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TREATMENT STRATEGIES FOR ALZHEIMER'S DISEASE: A SYSTEMATIC REVIEW OF PHARMACOLOGICAL AND NON-PHARMACOLOGICAL INTERVENTIONS

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ABSTRACT

Background: Alzheimer's disease (AD) is a progressive neurodegenerative disorder and the leading cause of dementia worldwide, characterized by cognitive decline and functional impairment. Current treatment strategies aim to alleviate symptoms, slow progression and enhance quality of life.
Objective: This systematic review aims to critically evaluate the efficacy and safety of pharmacological and non-pharmacological interventions across different stages of Alzheimer's disease, integrating evidence from randomized controlled trials, high-quality systematic reviews and meta-analyses.
Methods: This review followed PRISMA guidelines. PubMed and Google Scholar were searched for English-language studies on pharmacological or non-pharmacological interventions in Alzheimer's disease. Eligible studies used rigorous designs and reported cognitive, functional, or behavioral outcomes. Two reviewers screened and extracted data independently. Ethical compliance and methodological quality were noted. Due to study heterogeneity, findings were narratively synthesized. A total of 32 studies were included.
Results: Pharmacological treatments, particularly cholinesterase inhibitors (rivastigmine, galantamine, donepezil) and NMDA receptor antagonist (memantine), provided modest symptomatic benefits. Emerging monoclonal antibodies targeting amyloid-β (lecanemab, donanemab, aducanumab) showed promise in modifying disease progression. Non-pharmacological interventions, including aerobic exercise, neuromodulation, dietary strategies and music therapy demonstrated potential to improve cognitive, functional, and behavioral outcomes, especially in early-stage AD.
Conclusion: Management of Alzheimer's disease is increasingly shifting toward a comprehensive, multimodal approach. Combining symptomatic therapies with disease-modifying treatments and personalized non-pharmacological approaches offers the most promise for improving patient outcomes. Further research is needed to assess long-term effectiveness and practical implementation of emerging therapies.

KEYWORDS

Alzheimer's Disease, Acetylcholinesterase Inhibitors, Memantine, Monoclonal Antibodies, Aerobic Exercise, Neuromodulation, Dietary Therapy, Music Therapy, Cognitive Function

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Introduction

Alzheimer's disease (AD) is a multifactorial, progressive neurodegenerative disorder and the most widespread cause of dementia worldwide, especially in aging populations. AD currently affects over 35 million individuals with projections estimating an increase to nearly 60 million cases by 2050 (Bleibel et al., 2023; Guo et al., 2020). The disease is characterized by gradual cognitive and functional deterioration, severely compromising patients' quality of life and placing a considerable burden on caregivers and healthcare systems (Zeng et al., 2024; Zhang et al., 2022). Despite substantial research, the exact mechanisms underlying Alzheimer's disease are still not fully understood. Neuropathologically, AD is defined by extracellular amyloid-beta (Aβ) deposition, intracellular tau protein hyperphosphorylation, synaptic dysfunction, oxidative stress and persistent neuroinflammation, all of which contribute to the irreversible progression of cognitive impairment (Hampel et al., 2021; Knorz & Quante, 2022). Pharmacological treatment of Alzheimer's disease primarily focuses on symptomatic therapies such as acetylcholinesterase inhibitors (donepezil, galantamine, rivastigmine) and NMDA receptor antagonists (memantine), which provide modest improvements in cognition and behavior, especially in early to moderate stages of the disease (Knorz & Quante, 2022). In recent years, disease-modifying therapies targeting β-amyloid such as aducanumab, lecanemab and donanemab have received regulatory approval; however, their clinical efficacy and safety profiles remain debated (Hampel et al., 2021; Zeng et al., 2024). In parallel, non-pharmacological approaches have attracted increasing attention because of their safety, accessibility and potential synergistic effects. Strategies such as music therapy and

aerobic exercises have shown promise in improving cognitive function, emotional well-being and delaying disease progression, particularly in early AD (Bleibel et al., 2023; Zhang et al., 2022).

Novel neuromodulatory approaches are also gaining attention as potential tools in altering the course of Alzheimer's disease. Techniques such as transcranial electromagnetic stimulation and deep brain stimulation are being explored for their ability to influence brain activity, enhance cognitive function and promote structural brain changes. Early clinical findings suggest these interventions may offer neuroprotective or disease-modifying benefits, particularly in the early stages of AD (Arendash et al., 2019; Sankar et al., 2015). Randomized trials investigating dietary patterns, such as the MIND diet, Mediterranean diet, and ketogenic diet suggest beneficial effects on cognitive performance, AD-related biomarkers, and quality of life, with differential responses based on cognitive status and metabolic profiles (Hoscheidt et al., 2022; Liu et al., 2021; Phillips et al., 2021).

Aim of the study

This systematic review aims to comprehensively evaluate the efficacy and safety of both pharmacological and non-pharmacological interventions used at different stages of Alzheimer's disease. The objective is to identify which therapeutic strategies offer the most clinical benefit in terms of cognitive function, quality of life, and disease progression, while also considering their potential risks and limitations across early, moderate, and advanced phases of AD.

Methods

This systematic review was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. A structured search of the scientific literature was performed using databases including PubMed and Google Scholar.

Eligibility Criteria

Studies were included if they met the following criteria:

– Focused on individuals diagnosed with Alzheimer's disease (any stage);

– Assessed the effects of pharmacological or non-pharmacological interventions on cognitive, functional or behavioral outcomes;

– Were randomized controlled trials, meta-analyses,controlled clinical trials or observational studies with rigorous analytical methods;

– Published in English;

– Provided sufficient data for qualitative synthesis.

Exclusion criteria were:

– Non-original research (e.g., reviews, editorials, case reports),

– Studies involving only animal models or in vitro data,

– Abstract-only publications or conference proceedings.

Study Selection

Two reviewers independently screened all identified titles and abstracts. Full-text articles were assessed against the inclusion criteria. Discrepancies were resolved by consensus or by consulting a third reviewer.

Data Extraction

Data were extracted using a standardized form and included: author(s), year of publication, study design, sample size, intervention type and duration, population characteristics, outcome measures, and main findings. The extracted studies were categorized into pharmacological and non-pharmacological treatment modalities.

Risk of Bias and Ethical Considerations

All included studies reported adherence to ethical standards such as the Declaration of Helsinki and Good Clinical Practice guidelines. Institutional review board approvals and informed consent from participants were documented. Several studies were registered with clinical trial registries. While formal risk of bias assessment was not performed, design rigor (e.g., blinding, randomization, control groups) was noted.

Data Synthesis

Due to clinical and methodological heterogeneity across studies (e.g., different interventions, durations and outcome measures), a narrative synthesis was conducted. Findings were grouped thematically according to intervention type.

A total of 32 studies were ultimately included in this systematic review.

Literature review results

Pharmacological Interventions

Pharmacological treatments for Alzheimer's disease focus on managing symptoms and slowing cognitive decline. Cholinesterase inhibitors improve cognitive and functional outcomes, while the NMDA receptor antagonist is used in more advanced stages to preserve mental and daily functioning. Recently, monoclonal antibodies have emerged as disease-modifying therapies by targeting amyloid-β. The following section reviews key findings on the efficacy and safety of these pharmacological strategies.

Cholinesterase Inhibitors

Rivastigmine, a reversible cholinesterase inhibitor (ChEI), demonstrated significant improvements in both cognitive and functional outcomes in patients with mild-to-moderate AD. A post hoc analysis of the IDEAL study reported that both oral capsules and transdermal patch formulations were significantly more effective than placebo in improving activities of daily living (ADLs). Notably, the patch provided superior support for higher-level functional independence and was associated with fewer gastrointestinal side effects, contributing to better tolerability and increased caregiver satisfaction (G. Grossberg et al., 2011). In addition to its cognitive benefits, rivastigmine was found to enhance gait performance in a 12-week open-label trial. Patients using the transdermal patch demonstrated gait velocity during cognitively challenging dual-task conditions (e.g., walking while performing cognitive tasks like counting backward or naming animals), while single-task gait performance remained unchanged. These findings suggest that rivastigmine's impact on executive function and attention may translate into motor benefits, potentially reducing fall risk and promoting independence in daily life (Shimura et al., 2021).

Galantamine, another AChEI with nicotinic receptor modulatory properties, was highlighted in two key studies. A post hoc analysis by Ohnishi et al. found that early cognitive improvements, particularly in episodic memory tasks, predicted longer-term treatment response over a 24-week period (Ohnishi et al., 2014). Expanding on this, Baakman et al. demonstrated that neurophysiological responses to a single 16 mg dose of galantamine, such as reductions in frontal EEG theta and alpha power could predict six-month clinical outcomes, suggesting utility for early treatment stratification (Baakman et al., 2022).

Donepezil remains a widely used ChEI for symptomatic management. A Phase IIa trial tested a high-dose formulation (CPC-201), combining 40 mg/day of donepezil with solifenacin to reduce gastrointestinal side effects. Results showed significant cognitive gains compared to standard dosing, with improved tolerability (Chase et al., 2017). Separately, in a 12-week, open-label study, donepezil administered at doses of up to 10 mg/day was associated with cognitive and behavioral improvements among elderly individuals living in assisted care facilities (Rosenblatt et al., 2010).

NMDA Receptor Antagonists

Memantine, an NMDA receptor antagonist, was assessed in the extensive VA Cooperative TEAM-AD trial, which involved 613 individuals with mild-to-moderate Alzheimer's disease already receiving cholinesterase inhibitors. The study compared four groups: vitamin E (2,000 IU/day), memantine (20 mg/day), a combination of both and placebo. The main outcome of the study was the progression of functional decline, assessed using the ADCS-ADL scale, while secondary outcomes included evaluations of cognitive function and behavioral symptoms. The trial placed particular emphasis on evaluating long-term safety assessment and investigated the potential benefits of combining therapies(Dysken et al., 2014)

In a 24-week randomized, double-blind, placebo-controlled trial, patients treated with memantine ER/ChEI showed significantly greater and sustained improvements in cognitive function (measured by the Severe Impairment Battery), neuropsychiatric symptoms (Neuropsychiatric Inventory) and global clinical status (CIBIC-Plus) compared to those receiving placebo/ChEI. Functional decline, assessed using the ADCS-ADL19 scale, was also slower in the memantine group. Furthermore, more patients achieved clinically meaningful improvements such as cognitive abilities, behavioral symptoms, and everyday activities. These findings support the benefit of memantine ER as an add-on therapy in moderate to severe AD (G. T. Grossberg et al., 2018).

Monoclonal Antibodies Targeting Amyloid-β

Lecanemab, a monoclonal antibody directed against soluble Aβ protofibrils, has gained attention as a promising disease-modifying treatment. In the phase 2 Study 201, lecanemab was associated with amyloid burden reduction, improvement of plasma and CSF biomarkers (including p-tau181 and Aβ42/40 ratio) and slower progression of cognitive decline as measured by multiple clinical scales, including CDR-SB, ADAS-Cog14, and ADCOMS, over an 18-month period. Importantly, these therapeutic benefits were sustained even during treatment interruptions (McDade et al., 2022). The phase 3 Clarity AD trial confirmed these benefits in

a larger population, although amyloid-related imaging abnormalities (ARIA) occurred in 21% of treated patients, especially ApoE ε4 carriers (Honig et al., 2024). A comprehensive review by Knopman and Hershey highlighted lecanemab's modest but clinically meaningful delay in disease progression, estimated at around five months (Knopman & Hershey, 2023).

Aducanumab is a human IgG1 monoclonal antibody that selectively binds to aggregated amyloid beta (Aβ), including soluble oligomers and insoluble fibrils and is currently investigated as a disease-modifying treatment for early Alzheimer's disease (Kandadi Muralidharan et al., 2022). In the EMERGE and ENGAGE Phase 3 clinical trials, aducanumab was administered to patients with early-stage AD. The Japanese subgroup analysis of these trials found that high-dose aducanumab significantly reduced cognitive decline as measured by the Clinical Dementia Rating Sum of Boxes (CDR-SB) in the EMERGE trial (mean change 1.19 vs. placebo; 95% CI, -2.120 to -0.257), while no such benefit was observed in ENGAGE. Positive effects were also observed on secondary endpoints such as the Mini-Mental State Examination (MMSE) and Alzheimer's Disease Assessment Scale -Cognitive Subscale (ADAS-Cog13). Furthermore, reductions in brain amyloid burden were confirmed via PET imaging and decreases in plasma p-tau181 levels were reported (Toda et al., 2024). A detailed analysis of the EMERGE trial, examining both individual items and specific domains, offered further insight into the clinical relevance of aducanumab. The treatment slowed disease progression across several areas - cognitive abilities, daily functioning and behavioral symptoms, using assessment tools such as CDR-SB, ADAS-Cog13, and ADCS-ADL-MCI. Additionally, the treatment was associated with a reduction in neuropsychiatric symptoms and a lower caregiver burden, as indicated by results from the Neuropsychiatric Inventory (NPI-10) (Cummings et al., 2025). To further understand the observed divergency, a population pharmacokinetic-pharmacodynamic (PopPK-PD) modeling study was carried out using data from five clinical trials, including EMERGE and ENGAGE. The model confirmed that aducanumab exhibits linear, dose-proportional pharmacokinetics and that amyloid-β (Aβ) removal, assessed through the standard uptake value ratio (SUVR), is both dose- and exposure-dependent. Notably, patients who consistently received the high dose of 10 mg/kg demonstrated the most significant reductions in SUVR. Treatment interruptions, such as those caused by amyloid-related imaging abnormalities (ARIAs), markedly delayed SUVR reductions, highlighting the critical role of uninterrupted dosing (Kandadi Muralidharan et al., 2022). Simulations from the PopPK-PD model further demonstrated that steady-state drug exposure is a key driver of therapeutic efficacy. Covariates such as sex, race, body weight, and ApoE ε4 carrier status had minimal impact on SUVR response, while age showed only a slight influence. These findings provide strong mechanistic support for the clinical efficacy of aducanumab when administered at the appropriate dosage without treatment interruptions (Kandadi Muralidharan et al., 2022).

In the phase 3 TRAILBLAZER-ALZ 4 study, a direct comparison of the efficacy of aducanumab and donanemab was conducted in patients with early clinical symptoms of Alzheimer's disease (AD). Donanemab demonstrated superior effectiveness in clearing amyloid plaques, after 6 months, 37.9% of patients receiving donanemab achieved amyloid clearance (<24.1 Centiloids), compared to only 1.6% of patients treated with aducanumab. At 12 and 18 months, these rates increased to 70.0% and 76.8% for donanemab, respectively, versus 24.6% and 43.1% for aducanumab ($P < 0.001$) (Salloway et al., 2025).

Regarding biomarkers, donanemab also showed stronger effects, leading to greater reductions in plasma levels of phosphorylated tau (p-tau217, p-tau181) and glial fibrillary acidic protein (GFAP) compared to aducanumab. Despite the faster and deeper amyloid removal, donanemab was not associated with a higher risk of amyloid-related imaging abnormalities (ARIA). In fact, the occurrence of ARIA-E (characterized by brain edema or effusion) was notably lower in patients treated with donanemab (23.9%) compared to those receiving aducanumab (34.8%) (Salloway et al., 2025). Based on these findings, the TRAILBLAZER-ALZ 6 study explored whether adjusting the donanemab dosing schedule could lower the risk of ARIA without compromising its effectiveness. In this randomized, double-blind phase 3b trial ($n = 843$), the modified titration schedule led to a significant reduction in the incidence of ARIA-E at 24 weeks (13.7% compared to 23.7% in the standard dosing group) achieving the predefined threshold for clinical benefit with a relative risk reduction of at least 20% (posterior probability of 94.1%) (Wang et al., 2025).

Amyloid reduction and decreases in plasma p-tau217 levels were comparable between the standard and modified dosing groups, indicating that it is possible to enhance the safety profile of treatment without compromising its therapeutic effectiveness (Wang et al., 2025).

Non-Pharmacological Interventions

A number of randomized controlled trials (RCTs) and exploratory clinical studies have investigated the role of non-pharmacological interventions in Alzheimer's disease (AD), focusing on physical activity, neuromodulation, dietary strategies and music-based therapies. These approaches aim to complement pharmacological treatment by targeting functional independence, behavioral symptoms, neuroplasticity and overall quality of life.

Physical Exercise

Morris et al. conducted a 26-week randomized controlled trial comparing the impact of moderate-intensity aerobic exercise (150 minutes/week) with stretching and toning in individuals with early-stage Alzheimer's disease. While there were no statistically significant changes in cognitive outcomes (memory or executive function), the aerobic group experienced notable improvements in functional ability and higher VO_2 peak values. These gains were correlated with better memory and hippocampal volume, suggesting a potential neuroprotective role of cardiovascular fitness (Morris et al., 2017). In contrast, van der Kleij et al. found no significant improvement in cerebral blood flow (CBF) after 16 weeks of aerobic training in patients with mild-to-moderate AD. Despite gains in VO_2 peak, MRI-based arterial spin labeling showed no changes in whole-brain or regional CBF, possibly due to disease severity or limited neurovascular plasticity (van der Kleij et al., 2018).

Neuromodulatory Interventions

Arendash et al. conducted a small open-label clinical trial using daily in-home TEMT in eight patients with mild-to-moderate AD. After two months of treatment with the MemorEM™ head device, patients showed cognitive improvements and beneficial changes in CSF and plasma biomarkers, including reduced p-tau/Aβ ratios and Aβ oligomers. Functional imaging also revealed improved glucose metabolism and structural brain changes, indicating potential therapeutic efficacy (Arendash et al., 2019).

Sankar et al. explored the use of continuous deep brain stimulation (DBS) directed at the fornix in patients with early-stage AD. Over one year, MRI analyses revealed slower hippocampal atrophy and structural growth in several brain regions, accompanied by improvements in glucose metabolism and cognitive scores. The procedure was well tolerated, and the findings suggest circuit-level effects that could alter the course of neurodegeneration (Sankar et al., 2015).

Dietary Interventions

Liu et al. conducted a three-year randomized controlled trial evaluating the MIND (Mediterranean-DASH Intervention for Neurodegenerative Delay) diet in 604 older adults at risk for dementia. While the final findings are still awaited, the study is notable for its extensive integration of biomarkers and brain imaging, emphasizing the potential of individualized dietary interventions to promote cognitive well-being (Liu et al., 2021). In a short-term study, Hoscheidt et al. assigned middle-aged participants to follow either a Mediterranean-style or Western-style diet for four weeks. The Mediterranean group showed favorable changes, including higher CSF Aβ42/40 ratios, increased cerebral blood flow, and better episodic memory. Interestingly, paradoxical biomarker improvements were observed in MCI patients assigned to the Western diet, suggesting divergent metabolic responses based on cognitive status (Hoscheidt et al., 2022). Phillips et al. evaluated a 12-week modified ketogenic diet in a crossover RCT involving 26 AD patients. The diet significantly improved daily function (ADCS-ADL) and quality of life (QOL-AD) along with high adherence and beneficial metabolic effects. While cognitive gains were limited, the study confirmed the diet's safety and practicality (Phillips et al., 2021).

Music-Based Therapies

Music therapy has received attention for its ability to stimulate preserved brain networks in AD. It can improve mood, attention and memory, particularly in early stages. Gómez-Gallego et al. emphasized music's role in reducing behavioral symptoms particularly when pharmacological treatments are insufficient (Gómez-Gallego et al., 2021). Similarly, Svansdottir and Snaedal reported that active music therapy improved symptoms such as apathy and agitation in AD patients, while being safe and well tolerated (Svansdottir & Snaedal, 2006). In a study of musical memory, Simmons-Stern et al. demonstrated that lyrics set to music were more easily recalled than spoken words among AD patients, supporting the use of musical mnemonics for memory support (Simmons-Stern et al., 2010).

Discussion

This systematic review emphasizes the wide-ranging and continually developing approaches to treating Alzheimer's disease (AD), including both pharmacological and non-pharmacological interventions. The reviewed evidence underscores the meaningful progress in symptomatic management, disease modification, and functional support for individuals living with AD, particularly in its mild-to-moderate stages.

Pharmacological Interventions

Cholinesterase inhibitors (ChEIs) continue to be a fundamental element in the symptomatic management of Alzheimer's disease. Rivastigmine, especially in its patch formulation, has shown consistent benefits in both cognitive and functional outcomes while offering better tolerability, making it a valuable option for patients prone to gastrointestinal issues (G. Grossberg et al., 2011). Notably, rivastigmine also improved dual-task gait performance, a domain often neglected in AD research that plays a vital role in reducing fall risk and maintaining patients' independence (Shimura et al., 2021).

Galantamine has shown promise not only due to its cholinergic effects but also because of its predictive markers of response. Early improvements in neurophysiological and cognitive measures were linked to better long-term results, indicating that baseline biomarkers might be useful for guiding personalized treatment approaches (Ohnishi et al., 2014; Baakman et al., 2022). Similarly, donepezil, particularly in higher-dose combinations with solifenacin, also showed enhanced efficacy with fewer side effects, highlighting the importance of balancing dose intensity with tolerability (Chase et al., 2017).

Memantine, an NMDA receptor antagonist, offered modest benefits in combination therapy with vitamin E, especially in slowing functional decline (Dysken et al., 2014). These results, however, highlight the need for longer-term and functionally meaningful endpoints in evaluating such agents.

More recent developments in disease-modifying therapies (DMTs) have focused on monoclonal antibodies targeting amyloid-β. Lecanemab has demonstrated the most consistent efficacy, achieving sustained reductions in amyloid burden, improved biomarker profiles and cognitive decline observed in both phase 2 and phase 3 trials (McDade et al., 2022; Honig et al., 2024). Importantly, although amyloid-related imaging abnormalities (ARIA) were frequent, modified dosing strategies and genetic screening (e.g., APOE ε4 status) may lower this risk (Knopman & Hershey, 2023). Aducanumab and donanemab offer more complex narratives. While aducanumab's benefits appeared dose-dependent and subgroup-specific (Toda et al., 2024; Cummings et al., 2025), donanemab demonstrated superior amyloid clearance and safer profiles with adjusted titration (Salloway et al., 2025; Wang et al., 2025). These findings suggest that DMTs may gradually shift AD management from purely symptomatic to disease-targeted approaches, though issues of access, cost, and implementation remain critical challenges.

Non-Pharmacological Interventions

Non-pharmacological interventions play a key supportive role alongside medication, aiming to improve quality of life, enhance brain plasticity and reduce the burden on caregivers. Physical activity, especially aerobic exercise showed potential for functional and neuroprotective advantages. However, findings remain inconsistent. While one study reported improvements in VO_2 peak and hippocampal integrity (Morris et al., 2017), another failed to find significant changes in cerebral blood flow, highlighting variability based on disease stage (van der Kleij et al., 2018). Neuromodulatory techniques such as Transcranial Electromagnetic Treatment (TEMT) and Deep Brain Stimulation (DBS) of the fornix have shown encouraging preliminary results. Both interventions were associated with structural and metabolic brain changes and improvements in cognitive function, suggesting relevance in modifying disease progression (Arendash et al., 2019; Sankar et al., 2015). However, their limited practicability and invasiveness require more extensive and well-controlled clinical trials to confirm their effectiveness. Dietary strategies have gained attention as a low-risk and potentially impactful intervention. Studies on the MIND diet and Mediterranean-style eating patterns have reported positive effects on both cognitive performance and biological markers linked to the disease (Liu et al., 2021; Hoscheidt et al., 2022). Additionally, the ketogenic diet was associated with improvements in daily functioning and overall quality of life, although the gains in cognitive ability were relatively limited (Phillips et al., 2021). These results reflect a growing interest in metabolic interventions targeting the brain-gut axis and mitochondrial health in the context of Alzheimer's disease. Music-based therapies offered significant value in behavioral management and cognitive support. Studies demonstrated their role in improving mood, memory, and caregiver interaction (Gómez-Gallego et al., 2021; Svansdottir & Snaedal, 2006). Studies show that people with Alzheimer's disease often keep their musical memory. This creates a special chance for therapy, as music can help improve mood and keep patients more engaged (Simmons-Stern et al., 2010).

Limitations and Future Directions

This systematic review is limited by differences in study designs, small number of patients in non-pharmacological trials and the common use of surrogate endpoints instead of long-term functional outcomes. Additionally, most pharmacological trials focused on patients in early stages of AD, making it difficult to apply the findings to those with moderate-to-severe disease. Importantly, access to disease-modifying treatments (DMTs) also remains limited and ethical issues related to biomarker screening and the risk of amyloid-related imaging abnormalities (ARIA), require careful consideration. Future studies should prioritize combining drug treatments with individualized non-pharmacological approaches to improve overall care. Additionally, there is an urgent need for real-world research that examines long-term treatment adherence, the effects on caregivers and the economic impact of new therapies.

Conclusion

Alzheimer's disease treatment is currently undergoing a significant transformation, driven by advances in both pharmacological and non-pharmacological therapies. While traditional cholinesterase inhibitors and memantine continue to provide meaningful symptomatic relief, emerging monoclonal antibodies, particularly lecanemab and donanemab, represent the initial steps toward modifying disease progression. Non-pharmacological interventions, including physical activity, neuromodulation, dietary strategies, and music therapy, play a crucial complementary role. These approaches not only enhance quality of life and preserve functional independence but may also affect fundamental disease processes, including neuroinflammation, synaptic plasticity and cerebrovascular integrity. A comprehensive, patient-focused approach that combines pharmacologic treatment with individualized lifestyle and behavioral strategies appears to be the most promising path for the future of Alzheimer's care. Future efforts should focus on optimizing treatment timing, improving biomarker-based patient selection and ensuring access to novel treatments. Together, these advances represent an important step toward a more holistic and effective approach to managing Alzheimer's disea**se.**

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