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Prevalence and Management of Frontotemporal Dementia 2020–2025: A Literature Review

Tariq Islam[1*]

[1]MRC Psych, MSc, Southern health NHS-Foundation Trust, Southampton, United Kingdom

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***Corresponding author:** Tariq Islam
MRC Psych, MSc, Southern health NHS-Foundation Trust, Southampton, United Kingdom

Abstract **Review Article**

Objective: To synthesise literature that will be published in 2020-25 on the prevalence and management of frontotemporal dementia, to combine non-pharmacological and pharmacological approaches, phenotype-specific factors, and health-system outcomes, and to develop goal-oriented, step-by-step care pathway. ***Design:*** Narrative literature review. ***Data sources:*** Major biomedical databases and key specialty journals were searched for publications dated 1 January 2020 to 31 October 2025. Reference lists of relevant articles were screened. ***Eligibility criteria:*** They were included in adult studies and reviews that contained epidemiology, genetics and biomarkers, clinical assessment, management[non-pharmacological or pharmacological], service models or emerging therapies that concern frontotemporal dementia. Single-case reports and non-English items that did not have generalisable data were not prioritised. ***Data extraction and synthesis:*** Data were charted by domain[epidemiology, genetics/biomarkers, assessment, management, systems, pipeline]. Appraisal focused on clarity of case definition, sampling frame, outcome reporting, and applicability to real-world care. Given heterogeneity, synthesis was qualitative. ***Results:*** The estimates of prevalence were different by region and sampling frame and method of diagnosis, systematic language testing and biomarker-based techniques enhanced the prevalence especially of aphasia variants. C9orf72, GRN and MAPT were the key genetic factors and FTLD-tau and FTLD-TDP were the most common pathologies. Diagnosis, prognosis and stratification of trials Biomarkers such as neurofilament light, structural MRI, FDG-PET, and use of selected digital speech/behaviour measures supported diagnosis, prognosis, and trial stratification. There were foundations such as non-pharmacological caregiver-coached behavioural plans, speech-language therapy with early augmentative and alternative communication, and occupational/physical therapy of the activities of daily living and falls, which were practicable across settings. Selective serotonin reuptake inhibitors or trazodone were most effective when directed to disinhibition, compulsions, anxiety, or night restlessness; time-limited trials with the use of stimulants when severe inertia was observed; careful use of antipsychotics in situations of imminent risk; and selective and case-by-case trials of cognitive enhancers. An intervention based on pragmatism focused on safety surveillance and definite deprescribing prompts. ***Conclusions:*** Modern evidence was in favour of a stepwise, person-centred methodology, which emphasized non-pharmacological treatment, focused pharmacotherapy, and systematic safety management. These are harmonised outcome sets, increased follow-up, pragmatic trials, and regular inclusion of caregiver and service outcomes. ***Strengths and limitations of this study:*** Synthesised 2020–2025 literature across epidemiology, genetics/biomarkers, assessment, and management, providing a current, practice-oriented overview of frontotemporal dementia. Integrated non-pharmacological and pharmacological strategies into a stepwise, goal- oriented care pathway that is adaptable across resource settings. Heterogeneity in study designs and outcome measures precluded quantitative pooling and limits direct comparability of effect sizes. English-language restriction and narrative synthesis may introduce selection and reporting bias, and long-term outcomes were inconsistently reported.

Keywords: Frontotemporal dementia, Disease management, Epidemiology, Pharmacotherapy, Non-pharmacological interventions, Clinical pathways.

INTRODUCTION

Definition and clinical spectrum of FTD

Frontotemporal dementia has been defined as a cluster of neurodegenerative syndromes, which are characterized by progressive deficits in behavior, executive function, language, and motor systems in some cases [1,2]. These comprised behavioral variant frontotemporal dementia, which has early personality,

empathy, motivation, and disinhibited or compulsive behaviors, and primary progressive aphasia variants, which are characterized by primarily linguistic impairment. The classical PPA subtypes were nonfluent/agrammatic and semantic, with logopenic manifestations said to be a part of an overlap language spectrum[3,4]. One of them showed overlap with motor neuron disease or Parkinsonian phenotypes, causing further disability and faster progression.

Rationale for an update focused on 2020–2025

In the years 2020-2025, significant developments have been noticed in epidemiological ascertainment approaches, genetic and biomarker characterization, and pragmatic management investigations[5,6]. Population registries and harmonized diagnostic criteria enhanced the case recognition, and blood and imaging biomarkers, which became tractable to diagnose and prognosticate. The growth of telehealth and effects of health- system disruptions on caregiver support and service delivery changed[7,8]. A revised synthesis was thus justified to generalize the existing prevalence signals and incorporate both non-pharmacological and pharmacological interventions that are compliant with modern practice limitations and prospects.

Aims and review questions

The purpose of this literature review was to provide a summary of the prevalence of frontotemporal dementia and an evaluation of the management strategies in behavioral, language, and motor-overlap phenotypes over the year 2020-2025. The following were the domains of review questions.

- What were the reported prevalence and incidence ranges by region and subtype?
- What patient and study variables were associated with observed variability?
- What non-pharmacological and pharmacological interventions were feasible and showed a sign of benefit in behavior, language, and function? What service models supported equity, caregiver outcomes, and safety?

Section 2 is a summary of approaches to source selection and narrative appraisal. Section 3 examined the epidemiology and prevalence, including the subtype patterns, the differences in ascertainment, and implications for service. In sections 4 and 5, the matters of genetic and biomarkers and clinical evaluation were discussed. Sections 6 and 7 discuss non-pharmacological and pharmacological management. The nuances that are dependent on phenotype were mentioned in section 8. Section 9 looked at equity issues and the health system. The research pipeline was described in section 10. A practical algorithm was incorporated in Section 11. Limitations and conclusions were in sections 12.

METHODS

Scope and Eligibility Criteria of Sources 2020-2025

The search involved studies and reviews published no older than 31 October 2025 and no earlier than 1 January 2020 that covered the epidemiology or management of frontotemporal dementia. Eligible sources had data on adults and reported extractable data on prevalence, incidence, patient characteristics, interventions, or service models.

Single-case reports and abstracts of conferences, which lacked enough data, were not prioritized to be synthesized.

Concisely, Information Sources and Search Approach

The survey of the databases on major biomedical databases and important journals of the specialty was done during the period of interest. A reference list of the articles of interest was scanned to find more sources. The cursory Boolean method matched disorder terms with epidemiology or management terms and outcome domains. Language was also limited to English. One-paragraph Boolean summary included in the methods text was prepared as an appendix in case of necessity.

Study Selection and Appraisal Approach for Narrative Synthesis

Abstracts, full text, and titles were checked against the scope. The data were plotted in the study design, population, setting, definition of outcomes, and main findings.

Appraisal was done regarding the clarity of the definition of cases, the representativeness of sampling frames, the management studies' confounding, and the completeness of outcome reporting. Synthesis was qualitative since there was heterogeneity of designs and outcomes.

Thematic Domains and Charting of Data

Data were followed by the arrangement into epidemiology and prevalence, clinical subtypes, non-pharmacological and pharmacological management, caregiver and service outcomes, and implementation considerations. In every thematic area, the results were clustered by the design and subsequently by the recency to facilitate a coherent story.

Epidemiology and Prevalence

The focus of this section is on the global burden and incidence compared to prevalence. Reported prevalence was a manifestation of variations in study design, diagnostic criteria and access to healthcare. Compared to clinic-based series, high estimates were usually obtained by community-based screening and registry linkage. Incidence rates reflected the number of new diagnoses per unit time, but prevalence combined new and old and was sensitive to the survival, diagnostic delay, and service coverage. Investigations that included the presence of biomarker-based diagnoses and

methodological language evaluations were more likely to detect more cases in the aphasia continuum, raising apparent rates. Conversely, the use of psychiatric referrals was considered to be a risk of under-recording the behavioral variant presentations only.

Age of onset and gender distribution.

Frontotemporal dementia was still a primary cause of young-onset dementia, but there was a shift in its onset in the tail with a range between the fifth and seventh decades but older adults were also included. The ascertainment and subtype by sex were different. Clinic series in behavioural variant cohorts tended to have almost similar or male-biassed proportions whereas in language-led variants they were often balanced or female-biassed. Genetic forms determined the age of onset, and also, there was a tendency to have an earlier onset among some mutation carriers. Subtype and comorbidity varied with a survival bias to cause regional heterogeneity in the observed prevalence.

Subtype Distribution

Behavioural variant FTD

The greatest proportion of diagnoses was made in most clinical cohorts, based on behavioral variant frontotemporal dementia. Help-seeking was forced by early disinhibition, apathy, loss of empathy, compulsions, and change in diet. Misdiagnosis to primary psychiatric illnesses was still prevalent, particularly where the language and memory were well maintained.

Variations of Primary Progressive Aphasia

The fundamental part of the PPA spectrum comprised nonfluent/agrammatic and semantic variants [3]. Nonfluent/agrammatic presentations were characterized by strained and stop-and-go speech and grammatical mistakes, whereas semantic variant presentations were characterized by impaired single-word comprehension and anomia. A logopenic aphonia with word-finding pauses and poor repetition was evidenced in clinical series and needed close distinguishing diagnosis with the aphasia of Alzheimer.

The application of language batteries and imaging proactively prior to the onset of PPA was more likely to detect PPA cases, with changing subtype proportions when compared to behavior-led cohorts.

MND-FTD Overlap

A minority that had coexisting motor neuron disease was clinically important. There was greater functional decline and different care requirements of the overlap cases. It was determined through coordinated neurology and neurorehabilitation services and access to electromyography and respiratory examination.

Regional Difference and Difference in Ascertainment

The prevalence of dementia was determined by the access of healthcare facilities to the region, cultural beliefs towards behavior change, and the availability of organized dementia registries. The high-income settings with networks of specialists and referral pathways were also associated with more language-led phenotypes, and proportions associated with behavioural presentations in the settings with limited speech-language services. In rural and underserved locations, there was diagnostic delay inclusive of lowering apparent prevalence and increasing disease stage at presentation to more impaired.

The possibility of diagnostic drift and misidentification with psychiatric diagnoses. FTD behavioral variant overlapped with mood, anxiety, obsessive-compulsive, and personality disorders. Early cases could be confused without organised collateral history and follow- up over a period of time. Alternatively, stable psychiatric disease might resemble FTD- like behavioural change that resulted in its overdiagnosis in case of non- neurodegenerative progression. The incorporation of caregiver reports, functional change, and disease typical patterns of imaging minimized Drift. Such biomarkers as neurofilament light enhanced confidence with clinical features interpretation, but population norms and thresholds kept changing.

Implications to Public Health and Service-Planning

Multidisciplinary assessment capacity, such as behavioural neurology, speech and language therapy, neuropsychology, and social care, was needed to plan the services [Maxwell *et al.,* 2021]. Messaging on personality and language change that normalised the seeking of help was also likely to raise early detection. The involvement of the registries and standardised data collection made the estimates of the region more precise and helped in the tracking of the outcomes. The overlap to include services on motor neuron disease was mandated. Behavioural assessment and caregiver support training of the workforce decreased crisis presentations and risk when institutionalised.

RESULTS

Major Genetic Contributors

Frontotemporal dementia occurs due to various genetic processes [2,12,1,13,14]. The most frequent, which occur in clinic-based cohorts, are pathogenic expansions in C9orf72 and pathogenic variants in GRN and MAPT. Expansions at C9orf72 are usually symptomatic with behavioural variant FTD and may have some features of motor neuron disease and marked neuropsychiatric symptoms. GRN haploinsufficiency is more likely to result in asymmetric cortical atrophy and language or behavioural phenotype with a strong heterogeneity whereas MAPT mutations are more likely to result in behavioural change with parkinsonism and at younger age. TARDBP, VCP, TBK1, SQSTM1, and CHCHD10 were identified as less common genes involved in 2020-2025 and were found in specific families or clinic cohorts highlighting the genetic heterogeneity and the necessity to refer to counselling

and testing when the onset is early, there is family history, or when the imaging is atypical.

Pathologic Substrates, Phenotypic Connexions

The major molecular targets include FTLD-tau and FTLD-TDP with occasional other entities including FTLD-FUS. FTLD-tau includes MAPT mutation-related tauopathy and infrequent forms that follow early behavioral change and Parkinsonism. FTLD-TDP is a disease that covers GRN and C9orf72-related disease with frontotemporal atrophy, language syndromes, and motor neuron involvement. Clinicopathologic correlations were probabilistic, not deterministic, however, atrophy patterns, age of onset, motor characteristics, and family history served as the working hypotheses that could be useful in counseling and trial matching.

Diagnostic and Prognostic Biomarkers

Biofluids

Biomarkers in blood and cerebrospinal fluid became viable supplements. Many phenotypes of FTD resulted in an increase in neurofilament light[NfL], which was a disease-specific biomarker, although not disease-specific. GRN levels in the disease were validated in the progranulin. The use of panels containing NfL and tau along with glial markers enhanced discrimination in studies.

Imaging

Structural MRI saw patterns of atrophy in the frontal and anterior temporal areas to vary by phenotype, diffusion measurements and resting-state connectivity analyses provided sensitivity to early network damage. FDG-PET enhanced the frontotemporal hypometabolism and complemented MRI in language syndromes. Amyloid and tau PET were useful in the differentiation diagnosis, where the presence of Alzheimer pathology was suspected, but the use of tau PET depended on its binding to non-Alzheimer tau.

Digital Phenotyping

The concept of constant surveillance of speech, language, and behaviour through apps and wearables became popular, tracking the change in lexical diversity, prosody, rhythms of activities, and social interactions. These techniques had potential to detect early as well as to provide high-frequency outcome monitoring in studies.

How Biomarkers Inform Management and Trial Stratification

Biomarkers were used to inform a diagnosis, counselling and prognosis and became more and more useful as stratifications in interventional studies. High NfL was an indicator of aggressive courses and worth the prior planning and safety modifications made by caregivers. C9orf72, GRN or MAPT Genetic confirmation was a prerequisite to family counselling and gene-targeted trial eligibility. Patterns of imaging also supported speech- language therapy targeting and educating caregivers. Biomarker enrichment was used in trials to minimize heterogeneity and match mechanisms with targets and provide responsive surrogate outcomes to make decisions at the early stage.

Clinical Assessment and Staging

Core Diagnostic Approach and Differential Diagnosis

They were assessed by starting with an in-depth history[including caregiver collateral history, symptom history, and functional history], applying their focused examination, and neuropsychology. Differentiation diagnosis considered primary psychiatric and Alzheimer disease variants, vascular or autoimmune encephalopathies, drug or metabolic effects. The red flags favoring FTD were early behavioural disinhibition, apathy, lacking empathy with compulsive behaviours, hyperorality, or language-based decline with preservation of relative episodic memory.

Multidomain baseline profiling is a method that evaluates multiple domains and systems[and mobility] of cognitive ability simultaneously through interaction, as well as the attentiveness, mental capacity, and judgement of the person under assessment.

Multidomain baseline profiling. Multidomain baseline profiling is a technique that assesses several domains and systems[and mobility] of cognitive competency at the same time, both through interaction and through the attentiveness, mental capacity and judgement of the individual being assessed.

Baseline profiling involved behaviour, language, executive functioning, motor and gait, autonomous symptoms as well as the caregiver setting. Sensitivity to change was enhanced by using structured tools of behaviour and informant-based measures.

Specialised language batteries corresponding to PPA variants facilitated the use of specialised therapy planning. Motor examinations revealed either parkinsonism or motor neuron signs. Care plans were anchored by recording home safety, the capacity of the caregiver, and respite as well.

Observation of progress and staging tools.

Longitudinal observation was based on global staging scales with domain-specific measures, which measured behaviour, communication, functional ability and burden on caregivers. The intervals of visit were chosen to correspond with the service capacity and the progression rate. Available objective measures like NfL, digital speech measures, or indicators of activity were taken as the supplement to traditional scales.

FTD-ALS red flags and unusual presentations are overlapping.

FTD-ALS overlap was evaluated because of progressive weakness, fasciculations, weight loss, dysphagia, or respiratory symptoms. The rapid deterioration, early falls, or vivid visuospatial neglect

was the reason to reassess the diagnosis or mixed pathology. It was recommended that early referral to multidisciplinary clinics be done in case of suspecting an overlap or atypical features.

Non-Pharmacological Management

Principles and care planning: This competency involves skills in planning and formulating care plans grounded in evidence.

Principles and Care Planning

The management focused on person-oriented objectives, framework of the environment, and minimization of risks. First phases were concentrated on maintaining communication and significant routines. The mitigation of behavioural risks included queueing, simplification, eliminating triggers and pre-planning finances and driving. Setting goals collaboratively with caregivers helped formulate priorities and determine interventions that were possible within the current resources.

Behaviour and Psychosocial Interventions

Contingency management, stimulus control and scheduled activities were used as methods of behavioural change. Caregiver coaching had the trigger and consequences converted into feasible schemes, such as perseverance behaviour redirection, replacing safer sensory stimuli with hyperorality, or designing meals to decrease overeating. The agitation, elopement risk or financial impulsivity were the clear steps of crisis prevention plans. There was education on the mechanisms of the disease, which led to less stigma and better compliance with strategies.

PPA variants In Speech and Language Therapy

Impairment-level skills and participation were the focus of the therapy. To treat nonfluent/agrammatic presentations, the articulatory kinematic strategies were added to grammar-based drills and countermeasures that included script training. In the semantic variant, circumlocution and partner comprehension are supported by semantic feature analysis and category-based supports. Interaction training of partners enhanced success in conversations in variants. Augmentative and alternative communication[AAC] made early, ranging between low-tech books to tablet based apps, was introduced in stages as language degraded. Reviewing therapy plans was done as the disease progressed to refocus goals, minimize frustration and stay socially connected.

Occupational and physical therapy.

Occupational therapy centred on activities of daily living, home safety and energy conservation, through routines and simplifying tasks to remain independent. The changes to the environment were associated with proper labelling, visual aid and safe layouts in the kitchen. Mobility, balance, and fall prevention were treated with physical therapy, and dual-task training was applied in situations where executive dysfunction was disrupting gait. Safety checkpoints Seating and transfer assessment, community mobility plans, and carer training minimized the risk of injury.

Digital and telehealth delivery models

The tele practice increased access to speech-language therapy, caregiver coaching and behavioural consults. Early warning of sleep fragmentation, agitation or wandering was given by remote monitoring tools. Digital literacy and access to devices were considered in advance with the provision of printed guides, tech champions of caregivers, or community kiosks. In care agreements, data privacy, consent and connectivity failure backup plans were outlined.

Support, respite, and community resources to caregivers

Caregivers needed formal skills education, respite care, and peer support. Some of the programs included behaviour mapping, communication strategies, legal and financial planning, and navigation services. Support groups, day programs where activities were customized and dementia-capable transport were considered as community resources. Assessment of the burden on caregivers regularly facilitated the stepped up to the next level of support or case management.

Palliative care and advance care planning

Palliative principles were incorporated since diagnosis and clearly specified advance care was used in making feeding decisions, hospital admissions and end-of-life preferences.

Non-drug approaches were used to address the issues of distress, sleeping disturbance, and pain. Switching to hospice or long-term care was planned well in advance to prevent crisis-related switching. Family bereavement was added as a pathway to service.

Pharmacological Symptom Management
Behavioral Variant Targets

Pharmacological decisions were replaced by problem clusters instead of overall global behavior control. The approach to apathy was to activate the environment initially, and any clinically relevant inertia that influenced either safety or care was to be treated with pharmaceuticals. The non-pharmacological approach failed, or the risk escalated; in both cases, disinhibition and compulsion were addressed. Dietary modifications, e.g., hyperphagia or differences in taste, were treated by organizing access and taking, when required, appetite-regulating agents under close metabolic supervision. The agitation led to the consideration of pain, infection, sleep disruptions, and medication burdens before starting any drug.

The Antidepressants and Related Agents

Most frequently used selective serotonin reuptake inhibitors were used to treat disinhibition, compulsions, irritability, and anxiety in behavioral

variant frontotemporal dementia. Titration was done to pragmatic targets such as hyponatremia, gastrointestinal, and activation were monitored. Trazodone was also a choice where nighttime agitation, irritability, and anxiety were present, and orthostatic hypotension and sedation during the day were taken into consideration. Other serotonergic or noradrenergic drugs were chosen case-by-case to find a balance between benefit and appetite, weight, and cardiovascular outcomes. Response was measured at specific intervals, and non- responders were deprescribed to alleviate polypharmacy.

Antipsychotics in Case of Certain Risk Situations as a Last Resort

Imminent risk situations, such as aggression or extreme distress that would not be managed by non-drug interventions and antidepressant optimization, were to be treated with antipsychotics. The decision threshold also involved paperwork of the desired behaviors, other possibilities tried, and authorization, where feasible. If it was mentioned, the minimum dose was used with a review and de-escalation plan. With orthostatic blood pressure, extrapyramidal, stability of gait, sedation, QTc, and metabolic parameters.

Families got counseling on risk-benefit trade-off and early warnings of adverse events.

Stimulants and Pro-Dopaminergic Methods of Apathy or Inertia Methylphenidate or modafinil may be suggested in case of pronounced inertia that did not allow engaging in therapy. Trials were time-bound, and their functional objectives were well-defined, like involvement in treatment or commencement of daily activities. The contraindications were uncontrolled hypertension, a risk of arrhythmia, or pronounced anxiety. In case of non-benefit, the stimulants were discontinued to prevent insomnia, loss of appetite, or mood swings.

Cognitive Enhancers

Cholinesterase inhibitors and memantine lacked sustained cognitive advantage in frontotemporal dementia and usually deteriorated behavior in some of the behavioral variants. Small and varied effects were observed with limited signal of language support in selected primary progressive aphasia phenotypes. Where a trial was done, it was planned to reassess early and deprescribe if no measurable benefit was recorded or agitation, insomnia, or gastrointestinal adverse events were observed.

Sleep, Anxiety, and Pain Management Principles

Sleep disturbance was treated through correcting the drivers, including pain, nocturia, and inactivity, daily. In case of pharmacotherapy, low dose sedating antidepressants or melatonin were favored before benzodiazepines because of gait instability, paradoxical disinhibition, and cognitive suppression. SSRIs, coaching of the caregiver, and unsurprising schedules helped to control anxiety. Scheduled non-opioid regimens should be used first in pain control, and then with caution and concern for constipation, sedation, and delirium.

Polypharmacy Assessment, Deprescribing Provocation, and Safety Plan

At every visit, medication lists were assessed for duplication, anticholinergic burden, and long half-life sedatives. Criteria to cause deprescribing were target-symptoms failing to improve after a sufficient trial, development of falls, syncope, orthostasis, QTc lengthening, bradyarrhythmia, weight gain coupled with metabolic decline, or patient- reported global worsening related to a change in drug. The safety plans outlined orthostatic monitoring, periodic ECGs[when QTc-active drugs were taken], metabolic monitoring of antipsychotics, electrolyte monitoring of SSRIs, and re-evaluation of fall risks in case of any psychoactive change.

DISCUSSION

Phenotype-Specific Nuances

Behavioral Variant FTD Management Adaptations

Strategies focused on behavioral structure, routine choices, streamlined decisions, and minimization of harm[17,18]. The pharmacological attempts involved medicines that dealt with specific targets. Communication with caregivers was based on predicting triggers, scripting responses, and establishing attainable goals of the loss of apathy and empathy.

PPA Variants

Disease-specific therapy needed language-based therapy. Nonfluent presentations had the advantage of articulatory and grammar-oriented practice and training with a partner early. Semantic variant care focused on lexical assistance, visual representation and labelling the surroundings. AAC was also implemented early, and the shift between low-tech and app-based tools was staged to avoid losing the opportunities to engage in discussion, visit a telehealth center, and keep the safety communications.

FTD-ALS Overlap

Later respiratory testing, dysphagia treatment and nutrition counseling were promoted by overlap. Combining voice and message banking with AAC is supported by communication. Adding specific coordination with neurology, respiratory therapy, speech-language therapy, nutrition, and palliative care aided in a decrease of crisis admissions and goals of care clarification as the weakness advanced.

Psychiatric Mimesis and Comorbidity Treatment

Symptoms could be confusing with long-term psychiatric disorders and substance use. Baseline psychiatric history and collateral information were necessary to prevent misclassification. Caregivers were treated with SSRIs and structured psychotherapy on

comorbid depression and anxiety. Medical comorbidities like sleep apnea, pain, or autonomic issues were treated in order to minimize behavioral exacerbation.

Economics, Systems, and Health

There were geographical, language services, referral networks, differences in service access, and diagnostic delays. Areas with no behavioral neurology or speech-language capability had subsequent presentations of the disease later and a greater utilization of crisis. Telehealth assessment, community-based caregiver education, and shared care protocols between primary care and specialist consults were rural and low-resource adaptations[8]. Task-sharing models developed and trained local workers and therapists to provide structured routines, simple communication plans, and fall-prevention programs that would be supervised remotely.

The informal care, productivity loss in caregivers and institutionalization risk promoted economic burden[15,16]. Premeditative environmental adjustments and respite decreased emergency visits and delayed placement. Multidisciplinary integration enhanced the integration of neurology, geriatrics, speech-language therapy, occupational and physical therapy, mental health, and social services. Documentation Standardization, escalation values, and reassessments ensured less variation and better monitoring of safety. Such priorities as the increase of capacity of speech-language and behavioural consultation, the creation of access to respite, and tele practice infrastructure support were commissioned.

Clinical Landscape and Future Innovations.
Targets in development

The focus of therapeutic development in 2020-2025 aimed at progranulin modulation of GRN haploinsufficiency, tau-based interventions towards FTLD-tau, and antisense interventions of C9orf72 expansions. Other studies were looking at microglial and lysosomal pathways, synaptic homeostasis, and neuroinflammation.

Neuromodulation and Rehabilitation New Technologies

Non-invasive stimulations to the brain such as tDCS and TMS were investigated to supplement language therapy and executive control with mixed results of promising feasibility. The high frequency training, involvement of caregivers and remote monitoring of performance with the help of digital speech therapeutics and home-based practice platforms opened the possibility of adaptive dosing and more responsive results.

Trial Design Issues

Phenotype and progression heterogeneity made the choice of endpoint more complicated. The priorities of research were core behaviour and language outcome sets, validated caregiver outcome, and real-life outcomes, including time to institutionalization and crisis utilization. The purpose of biomarker enrichment with the help of genetics, NfL, and imaging patterns was to decrease variance and match mechanisms with targets. Pragmatic and platform trial designs were suitable to small populations and enabled the testing to be repeated over time in the multi-domain interventions testing non-pharmacological programs with pharmacological adjuncts. The increased importance of longer follow-up and post-trial access plans was especially necessary to facilitate assessing durability and keeping the engagement between the families and services.

Implications for practice and policy
Synthesis and Photographic Algorithm
Pathway of Goals, and Setting

The observance of care was based on an individual-centered approach rooted in the objectives of caregivers, safety, and communication. The first measures were education, environmental organization, routine construction, and minimization of risk.

Ethical Sequencing of Non-Pharmacological and Pharmacological Alternatives

First and reviewed after set time sessions were non-pharmacological interventions: behavioural plans with caregiver coaching, speech-language therapy and early AAC of language variants, and OT/PT of ADL and falls. The pharmacotherapy was involved in specific issues once the impairment or risk increased. SSRI or trazodone were used to deal with disinhibition, compulsions, anxiety, or night restlessness. Severe inertia was supported by short, time-constrained trials of stimulants. Antipsychotics were only used in the cases of impending risk at minimum dose with taper schedule. Cognitive enhancers were thought parsimony and were terminated when they did not show any quantifiable improvement.

Escalation and referral proving.

It was escalating and there were continued threats to self or others, a fast decrease in his functioning, a possible overlap with the FTD-ALS, or the inability of his first-line approaches. New dysphagia or respiratory compromise, recurrent falls, deep caregiver burnout, or complicated polypharmacy were some of the triggers leading to a referral to multidisciplinary or tertiary services.

SMS bundle: Safety and Monitoring

Cheques in the safety bundle consisted of orthostatic cheques, gait review after psychotropic changes, ECG in QTc-active changes, antipsychotics metabolic review, SSRIs-hyponatremia cheques, constipation and sedation cheques, and a deprescribing checklist at each review.

Strengths and limitations

The literature review covered the period between 1 January 2020 and 31 October 2025 and

enhanced topical relevance but omitted the older underlying literature. There were numerous differences in design and sampling frames, as well as outcome measures of behaviour, language and functioning, and no study could be directly compared, nor could outcomes be pooled quantitatively. Many of the reports were small, clinic-based, and at specialised centers which limited their generalizability to low-resource, primary care. The language was limited to English, and not all the grey literature was included which created a possible selection bias. The emphasis of narrative synthesis was on clinical interpretation rather than quantifying the effects and relied on metrics reported by the author. Lastly, endpoints and long-term outcomes as well as caregiver centred outcomes were not uniformly measured, which diminished the confidence of sustainability of benefit, real world safety and service effects.

CONCLUSION

Recent research described frontotemporal dementia as a diverse but manageable clinical continuum in case management was structured in terms of clear objectives, cooperation with caregivers, and systematic safety measures. The non-pharmacological interventions of behavioural plans and SLP with early AAC and OT/PT of the ADL and falls were possible in any setting and yielded consistent but small benefits. The most useful pharmacotherapy was the one that was focused on addressing issues, used sparingly and with the help of clear deprescribing prompts. Reduced crises due to escalation directions and multidisciplinary referral were identified with language variants and FTD-ALS overlap crisis. The priorities in the near term are harmonized outcome sets of behaviour and language, the inclusion of longer follow-up, the inclusion of pragmatic trials, combining rehabilitative and pharmacologic elements, and the systematic inclusion of caregiver and service outcomes. The use of the stepwise algorithm described here can enhance consistency, safety, and living standards as the evidence base is still growing.

METHODS — DETAILED SUBSECTIONS

- Protocol and registration[PRISMA 2020]
- Eligibility criteria[2020–2025 window; English; adults]
- Information sources and full search strategies
- Study selection[dual screening, PRISMA flow]
- Data extraction and items
- Risk of bias assessment[RoB 2, ROBINS-I, CASP]
- Synthesis methods[qualitative only]
- Certainty assessment[GRADE]

Figure and Table Placeholders

Table 1: Inclusion and Exclusion Criteria

Domain	Inclusion criteria	Exclusion criteria
Timeframe and language	2020–2025, English, adults	Pre-2020 or non-English without translation
Topic	FTD epidemiology or management with extractable data	Single-symptom case reports, editorials without data
Outcomes	Prevalence, incidence, clinical outcomes, caregiver or service metrics	Pure basic science without clinical translation

The current research uses a database-specific Boolean strategy that pairs disorder terms that represent frontotemporal dementia and its variants with epidemiology or management terms and outcomes, 2020-2025, English, and adults were used as filters.

Table 2: Biomarkers in Routine Care and Research: Strengths and Caveats

Biomarker	Setting	Strengths	Caveats	Typical use
Plasma or CSF NfL	Clinic and trials	Tracks intensity and prognosis	Not disease- specific, influenced by comorbidity	Severity gauging, stratification
Progranulin [plasma]	Clinic	Pathway confirmation in GRN	Limited beyond GRN	Genetic counselling, trial eligibility
Structural MRI	Clinic	Widely available, subtype patterns	Late in some cases, interpretation expertise needed	Diagnosis, staging, therapy planning
FDG-PET	Clinic/tertiary	Sensitive to network dysfunction	Access and cost	Differential diagnosis, language mapping
Amyloid/tau PET	Tertiary	Rules in/out Alzheimer co-pathology	Tracer specificity and availability	Differential diagnosis
Digital speech/behaviour	Research/ telehealth	High- frequency, ecologically valid	Validation and equity of access	Monitoring, outcome tracking

Table 3: Non-Pharmacological Interventions by Target Domain with Implementation Tips

Target domain	Example interventions	Key implementation tips	Outcome signal	Resource level
Behaviour	Trigger mapping, contingency plans,	Start with one priority behavior, use written cue	Reduced agitation, safer routines	Any

	structured routines	cards		
Language	Script training, semantic feature analysis, partner training	Introduce AAC early, rehearse in real contexts	Improved communication success	Low to moderate
Function/ADL	Task simplification, labeling, and energy conservation	One-page ADL plans on fridge, caregiver rehearsal	Preserved independence	Any
Mobility/falls	Balance, dual-task, home safety modifications	Combine with medication review, remove trip hazards	Fewer falls, better gait	Moderate
Caregiver support	Coaching, respite, peer groups	Schedule respite in advance, provide checklists	Lower burden, fewer crises	Any
Telehealth	Remote SLP/OT, behavior consults, monitoring	Test tech, privacy, and backup plans	Access maintained, early alerts	Low to moderate

Table 4: Pharmacological Options by Symptom Cluster with Typical Dosing Ranges and Monitoring Notes

Symptom cluster	First-line options	Typical range*	Key monitoring
Disinhibition, compulsions, irritability	SSRI	Low start, gradual titration	Sodium, GI effects, activation
Night restlessness with anxiety	Trazodone at night	Low to moderate	Orthostasis, daytime sedation
Severe aggression or dangerous agitation	Short trial antipsychotic	Minimal effective dose	QTc, EPS, falls, metabolic
Apathy/inertia affecting care.	Methylphenidate or modafinil[trial]	Low, time-limited	BP, HR, anxiety, sleep
Sleep onset/maintenance	Melatonin or a low dose sedating antidepressant	Standard low dose	Falls, morning grogginess
Language symptoms [selected PPA]	Case-by-case trial of cognitive enhancers	Limited evidence	Agitation, insomnia, GI
**Ranges should follow local formularies and individual tolerability.*			

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