significant issue amid global aging, often receiving inadequate attention in treatment. Single interventions have limited impact on the quality of life of dementia patients, but combined interventions may yield significant effects [58]. Further research is needed on the comprehensive management of dementia in the future.

5. Conclusion

The prevalence of dementia among the elderly is high, with complex pathological mechanisms and numerous risk factors. The imbalance between care demands and the development of elderly care services is becoming increasingly severe. Early identification, assessment, and intervention face challenges. Research on dementia in China is still in its preliminary stages. In the future, it is essential to draw on successful international experiences, integrate China's national conditions and social environment, establish development goals addressing existing issues, explore the establishment of a long-term care security system for elderly dementia patients, and fully implement China's healthy aging strategy. Continuously improve specific assessment tools for elderly dementia, conduct early screening of high-risk groups, clarify intervention priorities, strengthen protective factors, and build a systematic and scientific intervention system to mitigate adverse disease outcomes, delay disease progression, and enhance the overall management level of elderly dementia in China.

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References

[1] Zhou M, Wang H, Zeng X, et al., 2019, Mortality, Morbidity, and Risk Factors in China and Its Provinces, 1990–2017: A Systematic Analysis for the Global Burden of Disease Study 2017. Lancet, 394(10204): 1145–1158.

[2] Zhang YQ, Wang CF, Xu G, et al., 2020, Mortality of Alzheimer's Disease Patients: A 10-Year Follow-up Pilot Study in Shanghai. Can J Neurol Sci, 47(2): 226–230.

[3] Alzheimer Disease International, 2019, World Alzheimer Report 2019: Attitudes to Dementia, visited on 2021-05-11, https://www.alzint.org/resource/world-alzheimer-report-2019/

[4] Jia L, Du Y, Chu L, 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. Lancet Public Health, 5(12): e661–e671.

[5] Xu J, Wang J, Wimo A, et al., 2017, The Economic Burden of Dementia in China, 1990–2030: Implications for Health Policy. Bull World Health Organ, 95(1): 18–26.

[6] Jia J, Wei C, Chen S, et al., 2018, The Cost of Alzheimer's Disease in China and Re-estimation of Costs Worldwide. Alzheimers Dement, 14(4): 483–491.

[7] National Health and Family Planning Commission, 2017, Full Text of the "Healthy China 2030" Plan Outline. Beijing: People's Medical Publishing House.

[8] Ye L, Liang R, Zhang X, 2023, Management and Prevention of Dementia. Practical Geriatrics, 37(06): 626–629 + 634.

[9] Writing Group for the Chinese Guidelines for the Diagnosis and Treatment of Dementia and Cognitive Disorders, Cognitive Disorder Disease Professional Committee of the Neurology Branch of the Chinese Medical Doctor Association, 2018, 2018 Chinese Guidelines for the Diagnosis and Treatment of Dementia and Cognitive Disorders (Part III): Cognitive and Functional Assessment of Dementia. Chinese Medical Journal, 98(15): 1125–1129.

[10] Folstein F, Folstein E, McHugh R, 1975, "Mini-mental State": A Practical Method for Grading the Cognitive State of Patients for the Clinician. J Psychiatr Res, 12(3): 189–198.

[11] Jia J, Wang Y, Zhang Z, et al., 2011, Chinese Guidelines for the Diagnosis and Treatment of Dementia and Cognitive Disorders (Part III): Selection of Scales for Neuropsychological Assessment. Chinese Medical Journal, 2011(11): 735–741.

[12] Nasreddine S, Phillips A, Bédirian V, et al., 2005, The Montreal Cognitive Assessment, MoCA: A Brief Screening Tool for Mild Cognitive Impairment. J Am Geriatr Soc, 53(4): 695–699.

[13] Tang J, Xiao J, 2011, Application and Comparison of the Montreal Cognitive Assessment Scale and the Mini-Mental State Examination in Screening for Cognitive Impairment. Journal of Practical Hospital Clinical, 8(2): 193–195.

[14] Hughes P, Berg L, Danziger L, et al., 1982, A New Clinical Scale for the Staging of Dementia. Br J Psychiatry, 140: 566–572.

[15] Yang Y, Jia J, Morris J, 2018, Application of the Clinical Dementia Rating Scale. Chinese Journal of Geriatrics,

37(4): 365–366.

[16] Chiu Y, Li C, Lin K, et al., 2008, Sensitivity and Specificity of the Clock Drawing Test, Incorporating Rouleau Scoring System, as a Screening Instrument for Questionable and Mild Dementia: Scale Development. Int J Nurs Stud, 45(1): 75–84.

[17] Karin A, Hannesdottir K, Jaeger J, et al., 2014, Psychometric Evaluation of ADAS-Cog and NTB for Measuring Drug Response. Acta Neurol Scand, 129(2): 114–122.

[18] Wang Z, Zhou Y, Tan W, 2023, Dementia Assessment in Japan's Long-Term Care Insurance System and Its Implications for China. General Nursing, 21(13): 1755–1759.

[19] Jiao P, 2020, Research on the Methodology and Supporting Conditions for Establishing Nursing Grade Assessment Standards in Japan. Social Security Review, 4(4): 72–89.

[20] Tang-Wai F, Knopman S, Geda Y, et al., 2003, Comparison of the Short Test of Mental Status and the Mini-Mental State Examination in Mild Cognitive Impairment. Arch Neurol, 60(12): 1777–1781.

[21] Holthoff V, Ferris S, Ihl R, et al., 2011, Validation of a Relevant Outcome Scale for Alzheimer's Disease: A Novel Multidomain Assessment for Daily Medical Practice. Alzheimers Res Ther, 3(5): 27.

[22] Semrau M, Burns A, Djukic-Dejanovic S, et al., 2015, Development of an International Schedule for the Assessment and Staging of Care for Dementia. J Alzheimers Dis, 44(1): 139–151.

[23] Alexopoulos G, Abrams R, Young R, et al., 1988, Cornell Scale for Depression in Dementia. Biol Psychiatry, 23: 271–284.

[24] Black B, Johnston D, Rabins P, et al., 2013, Unmet Needs of Community-Residing Persons with Dementia and Their Informal Caregivers: Findings from the Maximizing Independence at Home Study. J Am Geriatr Soc, 61(12): 2087–2095.

[25] Sun N, Jia R, Guo C, et al., 2021, Psychometric Properties of the Long-Term Care Needs Questionnaire for Older Chinese Adults with Dementia. Jpn J Nurs Sci, 18(1): e12367.

[26] Liu G, Liu Y, Guo H, et al., 2019, Visual Analysis of Research Hotspots in International Dementia Care. Journal of Nursing, 15: 2–3.

[27] People's Daily Online, 2022, World Brain Health Day: China's "Brain Health Initiative" Launched, Seizing the "Window of Opportunity".

[28] Dong X, Guo C, Zhao L, 2017, Current Status and Optimization Strategies of Care Services for Elderly Individuals with Dementia in China. Health Economics Research, 2017(01): 47–49.

[29] Livingston G, Sommerlad A, Orgeta V, et al., 2017, Dementia Prevention, Intervention, and Care. Lancet, 390(10113): 2673–2734.

[30] Livingston G, Huntley J, Sommerlad A, et al., 2020, Dementia Prevention, Intervention, and Care: 2020 Report of the Lancet Commission. Lancet, 396(10248): 413–446.

[31] Crous-Bou M, Minguillón C, Gramunt N, et al., 2017, Alzheimer's Disease Prevention: From Risk Factors to Early Intervention. Alzheimers Res Ther, 9(1): 71.

[32] Skrobot O, Black S, Chen C, et al., 2018, Progress toward Standardized Diagnosis of Vascular Cognitive Impairment: Guidelines from the Vascular Impairment of Cognition Classification Consensus Study. Alzheimers Dement, 14(3): 280–292.

[33] Baumgart M, Snyder H, Carrillo M, et al., 2015, Summary of the Evidence on Modifiable Risk Factors for Cognitive Decline and Dementia: A Population-Based Perspective. Alzheimers Dement, 11(6): 718–726.

[34] Pasqualetti G, Tognini S, Calsolaro V, et al., 2015, Potential Drug-Drug Interactions in Alzheimer Patients with

Behavioral Symptoms. Clin Interv Aging, 10: 1457–1466.

[35] Licher S, de Bruijn R, et al., 2017, Vitamin D and the Risk of Dementia: The Rotterdam Study. J Alzheimers Dis, 60(3): 989–997.

[36] Tao M, Guo H, Ji X, et al., 2024, Long-term Trends in Alzheimer's Disease and Other Dementias Deaths with High Body Mass Index in China from 1990 to 2019, and Projections up to 2042. Arch Public Health, 82(1): 42.

[37] Liu H, 2023, Prevention of Senile Dementia. Family Medicine, 2023(11): 42–43.

[38] Grande G, Vanacore N, Maggiore L, et al., 2014, Physical Activity Reduces the Risk of Dementia in Mild Cognitive Impairment Subjects: A Cohort Study. J Alzheimers Dis, 39(4): 833–839.

[39] Hellenic Republic, Ministry of Foreign Affairs, 2015, National Action Plan for Dementia: Alzheimer's Disease 2015–2020, visited on 2022-03-15, https://www.alzheimer-europe.org/Policy/National-Dementia-Strategies/Greece.

[40] Ninan R, Cohen I, Adashi E, 2024, State Approaches to Stopping Violence Against Health Care Workers. JAMA, 331(10): 825–826.

[41] Larsson S, Traylor M, Malik R, et al., 2017, Modifiable Pathways in Alzheimer's Disease: Mendelian Randomisation Analysis. BMJ, 359: j5375.

[42] Santos G, Nunes P, Stella F, et al., 2015, Multidisciplinary Rehabilitation Program: Effects of a Multimodal Intervention for Patients with Alzheimer's Disease and Cognitive Impairment Without Dementia. Dement Neuropsychol, 9(4): 389–395.

[43] Saragih I, Tonapa S, Saragih I, et al., 2022, Effects of Cognitive Stimulation Therapy for People with Dementia: A Systematic Review and Meta-analysis of Randomized Controlled Studies. Int J Nurs Stud, 128: 104181.

[44] Liu Z, Ling Y, Tu P, et al., 2023, Meta-analysis of the Intervention Effects of Structured Individual Cognitive Stimulation Therapy on Patients with Mild to Moderate Dementia. Chinese Journal of Nursing, 58(15): 1878–1884.

[45] Li X, 2023, An Applied Study on the Effect of Five-Tone Therapy on the Behavioral and Psychological Symptoms of Dementia in Elderly Patients with Kidney Essence Deficiency, thesis, Liaoning University of Traditional Chinese Medicine.

[46] Zhou X, Liu W, Zhao F, 2023, Research Progress on the Treatment of Dementia with Auricular Acupressure. Guangming Traditional Chinese Medicine, 38(20): 4088–4091.

[47] Guo H, 2022, Traditional Chinese Medicine Care for Dementia, Alzheimer's Disease Prevention and Treatment Association, China Committee of the International Association of Gerontology and Geriatrics. Proceedings of the 2022 International Conference on Alzheimer's Disease and Related Disorders, 1.

[48] Gale SA, Acar D, Daffner KR, 2018, Dementia. Am J Med, 131(10): 1161–1169.

[49] World Health Organization, 2019, Risk Reduction of Cognitive Decline and Dementia: WHO Guidelines, visited on 2022-04-05, https://apps.who.int/iris/bitstream/handle/10665/312180/9789241550543-eng.pdf?ua=1.

[50] Wang D, Liu Y, Zhu X, et al., 2022, Action Plans for Dementia Prevention and Treatment by WHO and 25 Countries (Regions) and Their Implications for China. Chinese General Practice, 25(25): 3075–3082 + 3096.

[51] Luo C, Xu J, Lv F, 2019, Implications of the Care for Elderly People with Dementia in Austria for China. Chinese General Practice, 22(09): 1004–1008.

[52] Larnyo E, 2021, Research on the Use of Wearable Medical Devices by Dementia Patients in Ghana and Their Impact on Patients' Quality of Life, thesis, Jiangsu University.

[53] Spagnolo P, Aricò M, Bergamelli C, et al., 2015, A Pilot Study on the Behavioral and Cognitive Effects of

Cognitive Stimulation Training Based on 3R Mental Stimulation: The Treviso Dementia (TREDEM) Study. Neuro Rehabilitation, 36(1): 151–156.

[54] Hou X, 2024, A Study on the Cognitive Improvement of Elderly People with Mild Dementia through Group Work Intervention, thesis, Henan Agricultural University.

[55] Lin C, Zhang S, Lin Q, 2023, The Application of Reality Orientation Training Combined with 3R Intervention in Elderly Patients with Dementia. Qilu Nursing Journal, 29(05): 135–137.

[56] Shao S, 2022, The Impact of the 3R Nursing Model on Cognitive Function and Quality of Life in Patients with Alzheimer's Disease. Guangming Traditional Chinese Medicine, 37(05): 883–885.

[57] Qin M, 2023, Research on Early Symptom Intervention for Elderly People with Dementia Based on 3R Therapy, thesis, Nanjing Agricultural University.

[58] Tisher A, Salardini A, 2019, A Comprehensive Update on the Treatment of Dementia. Semin Neurol, 39(2): 167–178.