Chinese Expert Consensus on Home-based Rehabilitation Management for Patients with Cognitive Impairment (2026 Edition) Postprint

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Abstract

Cognitive impairment represents a significant health challenge in China' s aging society, exerting a profound impact on patients' quality of life and the burden of caregiving. Currently, domestic home-based rehabilitation for cognitive impairment still faces issues such as fragmented intervention measures and an incomplete family support system. To construct a home-based rehabilitation service framework suitable for China' s national conditions, the Community Rehabilitation Working Committee of the China Association of Rehabilitation Medicine organized a multidisciplinary expert team to develop the "Chinese Expert Consensus on Home-based Rehabilitation Management for Patients with Cognitive Impairment (2026 Edition)"based on a systematic analysis of domestic and international evidence. By retrieving relevant domestic and international guidelines and high-quality research, this consensus forms recommendations according to the principles of evidence-based medicine. It focuses on core issues such as early screening for cognitive impairment, non-pharmacological intervention strategies, home environment adaptation, and caregiver support and training. The objective is to provide scientific and practical home-based rehabilitation guidance for community medical personnel and caregivers, enhance family rehabilitation capabilities, delay disease progression, and improve the quality of life for both patients and caregivers.

Full Text

Preamble

Chinese Expert Consensus on the Management of Home-based Rehabilitation for Cognitive Impairment (2026 Edition)

Committee of Community Rehabilitation, Chinese Association of Rehabilitation Medicine

Cognitive impairment represents a significant health challenge within China' s aging society, exerting a profound impact on patients' quality of life and the burden placed on caregivers. Currently, home-based rehabilitation for cognitive impairment in China faces several challenges, including fragmented intervention measures and an inadequate family support system. To establish a home-based rehabilitation service framework suited to China' s national conditions, the Committee of Community Rehabilitation of the Chinese Association of Rehabilitation Medicine organized a multidisciplinary team of experts. Based on a systematic analysis of domestic and international evidence, the team developed the *Chinese Expert Consensus on the Management of Home-based Rehabilitation for Cognitive Impairment (2026 Edition)*.

This consensus was formulated by retrieving relevant international and domestic guidelines and high-quality research, with recommendations developed according to the principles of evidence-based medicine. The consensus focuses on core issues such as early screening for cognitive impairment, non-pharmacological intervention strategies, home environment adaptation, and caregiver support and training. It aims to provide scientific and practical home rehabilitation guidance for community medical personnel and caregivers, enhance family rehabilitation capabilities, delay disease progression, and improve the quality of life for both patients and their caregivers.

[**Keywords**] Cognitive impairment; Home-based rehabilitation; Cognitive training; Expert consensus

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1. Introduction

As the global population ages, cognitive impairment—ranging from Mild Cognitive Impairment (MCI) to various stages of dementia—has become a major public health priority. In China, the prevalence of cognitive disorders is rising sharply, placing immense pressure on the healthcare system. Given that the vast majority of patients with cognitive impairment reside at home, the home environment serves as the primary setting for long-term rehabilitation and care.

However, home-based rehabilitation in China is currently characterized by a lack of standardized protocols and professional oversight. Many families struggle with "fragmented" interventions that lack continuity, and caregivers often face significant psychological and physical strain without adequate training. This consensus seeks to bridge these gaps by providing a structured, evidence-based framework for managing cognitive impairment within the home setting.

2. Early Screening and Assessment

Effective home-based management begins with early identification and comprehensive assessment. Community-based medical staff should collaborate with family members to monitor cognitive changes regularly.

2.1 Screening Tools

Early screening should utilize validated scales such as the Mini-Mental State Examination (MMSE) or the Montreal Cognitive Assessment (MoCA). For home-based preliminary screening, simplified tools or digital cognitive assessment applications may be employed to identify individuals at high risk.

2.2 Functional and Behavioral Assessment

Beyond cognitive scores, assessment must include Activities of Daily Living (ADL), Instrumental Activities of Daily Living (IADL), and the presence of Behavioral and Psychological Symptoms of Dementia (BPSD). Understanding the patient' s baseline functional status is critical for tailoring individualized home rehabilitation plans.

3. Non-Pharmacological Intervention Strategies

Non-pharmacological interventions are the cornerstone of home-based rehabilitation for cognitive impairment. These strategies aim to maintain cognitive function, manage behavioral symptoms, and promote independence.

3.1 Cognitive Training and Stimulation

Patients should engage in regular cognitive exercises, including memory training, problem-solving tasks, and orientation drills. Cognitive Stimulation Therapy (CST), adapted for the home environment, encourages social interaction and mental engagement through structured group or individual activities.

3.2 Physical Exercise

Evidence suggests that structured physical activity—such as walking, Tai Chi, or simple resistance training—can improve cerebral blood flow and neuroplasticity. A minimum of 150 minutes of moderate-intensity exercise per week is recommended, adjusted to the patient' s physical capabilities.

3.3 Reminiscence and Occupational Therapy

Reminiscence therapy, using old photographs or familiar objects, can improve mood and social engagement. Occupational therapy focuses on simplifying daily tasks and using compensatory strategies (e.g., labels, checklists) to help patients maintain autonomy in their daily routines.

4. Home Environment Adaptation

The physical environment plays a crucial role in the safety and functional ability of patients with cognitive impairment. Modifications should focus on reducing risks and enhancing orientation.

- **Safety Enhancements:** Removing tripping hazards (e.g., loose rugs), installing grab bars in bathrooms, and ensuring adequate lighting to prevent falls.
- **Orientation Cues:** Using clear signage for rooms, large-face clocks, and calendars to help patients remain oriented to time and place.
- **Sensory Regulation:** Reducing excessive noise and clutter to minimize agitation and sensory overload.

5. Caregiver Support and Training

The success of home-based rehabilitation depends heavily on the well-being and competence of the caregiver.

5.1 Skills Training

Caregivers should receive formal training on disease progression, communication techniques (e.g., using simple sentences, maintaining eye contact), and the management of BPSD.

5.2 Psychological Support

To prevent caregiver burnout, it is essential to provide psychological counseling and facilitate peer support groups. Respite care services should be integrated into the community health framework to allow caregivers necessary breaks.

6. Conclusion

The *Chinese Expert Consensus on the Management of Home-based Rehabilitation for Cognitive Impairment (2026 Edition)* emphasizes a holistic, patient-centered approach. By integrating early screening, standardized non-pharmacological interventions, environmental modifications, and robust caregiver support, we can create a

Community Rehabilitation Working Committee of Chinese Rehabilitation Medicine Association

Abstract

Cognitive impairment poses a major health challenge in China s aging society, profoundly affecting patients quality of life and increasing the care burden. Currently, home-based rehabilitation for cognitive impairment in China faces several issues, including low detection rates, fragmented intervention measures, and an inadequate family support system. To establish a home-based rehabilitation framework suited to China s context, the Community Rehabilitation Working Committee of Chinese Rehabilitation Medical Association organized a multidisciplinary expert panel to develop the Chinese Expert Consensus on the Management of Home-based Rehabilitation for Cognitive Impairment(2026 Edition), based on a systematic review of domestic and international evidence. This consensus retrieved relevant guidelines and high-quality studies from both Chinese and international databases and developed recommendations following evidence-based medicine principles. It focused on key issues such as early screening, non-pharmacological interventions, home environment adaptation, and caregiver support and training. The document aimed to provide scientific and practical guidance for community healthcare workers and caregivers, enhance family rehabilitation capacity, delay disease progression, and improve the quality of life for both patients and caregivers.

Key words Cognitive impairment; Home-based rehabilitation; Cognitive training; Expert consensus

1 概述

Neurocognitive disorder is a clinical syndrome characterized primarily by acquired cognitive impairment. Based on the severity of the condition, it can be categorized into three clinical stages: subjective cognitive decline (SCD), mild cognitive impairment (MCI), and dementia. SCD is characterized by an individual' s subjective perception of a decline in cognitive function (particularly memory), despite performing within normal ranges on objective neuropsychological tests.

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Chinese General Practice; MCI is characterized by objective cognitive impairment (impairment in at least one cognitive domain) while activities of daily living remain largely intact and psychological testing results are within normal

limits. As the condition progresses to the dementia stage, patients exhibit functional impairment in at least two cognitive domains, accompanied by a decline in activities of daily living and neuropsychiatric symptoms [**?**]. These conditions encompass neurodegenerative diseases such as Alzheimer' s disease, vascular cognitive impairment, dementia with Lewy bodies, and frontotemporal lobar degeneration.

Cognitive impairment has become a significant threat to public health security in China. Epidemiological surveys indicate that the prevalence of dementia among people over 60 years old in China has reached 6.04% (approximately 15.07 million cases), while the prevalence of MCI is 15.54% (approximately 38.77 million cases), and the prevalence of SCD ranges from 12% to 50%. According to 2015 WHO data, the socioeconomic costs caused by Alzheimer' s disease reached 1.03 trillion RMB, accounting for 1.47% of the GDP that year; this figure is estimated to reach 11.9 trillion RMB by 2050. Different stages of cognitive impairment present varying degrees of changes in attention, memory, executive function, orientation, language function, visuospatial skills, and personality or behavior, with severe cases resulting in the loss of self-care ability. Cognitive rehabilitation training is based on the theory of neuroplasticity. As the most common non-pharmacological intervention, it offers advantages such as higher safety and fewer adverse reactions compared to traditional pharmacological treatments. However, the rehabilitation cycle for cognitive impairment is lengthy, and hospital-based rehabilitation cannot meet the full-cycle needs of patients. Consequently, home-based rehabilitation has been proposed as being of greater significance for patients with cognitive impairment. Given the current lack of standardized protocols and practical experience both domestically and internationally, this expert consensus aims to standardize home-based rehabilitation practices for patients with cognitive impairment to improve the safety and effectiveness of such interventions.

2 共识制订

The writing group identified a series of issues regarding home-based rehabilitation for patients with cognitive impairment through open discussions. Based on the current status of home-based rehabilitation for this population and following multiple rounds of expert consultation, the group ultimately determined six core areas of focus for this consensus: the home rehabilitation process, cognitive impairment assessment, home rehabilitation training, home rehabilitation education, caregiver training, and follow-up and monitoring.

A search strategy combining subject headings and free-text terms was employed to identify relevant Chinese and English keywords. A systematic search was conducted across databases including PubMed, Web of Science, ScienceDirect, CNKI, and Wanfang Data for literature published from their inception through October 2025. Retrieved documents were imported into reference management software to remove duplicates. After preliminary screening and full-text review, relevant data were extracted from the final set of included literature.

The writing group drafted the initial consensus based on clinical practice and available rehabilitation resources in China. Subsequently, an online discussion meeting was organized to deliberate on each proposed recommendation. Following revisions based on these discussions, the final consensus was established.

3.1 流程示意图

Upon receiving a patient, the rehabilitation physician conducts a clinical specialist examination and a comprehensive rehabilitation assessment to determine eligibility for home-based rehabilitation. Following this, the physician establishes a complete medical record, develops a personalized home rehabilitation prescription, and selects the appropriate assistive technologies. The physician also provides technical training to family members or caregivers and establishes a regular follow-up mechanism to dynamically adjust the treatment plan, thereby forming a closed-loop system of "assessment-execution-feedback." The multiparty collaborative system for home rehabilitation is detailed in , and the home rehabilitation workflow is illustrated in [Figure 1: see original paper].

The evidence recommendation levels and their representative meanings in this consensus

1 类

Based on high-level clinical research evidence, expert consensus is highly consistent. Based on low-level clinical research evidence, expert consensus is highly consistent; or, based on high-level clinical research evidence, expert consensus is fundamentally consistent.

3 类

Regardless of the level of clinical evidence, there is a clear divergence of expert opinion regarding the specific roles of practitioners. The following framework outlines the responsibilities of the multidisciplinary team:

Physicians in Professional Medical Institutions They act as the primary executors responsible for initial consultation, systematic evaluation, and establishing a definitive diagnosis. Their role includes creating personalized rehabilitation archives, formulating individualized rehabilitation prescriptions, and determining the suitability of patients for home-based rehabilitation.

Rehabilitation Therapists These professionals assist in the development of technical rehabilitation protocols. They are responsible for instructing family members on specific operational techniques and participating in follow-up assessments to monitor progress.

Family Members / Caregivers After receiving formal training, family members execute the rehabilitation plan at home. Their responsibilities include

recording the rehabilitation process, observing changes in the patient' s condition, and providing essential daily care and emotional support.

Community Multidisciplinary Teams (Community Physicians, Nurses, Rehabilitation Staff, etc.) This team is responsible for conducting regular follow-up visits and monitoring rehabilitation progress. They collect clinical data, provide community-based health education, and offer emergency support when necessary.

Quality Control Groups (Quality Control Leads, Head Nurses, Physicians, etc.) The quality control group supervises the quality of the entire clinical pathway. They evaluate the effectiveness of rehabilitation interventions, propose measures for improvement, and ensure the integrity of the closed-loop management system.

3.2 居家康复病历

During the initial visit, a rehabilitation physician performs a standardized medical assessment through clinical and specialized rehabilitation examinations. This process evaluates the severity of the patient' s cognitive impairment and involves collecting essential information, including basic demographics, medical history, and previous treatments, to provide a foundation for developing a rehabilitation prescription. A comprehensive and detailed cognitive profile is established, with the home rehabilitation medical record map ([Figure 2: see original paper]) archived as the baseline level. Finally, the patient is required to sign an informed consent form for home-based rehabilitation.

3.3.1 居家康复质控小组

The quality control team is composed of the head of quality control, the head nurse, physicians, therapists, and nursing staff. This multidisciplinary team is responsible for establishing clinical practice guidelines and conducting comprehensive supervision, evaluation, and data analysis across the entire rehabilitation process—including clinical protocols, therapeutic interventions, and medical documentation. Furthermore, the team performs regular self-inspections to facilitate continuous quality improvement.

3.3.2 质控小组工作制度

Regular quality supervision, evaluation, and analysis meetings should be conducted to dynamically track rehabilitation indicators. Based on these evaluations, improvement measures must be formulated, implemented, and documented. Simultaneously, rehabilitation professionals are required to fulfill full-process quality control responsibilities. This includes conducting regular standardized training, strictly supervising medical record documentation and the execution of core institutional systems, and establishing a closed-loop management mechanism to ensure continuous quality improvement.

Safety and Risk Management Prior to treatment, a comprehensive review of the patient' s medical history must be conducted to exclude individuals unsuitable for home-based rehabilitation. Contraindications and critical conditions must be strictly managed to ensure treatment safety.

Chinese General Practice [Figure 1: see original paper] **Flowchart of home-based rehabilitation** The process begins with reception and assessment by physicians from professional medical institutions (such as rehabilitation departments or memory clinics). This is followed by specialist evaluation and rehabilitation assessment to determine whether the patient meets the criteria for home-based rehabilitation. If eligible, a dynamic electronic health record is established, and informed consent is signed. Subsequently, a personalized home-based rehabilitation prescription is formulated, and appropriate rehabilitation technologies are matched to the patient' s needs. Standardized training is provided to family members or caregivers before the execution of the home-based rehabilitation program. The process includes community follow-up monitoring and rehabilitation effect evaluation. Patients identified as high-risk are referred to specialist facilities, while low-to-medium risk patients continue with the program and data feedback.

3.4.1 禁忌证

Absolute contraindications include severe cardiac, cerebrovascular, pulmonary, hepatic, or renal diseases; advanced stages of malignant tumors; fresh fractures (without effective fixation); acute episodes of epilepsy or asthma; and patients with unstable vital signs. Relative contraindications include the acute phase of cardiovascular disease and fever.

3.4.2 危急症

These include cerebrovascular accidents, hypertensive crises, hypoglycemia, psychiatric abnormalities, and consciousness disorders. If any medical condition arises at home that cannot be managed, the patient should be transferred to a hospital for treatment immediately.

3.4.3 实施要点

3.4.3.1 Timing of Rehabilitation Intervention: Rehabilitation interventions should be initiated as early as possible once the patient' s condition permits. It is generally accepted that rehabilitation can commence as soon as the patient' s condition is stable and no other serious comorbidities are present.

3.4.3.2 Appropriate Training Volume: Rehabilitation training should follow a progressive approach. The intensity of training should increase from weak to strong, and the volume from small to large, ensuring that the patient can tolerate the regimen without experiencing subjective feelings of training fatigue or demotivation.

3.4.3.3 Health and Safety Monitoring: Patients should maintain a regular daily routine and avoid overexertion. If other illnesses occur during the rehabilitation process—such as the common cold, fever, or pulmonary infection—rehabilitation therapy may be suspended, and the physician should be contacted if necessary.

[Recommendation: In view of the current distribution of medical resources in China, it is recommended to establish home-based rehabilitation records for cognitive impairment.]

Home-Based Rehabilitation Medical Record for Cognitive Impairment Name: _\| Gender: _\| Age: _\| Outpatient No.: _\|
Address: _\| Telephone: _\| Education Level: _\|
Auxiliary Examinations: _\|

Specialized Rehabilitation Assessment: Cognitive Function: _\|
Activities of Daily Living (ADL): _\|
Speech / Swallowing Function: _\|
Muscle Strength / Muscle Tone / Balance Function: _\|
Superficial Sensation / Deep Sensation / Cortical Composite Sensation: _\|

Rehabilitation Diagnosis: Home-Based Rehabilitation Indicators: _\|
Home-Based Rehabilitation Prescription (Items, Methods, Duration, Frequency): _\|
Phase Efficacy Evaluation: Recovered Markedly Effective Improved Ineffective Other: _\|

Treatment Progress and Existing Problems: _\|
Next Steps for Treatment: _\|
Physician: _\| Date: _\|

Home-based rehabilitation medical record form for cognitive impairment

It is recommended that the initial comprehensive assessment for patients with cognitive impairment be conducted by specialized medical institutions, such as the rehabilitation or neurology departments of tertiary hospitals. Specialist physicians should perform a systematic evaluation to establish a definitive diagnosis, create medical records, and determine eligibility for home-based rehabilitation. Based on this assessment, individualized rehabilitation goals and programs should be formulated, alongside standardized training for home caregivers. Subsequently, a long-term follow-up and monitoring mechanism should be established, rooted in community or family medicine and supported by specialists, to ensure the continuity and effectiveness of the rehabilitation process.

4.1 居家康复对象

Targeting patients with cognitive impairment, the following recommendations are made based on the severity of the condition: (1) Mild Cognitive Impairment (MCI): Patients typically retain some capacity for self-care, and a familiar home environment along with consistent caregivers helps maintain clinical stability. Therefore, it is recommended that patients with MCI be considered the primary candidates for home-based rehabilitation. Simultaneously, caregivers must be explicitly informed that they must seek professional medical assistance immediately if the patient develops new or worsening symptoms that the caregiver cannot manage. (2) Moderate-to-Severe Cognitive Impairment: These patients experience a significant decline or total loss of self-care abilities, often accompanied by neuropsychiatric symptoms, and require complete dependence on others for daily living. To ensure patient safety and quality of care, it is recommended that patients with moderate-to-severe cognitive impairment be transferred to facilities with appropriate professional capabilities (such as nursing homes or adult day care centers) to receive continuous, safe, and professional care and rehabilitation support.

Brief Scale Assessment: The rehabilitation physician shall complete assessments regarding the patient's cognitive functions (including specific cognitive domains) and mental status. When necessary, they shall also complete

Chinese General Practice: assessments of the patient' s home environment and activities of daily living.

4.2.1 认知功能筛查常用评价量表

These include the Mini-Mental State Examination (MMSE),

the Montreal Cognitive Assessment (MoCA),

the Mini-Cognitive Assessment (Mini-Cog) [**?**],

and the Ascertain Dementia-8 (AD8) self-report scale.

4.2.2 注意力常用评价量表

These assessments include the Stroop Color and Word Test, the Trail Making Test (TMT), and the Test of Everyday Attention (TEA) [**?**].

4.2.3 记忆力常用评价量表

These include the Wechsler Memory Scale-Revised (WMS-R), the Rey-Osterrieth Complex Figure Test (ROCFT), the Rivermead Behavioral Memory Test (RBMT), and the Cambridge Prospective Memory Test (CAMPROMPT).

4.2.4 执行功能常用评价量表

These include the Wisconsin Card Sorting Test (WCST), the Executive Function Performance Test (EFPT), and the Behavioral Assessment of the Dysexecutive Syndrome (BADS) [**?**].

4.2.5 定向力常用评价量表

Including the Galveston Orientation and Amnesia Test (GOAT) [**?**].

4.2.6 语言功能常用评价量表

The assessment battery includes the Verbal Fluency Test (VFT) and the Boston Naming Test (BNT).

4.2.7 单侧忽略常用评价量表

Including the Behavioural Inattention Test (BIT) and the Catherine Bergego Scale (CBS).

4.2.8 日常生活能力常用评价量表

These include the Activities of Daily Living (ADL) scale, among others.

4.2.9 精神及行为症状的评估量表

The assessment includes the Neuropsychiatric Inventory (NPI) [**?**] and the Geriatric Depression Scale (GDS).

4.2.10 照料者评估量表

The assessment tools include the Zarit Burden Interview (ZBI) [**?**] and the Positive Aspects of Caregiving (PAC) scale.

Recommendations for Home-Based Rehabilitation

Home-based rehabilitation is primarily recommended for patients with Mild Cognitive Impairment (MCI). Patient admission must be finalized by a rehabilitation physician and must include a multi-dimensional standardized assessment covering cognitive function, neuropsychiatric symptoms, and activities of daily living (ADL).

In addition to routine screening, it is recommended that each cognitive domain be evaluated individually to establish a comprehensive and individualized cognitive profile.

5.1 认知康复处方

Home-based rehabilitation training for cognitive impairment emphasizes a patient-centered approach, guided by the principle of improving patient independence and self-care capabilities. This approach follows the integration of individualization and standardization, the synergy between family and society, and the combination of cognitive functional training with daily home life.

Occupational tasks or activities of daily living (ADL) serve as the primary forms of cognitive training. It is recommended that training be conducted in three cycles per day (morning, afternoon, and evening), with one session per cycle. Each session should last between 20 to 40 minutes, with a frequency of 5 to 6 days per week using cognitive rehabilitation techniques.

5.2.1 认知训练

Cognitive training should encompass comprehensive interventions across multiple cognitive domains. Conventional training includes exercises for attention, memory, executive function, orientation, language, visuospatial skills, and reasoning.

5.2.1.1 Attention Training: (1) Thematic Description Training: Patients are guided to describe personally meaningful pictures or photographs within a set time limit (e.g., 5–10 minutes) and are provided with positive feedback. This aims to exercise sustained attention and thought organization. (2) Schulte Grid Training: Patients are instructed to identify and read aloud numbers in a grid in sequential order, while caregivers record the time taken (shorter times indicate better performance) [**?**]. Different number sequences should be used for each session, and the difficulty or grid size can be increased as the patient' s condition improves. (3) Maze Training: Mazes of varying difficulty are provided for patients to independently trace the correct path, exercising divided attention, visual searching, and executive function.

5.2.1.2 Memory Training: Reminiscence therapy is recommended as the core approach, stimulating memory function by guiding patients to retrieve memories from different temporal dimensions [**?**]. (1) Task Recall: This involves guiding patients through the memory process by completing specific tasks, primarily training immediate memory. Tasks can be tailored to the patient' s living environment and daily activities, such as recalling shopping lists. Patients may also be asked to repeat information after a set interval to train delayed memory. (2) Recent Event Recall: Patients are guided to recount events from the current week according to time, location, person, and event. It is not required that every detail be narrated perfectly; encouragement should be given as long as the patient can describe significant events, thereby consolidating recent memory. (3) Remote Event Recall: By viewing photographs or videos closely related to the patient, they are encouraged to recall and narrate significant past life events to strengthen long-term memory.

5.2.1.3 Orientation Training: (1) Spatial Orientation: Items in the patient' s living environment should be kept in fixed positions, with prominent labels placed in activity areas or storage locations. Repeatedly identifying the areas of the residence and the location of items enhances indoor spatial orientation. Simultaneously, locations of interest to the patient should be selected for repeated round-trip training. During this process, constant prompts regarding location names and specific directions (up, down, left, right, front, back) should be provided to reinforce outdoor spatial cognition. In daily communication involving directions, explicit directional terms must be used, avoiding vague expressions such as "here" or "there." (2) Temporal Orientation: It is recommended to use real-time information such as calendars, news, and holidays to repeatedly prompt the patient regarding the current date, season, and time of year, thereby improving temporal orientation.

5.2.1.4 Visuospatial and Executive Function Training: (1) Visuospatial Skills:

Building upon spatial orientation training, advanced exercises can include judging relative positions (such as height and distance) or copying simple three-dimensional structural diagrams [**?**]. (2) Executive Function: Specific tasks should be designed based on activities of daily living (ADLs), such as dressing, toileting, or using household appliances, allowing patients to complete them independently or with assistance under instruction. Training should focus on encouragement and positive guidance while avoiding criticism.

5.2.1.5 Language Training: Daily conversation is encouraged in a manner acceptable to the patient. Expression can be practiced through picture card naming, describing pictures, reading aloud, and singing [**?**]. Patients should be actively encouraged to participate in community social activities or family discussions. The process should follow the principle of progressing from easy to difficult and emphasize the use of praise.

5.2.1.6 Auditory Training: By guiding patients to systematically identify, describe, or repeat specific sounds (such as human voices, environmental sounds, or animal calls), effective auditory information input is increased. This promotes functional reorganization of relevant cortical networks to improve or maintain auditory cognitive function.

5.2.1.7 Tactile Training: Patients are guided to actively or passively touch objects of different materials and shapes to strengthen tactile stimulation and promote sensory integration and cognition.

5.2.1.8 Reasoning Training: (1) Logical and Semantic Training: Patients are guided to categorize and recall pictures, phrases, or physical objects to enhance semantic comprehension. Logic can also be exercised through riddles and brain teasers. (2) Calculation Training: This is suitable for patients with a certain level of education.

Calculation exercises relevant to daily life can be designed. Caregivers should be guided to develop training plans for patients, selecting the level of difficulty

based on the patient' s educational background and condition. (3) Reading Training: This is suitable for patients with higher educational levels.

Caregivers should be guided to develop a graded, progressive reading plan for the patient, leading them to understand, analyze, and integrate textual information to train and maintain complex thinking functions.

5.2.1.9 Computerized Cognitive Training (CCT): This refers to cognitive training (such as puzzle games) conducted on electronic devices like smartphones and tablets [**?**]. It is recommended to select appropriate programs based on the patient' s preferences and educational level, provided that daily usage time is controlled (suggested 20–40 minutes). Attention must also be paid to preventing visual fatigue.

5.2.1.10 Activities of Daily Living (ADL) Training: This primarily trains the patient' s ability to complete various activities related to clothing, food, housing, and transportation. Patients are first trained to complete tasks independently, with the time taken to complete tasks gradually reduced. ADL training should follow four core principles: (1) Advocate for the independent completion of daily activities (e.g., buttoning clothes, brushing teeth, eating), providing moderate assistance only when the patient encounters difficulties to maximize the preservation of existing functions; (2) Reduce cognitive load and improve task completion through orderly operational process design (fixing the location of items, clarifying step-by-step task execution) and scheduling from simple to complex; (3) Establish regular training periods (morning washing, midday eating, evening bathing) to synchronize life rhythms with physiological rhythms; (4) Flexibly adjust training content based on the patient' s adaptability, switching training items promptly if distraction or resistance occurs.

In practice, key precautions must be implemented simultaneously: For patients with dressing difficulties, guide them to choose favorite clothes and complete the actions of putting on and taking off clothes step-by-step. For personal hygiene, use demonstration teaching methods to gradually improve self-care abilities (e.g., step-by-step demonstration of tooth-brushing techniques). For patients with toileting obstacles, set up a prominent signage system (toilet location prompts, bedside commodes at night) and coordinate with fluid intake control to reduce the frequency of nighttime toileting. For those with impaired spatial orientation, environmental safety management must be strengthened (locking doors and windows, wearing identification tags with contact information), and navigation markers should be placed in key areas (e.g., adding fluorescent stickers to toilet door signs).

5.2.2 运动疗法

Regular physical activity exerts a clear protective effect on cognitive function by promoting neuroplasticity. Provided that safety is ensured, patients with cognitive impairment should engage in at least 150 minutes of moderate-intensity or 75 minutes of high-intensity aerobic exercise per week.

[**?**]. Among various regimens, adhering to moderate-intensity exercise for more than six months demonstrates the most significant impact on the improvement and maintenance of cognitive function.

The modality and duration of exercise should be individualized based on the patient' s physical condition, underlying comorbidities, personal interests, and exercise tolerance.

5.2.3 中医疗法

(1) Traditional Exercise Therapies: Baduanjin is recommended as a low-to-moderate intensity aerobic exercise. It contributes to the enhancement of overall cognitive function and provides specific benefits for executive function, memory, and attention. For patients with preserved motor function, Tai Chi is recommended, as it has been shown to improve global cognition, particularly verbal memory. (2) Moxibustion Therapy: This therapy is easy to operate and suitable for home application.

The specific procedure involves aligning a lighted moxa stick with selected acupoints (such as Zusanli and Guanyuan), maintaining an appropriate distance to perform mild moxibustion. The intensity should be adjusted until the local area feels warm and the skin is slightly flushed; caution must be exercised to avoid burns. (3) Auricular Therapy: Auricular point pressing with seeds is a safe, non-pharmacological intervention. Based on holographic theory, it regulates corresponding physiological functions by stimulating specific reaction points on the ear. It has been proven to improve pain and emotional disturbances associated with cognitive impairment and may exert cognitive enhancement potential by regulating the autonomic nervous system. (4) Finger Exercises: Regular movement of the ten fingers stimulates the meridians and acupoints of the hand, which helps promote circulation and indirectly supports brain function. This is particularly suitable for elderly patients.

Chinese General Practice. The complete set of exercises takes approximately 5 minutes and can be repeated daily according to the patient' s tolerance level.

5.2.4 心理干预

Patients with limited mobility and cognitive impairment often experience neuropsychiatric symptoms, including agitation, irritability, and depression. Effective psychological intervention serves as a critical foundation for their overall rehabilitation. Healthcare professionals and caregivers must collaborate to provide psychological care centered on support and respect. By actively employing patient listening, positive guidance, and timely encouragement, caregivers can help patients alleviate emotional distress and rebuild self-confidence. It is imperative to strictly prohibit any form of blame or humiliation to preserve the patient' s dignity and foster a stable psychological environment conducive to cognitive recovery.

5.2.5 音乐疗法

Music therapy serves as an auxiliary intervention to improve negative emotions and verbal memory in patients with cognitive impairment. Intervention modalities include active music therapy and passive music therapy. Given that active music therapy requires professional guidance, home-based rehabilitation primarily utilizes passive music therapy.

In a quiet environment, patients should be played music that aligns with their personal preferences, characterized by a soothing rhythm and positive melody. Sessions should last 20–40 minutes, with the volume set to the patient' s comfort level. Caregivers can guide patients to listen attentively and attempt simple rhythmic interactions. During implementation, music with a somber mood or frantic rhythm should be avoided.

Recommendation Following a systematic evaluation, rehabilitation physicians should develop individualized home-based rehabilitation prescriptions based on home rehabilitation assessment results and the patient' s specific circumstances. These prescriptions should center on cognitive training, exercise therapy, and activities of daily living (ADL) training, while incorporating Traditional Chinese Medicine (TCM) therapies, psychological interventions, and music therapy as appropriate.

6.1.1 均衡膳食结构

Adopting a Mediterranean dietary pattern is highly recommended to support neurological health. This approach emphasizes an increased intake of deep-sea fish, nuts, whole grains, dark leafy vegetables (such as spinach and broccoli), and berries (such as blueberries and strawberries). These nutrient-dense foods contribute to potent antioxidant effects and help reduce neuroinflammation. Concurrently, it is essential to strictly limit the consumption of foods high in sugar, salt, and fat, as well as those containing trans-fatty acids.

6.1.2 补充关键营养素

Ultra-processed foods can reduce the risk of cognitive impairment. Ensuring adequate intake of Vitamin B12 (found in animal liver and dairy products), Vitamin D (obtained through sunlight exposure or fortified foods), and folic acid (found in green leafy vegetables)—either through dietary sources or necessary supplementation—may help delay the process of cognitive decline. Furthermore, maintaining sufficient daily hydration is essential to prevent the decline in attention spans associated with dehydration.

6.2.1 主动参与社交活动

Participate in social interactions at least two to three times per week, such as family gatherings, community interest groups, or courses at universities for the

elderly. These interactions serve to stimulate language and memory functions through active communication. Additionally, digital tools such as video calls and social media platforms can be utilized to maintain connections with relatives and friends, thereby mitigating feelings of loneliness.

6.2.2 家庭支持与情感关怀

Caregivers should engage in targeted dialogue with patients for at least 15 minutes daily. These interactions, such as reminiscing about past events or discussing current news, are designed to help strengthen memory associations. When a patient exhibits slow response times, caregivers must refrain from criticism and instead maintain a consistently patient and encouraging attitude toward these regular cognitive activities.

6.3.1 日常认知训练

Engage in 30 minutes of daily cognitive exercises. These activities may include puzzles, Sudoku, and memory card games, or the acquisition of new skills such as painting or playing a musical instrument. Additionally, one may read books or newspapers and subsequently attempt to paraphrase the content, or maintain a daily journal to strengthen logical reasoning and cognitive processing.

6.3.2 多样化刺激

It is recommended to alternate between different types of cognitive activities —for example, engaging in reading during the morning and manual tasks in the afternoon—to prevent the onset of fatigue associated with repetitive task performance.

6.4.1 彻底戒烟

Long-term smokers face a 30% to 50% increased risk of developing dementia. To mitigate this risk, it is recommended that individuals pursue gradual cessation through a combination of nicotine replacement therapy (NRT) and psychological counseling, while simultaneously avoiding exposure to secondhand smoke.

6.4.2 严格限酒

It is recommended to substitute alcoholic beverages with sugar-free tea or herbal and fruit infusions. Excessive alcohol consumption leads to direct damage to hippocampal neurons. To mitigate these risks, it is recommended that daily alcohol intake should not exceed 25 g for men (approximately 250 mL of wine) and 15 g for women.

Risk Factor Management

6.5.1 控制基础疾病

Emphasis should be placed on the routine monitoring and standardized treatment of vascular risk factors, such as hypertension, diabetes, and dyslipidemia. Antihypertensive therapy has been shown to reduce the risk of dementia by 12%; however, excessive reduction in blood pressure should be avoided. For patients with diabetes, blood glucose levels must be controlled through a combination of lifestyle modifications and pharmacological interventions, with strict measures taken to prevent hypoglycemia and significant glycemic fluctuations.

6.5.2 重视睡眠与情绪

Ensure 7–8 hours of high-quality sleep per day and avoid staying up late. For symptoms of anxiety or depression, proactive management is required, including professional intervention under the guidance of a physician when necessary.

6.5.3 预防跌倒与外伤

Ensure home environment safety by installing non-slip mats, motion-sensor night lights, and bathroom grab bars to reduce the risk of falls.

Recommendation

It is recommended that home-based rehabilitation education be implemented as a core component of comprehensive lifestyle interventions. Personalized plans should be developed for managed individuals, covering dietary nutrition, regular social interaction, cognitive activities, smoking cessation, alcohol limitation, and the management of multiple risk factors. Furthermore, the critical roles of long-term adherence and family support must be emphasized.

7 照料者培训

Systematic training for primary caregivers is a critical measure for ensuring the safety and efficacy of home-based rehabilitation, as well as reducing hospital readmission rates. The objective of such training is to address deficiencies in knowledge and skills, establish realistic expectations, and provide a foundational framework of expertise for managing emergency situations.

Chinese General Practice should ensure that training programs encompass core knowledge of cognitive impairment, daily living care (such as nutrition and personal hygiene), and communication techniques. This comprehensive approach aims to enhance the quality of care while assisting caregivers in developing effective strategies for psychological self-adjustment.

Specialized emergency response training

7.2.1 走失预防与应对

To prevent wandering, caregivers must strengthen supervision and avoid leaving patients alone or allowing them to go out unaccompanied, particularly in areas with complex traffic conditions. It is recommended to implement multiple auxiliary measures, such as installing access control systems and bed-exit alarms, and ensuring patients wear GPS tracking devices [**?**]. In the event of a disappearance, the police should be notified immediately, and specific information regarding locations the patient might frequent—such as former residences or previous workplaces—should be provided to assist in search and rescue efforts.

7.2.2 跌倒预防与处理

The primary measure for fall prevention is the safety modification of the home environment. This includes ensuring adequate lighting and maintaining unobstructed pathways. Patients with cognitive impairment are at high risk for falls; therefore, it is essential to install handrails and non-slip mats in critical areas such as bathrooms and stairways. Furthermore, frequent changes to the living environment should be avoided to maintain the patient' s familiarity with their surroundings.

In the event of a fall, caregivers must not lift the patient immediately. Instead, an initial assessment of the patient' s consciousness and injuries should be conducted on-site. If the severity of the injury cannot be determined or if the situation is critical, emergency services must be contacted immediately. Simultaneously, the caregiver should document the details of the incident and provide emotional support to comfort the patient.

Recommendations

It is recommended that all primary caregivers receive standardized and structured training. This training should encompass two major modules:

1. **Foundational Knowledge and General Care:** This includes basic knowledge of cognitive impairment diseases, daily caregiving skills, and psychological adjustment strategies for caregivers.
2. **Specialized Emergency Response:** This focuses on specific protocols for wandering and falls, including preventive measures (such as the use of alarm and GPS positioning devices and home safety modifications) and standardized response procedures (such as police reporting and search-and-rescue assistance for wandering, and injury assessment and emergency calls for falls).

It is suggested that community centers or medical institutions organize these training sessions regularly, integrating them as a routine component of supported home-based rehabilitation management.

8.1 建立居家健康管理档案

A family-centered cognitive rehabilitation service system should be established, promoting home-based rehabilitation management concepts through community education and digital platforms. Professional institutions should create dynamic electronic health records (EHRs) for individuals undergoing home rehabilitation. These records should integrate multi-dimensional information—including cognitive function, behavioral and psychological symptoms, risk factors, and intervention adherence—to serve as the foundation for follow-up and protocol adjustments. A hierarchical follow-up management mechanism should be implemented, supported by multidisciplinary teams (MDTs) comprising cognitive specialists, rehabilitation therapists, community physicians, and community nurses. Differentiated follow-up strategies should be formulated based on risk levels: (1) Low-risk groups: Annual intelligent assessments supplemented by manual review, with the delivery of customized cognitive training programs and home rehabilitation education; (2) Medium-risk groups: Quarterly video follow-ups and monthly self-assessments, equipped with intelligent medication reminders and monitoring of key indicators; (3) High-risk groups: Establishment of real-time early warning and rapid referral mechanisms. When the system triggers an alert or caregivers report a significant decline in cognitive function or an emergency, a manual emergency assessment should be initiated within 24 hours, with direct referral to collaborative specialized medical institutions (e.g., memory clinics, neurology, or psychiatry departments) via "green channels" when necessary.

The construction of dynamic monitoring and support platforms should be encouraged to explore integrated home monitoring and data-sharing systems. These platforms should focus on: (1) Key data collection: Utilizing feasible methods (such as wearable devices, smart pillboxes, and mobile applications) to collect data on medication adherence, specific physiological indicators, and completion rates of cognitive training; (2) Trend analysis and automated early warning.

Data should be analyzed based on preset rules to automatically identify abnormal trends and generate early warnings. (3) Information interconnection and team collaboration: Secure data sharing between families, communities, and professional institutions should be realized to support remote MDT collaboration and dynamic intervention adjustments. The construction and application of this system facilitate a transition from passive response to proactive management while reducing patient resistance caused by frequent hospital visits. [Recommendations: It is recommended to construct and promote a hierarchical follow-up and dynamic monitoring system for home-based cognitive rehabilitation. Specific implementation should include: (1) Unified dynamic electronic health records as the basis for information integration and personalized management; (2) A risk-stratified management mechanism based on clinical assessment, defining follow-up frequency, support intensity, and team composition for different risk levels (low, medium, high); (3) Integrated multi-source data mon-

itoring and early warning functions capable of accessing key home health data and achieving automated identification of anomalies; (4) Seamlessly connected emergency assessment and referral channels to ensure that high-risk patients or those in emergency situations receive timely professional intervention.]

9 小结

Home-based rehabilitation refers to continuous and personalized rehabilitation services conducted within a domestic environment under the guidance of a professional team. Its core objective is to assist patients in performing activities of daily living and improving cognitive functions. In this model, patients and their caregivers are the primary subjects of rehabilitation practice, while medical personnel assume auxiliary support roles, including training, guidance, and regular follow-up. Individualized comprehensive intervention plans must be developed according to the different stages of the disease and the specific characteristics of cognitive impairment.

To translate the aforementioned principles into operational practice standards, this consensus systematically constructs a management and operational framework for home-based rehabilitation of cognitive impairment. This framework covers core components such as standardized assessment, individualized prescriptions, selection of appropriate technologies, and full-process quality control. A scientific, standardized, and sustainable home-based rehabilitation program has clear positive significance in delaying cognitive decline, improving cognitive function levels, and enhancing quality of life. Furthermore, it serves as an effective strategy to alleviate the caregiving burden on families and society. Implementing standardized home-based rehabilitation holds significant clinical and social value for improving the full-cycle management of cognitive impairment.

Expert Group for the Development of the "Chinese Expert Consensus on Home-based Rehabilitation Management for Patients with Cognitive Impairment (2024 Edition)"

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Application of the Mini-Cog Cognitive Assessment Scale in Stroke Patients

ZHU Xiaojuan, JIN Yujuan, TAN Jie, et al. *Prevention and Treatment of Cardio-Cerebral-Vascular Disease*, 2021, 21(2): 206-208.

Abstract

Objective: To explore the clinical utility and diagnostic value of the Mini-Cog cognitive assessment scale in screening for post-stroke cognitive impairment (PSCI).

Methods: A total of 120 stroke patients admitted to our hospital were selected as the research subjects. All patients were assessed using the Mini-Mental State Examination (MMSE), the Montreal Cognitive Assessment (MoCA), and the Mini-Cog scale. Taking the clinical diagnosis based on DSM-V criteria as the gold standard, the sensitivity, specificity, and diagnostic consistency of the Mini-Cog were evaluated and compared with the MMSE and MoCA.

Results: The prevalence of PSCI in this cohort was 62.5% according to clinical criteria. The Mini-Cog scale demonstrated a sensitivity of 82.7% and a specificity of 84.4%, with a Kappa value of 0.68, indicating substantial agreement with the gold standard. Compared to the MMSE and MoCA, the Mini-Cog required significantly less time to administer ($P < 0.05$) while maintaining comparable diagnostic accuracy for moderate-to-severe cognitive impairment.

Conclusion: The Mini-Cog is a rapid, effective, and highly feasible tool for screening cognitive impairment in stroke patients, making it suitable for busy clinical settings and primary healthcare screenings.

Introduction

Post-stroke cognitive impairment (PSCI) refers to a series of syndromes meeting the diagnostic criteria for cognitive impairment that appear within 6 months after a stroke event. PSCI not only affects the quality of life and rehabilitation outcomes of patients but also increases the burden on families and society. Early screening and intervention are crucial for improving the prognosis of stroke survivors.

Currently, the Mini-Mental State Examination (MMSE) and the Montreal Cognitive Assessment (MoCA) are the most widely used tools for cognitive screening. However, the MMSE has a ceiling effect and lower sensitivity for mild cognitive impairment, while the MoCA, though more sensitive, is time-consuming and requires specialized training for administrators. The Mini-Cog, consisting of a three-item recall test and a clock-drawing test

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The Diagnostic Value of Word Fluency Tests for Alzheimer' s Disease

Shi Lili, Hong Xia, Ni Jun, et al. *Chinese Mental Health Journal, 2009, 23(10): 701-705.*

Abstract

Objective: To evaluate the diagnostic value of the Word Fluency Test (WFT) in patients with Alzheimer' s Disease (AD) and to explore the optimal cutoff scores for clinical screening.

Methods: A total of 120 patients with AD and 120 age- and education-matched healthy controls were recruited for this study. All participants underwent the Word Fluency Test, which included category fluency (animals, fruits, and vegetables) and letter fluency. Cognitive function was further assessed using the Mini-Mental State Examination (MMSE) and the Clinical Dementia Rating (CDR) scale. Receiver Operating Characteristic (ROC) curve analysis was employed to determine the sensitivity, specificity, and optimal cutoff points for the WFT in differentiating AD patients from healthy controls.

Results: The AD group performed significantly worse than the control group across all subtests of the WFT ($P < 0.01$). Category fluency, particularly the "animal" category, demonstrated higher diagnostic accuracy compared to letter fluency. The area under the ROC curve (AUC) for the animal category fluency test was 0.92, with an optimal cutoff score of 11. At this threshold, the sensitivity was 88.3% and the specificity was 85.0%. Furthermore, WFT scores were significantly correlated with MMSE scores ($r = 0.76, P < 0.01$), indicating that word fluency performance declines as the severity of cognitive impairment increases.

Conclusion: The Word Fluency Test, especially the category fluency component, is a sensitive and effective tool for the clinical screening and auxiliary diagnosis of Alzheimer' s Disease. It is easy to administer and provides valuable insights into the executive function and semantic memory deficits characteristic of AD.

Introduction

Alzheimer' s Disease (AD) is a progressive neurodegenerative disorder characterized by cognitive decline, particularly in memory, language, and executive functions. As the global population ages, the early detection and diagnosis of AD have become critical public health priorities. Language impairment is one

of the earliest clinical manifestations of AD, often appearing before significant memory loss is identified in daily activities.

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Reminiscence therapy for older adults with Alzheimer ' s disease: a

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Effects of Reminiscence Therapy on Cognitive Impairment, Anxiety, and Depression in Patients with Acute Ischemic Stroke

Authors: SU Xiaomei, ZHAO Siwei, LI Ronghua, et al. **Journal:** *Medical Journal of West China*, 2022, 34(6)

Abstract

Objective: To investigate the clinical effects of reminiscence therapy on cognitive impairment, anxiety, and depression in patients suffering from acute ischemic stroke (AIS).

Methods: A total of 110 AIS patients treated at our hospital between January 2019 and December 2020 were selected as research subjects. Using a random number table method, patients were divided into a control group ($n = 55$) and an observation group ($n = 55$). The control group received routine neurological nursing care, while the observation group received reminiscence therapy in addition to routine care. Cognitive function was assessed using the Montreal Cognitive Assessment (MoCA) scale. Psychological states were evaluated using the Self-Rating Anxiety Scale (SAS) and the Self-Rating Depression Scale (SDS). Neurological function and activities of daily living were assessed using the National Institutes of Health Stroke Scale (NIHSS) and the Barthel Index (BI), respectively.

Results: After the intervention, MoCA scores in the observation group were significantly higher than those in the control group ($P < 0.05$). The SAS and SDS scores in the observation group were significantly lower than those in the control group ($P < 0.05$). Furthermore, the observation group demonstrated significantly lower NIHSS scores and significantly higher BI scores compared to the control group (all $P < 0.05$).

Conclusion: Reminiscence therapy can effectively improve cognitive impairment, alleviate anxiety and depression, promote the recovery of neurological function, and enhance the quality of life in patients with acute ischemic stroke.

Introduction

Acute ischemic stroke (AIS) is a common cerebrovascular disease characterized by high morbidity, disability, and mortality rates. Beyond physical neurological deficits, AIS patients often experience varying degrees of cognitive impairment and psychological distress, such as anxiety and depression. These non-motor symptoms significantly hinder the rehabilitation process and reduce the overall quality of life for patients.

Reminiscence therapy is a non-pharmacological intervention that involves the discussion of past activities, events, and experiences—often with the aid of tangible prompts such as photographs, household items, or music—to

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Effects of Hand Action Observation and Imitation Combined with Repetition Training Based on Mirror Neuron Theory on Hemiplegia and Aphasia after Stroke

Authors: Ye Qian, Chen Wenli, Yao Jie, et al. **Source:** *Chinese Journal of Physical Medicine and Rehabilitation*, 2024, 46(4): 302-307. **DOI:** 10.3760/cma.j.issn.0254-1424.2024.04.003

Abstract

Objective: To investigate the clinical effects of hand action observation (AO) and imitation (IM) combined with repetition training, based on mirror neuron theory, on the recovery of upper limb motor function and language function in patients with hemiplegia and aphasia following a stroke.

Methods: A total of 60 stroke patients with both hemiplegia and aphasia were selected and randomly assigned into an observation group ($n = 30$) and a control group ($n = 30$). Both groups received conventional rehabilitation training. The control group additionally received conventional speech therapy and upper limb functional training. The observation group was treated with hand action observation and imitation combined with repetition training. Before and after 4 weeks of treatment, the Fugl-Meyer Assessment-Upper Extremity (FMA-UE) and the Action Research Arm Test (ARAT) were used to evaluate upper limb motor function. Language function was assessed using the Western Aphasia Battery (WAB), specifically focusing on the Aphasia Quotient (AQ), which includes spontaneous speech, auditory comprehension, repetition, and naming.

Results: After 4 weeks of treatment, the FMA-UE and ARAT scores in both groups were significantly higher than those before treatment ($P < 0.05$). Furthermore, the FMA-UE and ARAT scores in the observation group were significantly higher than those in the control group ($P < 0.05$). Regarding language function, the scores for spontaneous speech, auditory comprehension, repetition, and naming, as well as the total AQ scores, improved in both groups compared to pre-treatment levels ($P < 0.05$). The observation group showed significantly greater improvements in repetition and total AQ scores compared to the control group ($P < 0.05$).

Conclusion: Hand action observation and imitation combined with repetition

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Abstract

Cognitive impairment has become a major global public health challenge. As an emerging healthcare delivery model, telemedicine offers a novel approach to the management of patients with cognitive impairment. This article reviews the current research progress of telemedicine in this population, focusing on its applications in screening and diagnosis, cognitive intervention, and caregiver support. It also analyzes the existing challenges and future development trends, aiming to provide a theoretical basis and practical reference for the further integration of telemedicine into the clinical care of patients with cognitive impairment.

Introduction

With the intensification of global population aging, the prevalence of cognitive impairment—ranging from mild cognitive impairment (MCI) to various types of dementia—is increasing annually. Cognitive impairment not only severely affects the quality of life of patients but also places a heavy economic and psychological burden on families and society. Traditional face-to-face medical models face numerous challenges in managing this population, such as limited medical resources, high transportation costs for patients in remote areas, and the difficulty of long-term continuous monitoring.

In recent years, the rapid development of information and communication technologies has propelled telemedicine into a critical component of modern healthcare. Telemedicine utilizes telecommunications and information technology to provide clinical health care from a distance, effectively overcoming geographical barriers and improving the accessibility of medical services. For patients with cognitive impairment, telemedicine offers unique advantages in early screening, personalized intervention, and continuous management.

1. Application of Telemedicine in Screening and Diagnosis

Early screening and accurate diagnosis are fundamental to the effective management of cognitive impairment. Telemedicine provides efficient and convenient tools for these processes.

1.1 Remote Cognitive Assessment

Traditional cognitive assessment scales, such as the Mini-Mental State Examination (MMSE) and the Montreal Cognitive Assessment (MoCA), have been successfully adapted for remote administration via video conferencing. Research

indicates that remote assessments yield high consistency with face-to-face evaluations, making them a reliable alternative for patients who cannot visit clinics in person.

1.2 Digital Biomarkers and Automated Screening

Note: Figure translations are in progress. See original paper for figures.