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Bedside screening and assessment tools for sarcopenia, dysphagia and malnutrition in older adults with dementia: a scoping review

Tolulope Adeniji

tolulope.adeniji@canterbury.ac.uk

Canterbury Christ Church University

Francis O. Kolawole

University of Benin

Adaora Okemuo

University College Birmingham

Henrietta O. Fawole

Coventry University

Olayinka Akinrolie

University of Calgary

Aileen McCartney

Canterbury Christ Church University

Simone Roberts

Canterbury Christ Church University

Sharon Adjei-Nicol

Canterbury Christ Church University

Anto P. Rajkumar

University of Nottingham

David Stephensen

Canterbury Christ Church University

Systematic Review

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Abstract

Background: Individuals with dementia commonly experience sarcopenia (loss of muscle mass), dysphagia (swallowing difficulty) and malnutrition. Evidence indicates that dysphagia affects approximately 58.00% of older adults with dementia, while 32.50% are malnourished and 46.80% are at risk of malnutrition. Additionally, meta-analytic evidence links sarcopenia with mild cognitive impairment, Alzheimer's disease and other dementias. Although these conditions may overlap, direct prevalence data for the full triad remain limited. This matters because dementia may impair attention, insight, communication and tolerance of lengthy assessments; therefore, bedside instruments need to be brief, low-burden, valid and clinically interpretable. This scoping review mapped bedside or ward-feasible screening and assessment tools across these three domains and summarised psychometric evidence in older adults with dementia.

Methods: We conducted a Joanna Briggs Institute scoping review in line with PRISMA-ScR. MEDLINE, Web of Science Core Collection, Scopus, and PsycINFO were searched from 1990 to December 2025. Eligible peer-reviewed studies involved adults aged ≥60 years with dementia in inpatient, rehabilitation, or long-term/residential care and reported at least one sarcopenia, dysphagia/sarcopenic dysphagia, or malnutrition tool with at least one psychometric property in people with dementia . Two reviewers independently screened studies and charted data.

Results: From 12,770 records, 3,636 duplicates were removed and 9,134 titles and abstracts were screened. Of 108 reports sought for retrieval, 99 full texts were assessed and 11 studies were included. Evidence was unevenly distributed: eight tool families, representing 11 named tool versions/methods, were identified, five for malnutrition or feeding difficulty, three for dysphagia and none for sarcopenia. All tool families were single-domain; no dyadic or tri-domain instrument or pathway had dementia-sample psychometric evidence. Among diagnostic studies, the Eating Assessment Tool-10 showed area under the curve values of 0.96 for unsafe swallowing and 0.81 for aspiration against videofluoroscopic swallowing study, while the Mini Nutritional Assessment showed 60.00% sensitivity and 94.70% specificity against established nutritional criteria.

Conclusions: Available evidence in dementia care is strongest for malnutrition and feeding-related assessment, with fewer dysphagia studies and no eligible sarcopenia tool validation. These findings support dementia-specific sarcopenia validation and integrated multi-domain approaches feasible for routine bedside practice.

Protocol and registration: The review was guided by a prospectively developed protocol registered in the Open Science Framework database (https://osf.io/f47x9)

Background

Older adults living with dementia commonly experience sarcopenia, a muscle disease characterised by low muscle strength with reduced muscle quantity or quality, dysphagia (swallowing difficulties), and

malnutrition or nutritional risk, and these syndromes frequently intersect in ways that complicate everyday care [1–3]. Recent meta-analyses indicate that dysphagia affects 58.00% of older adults with dementia [1], while 32.52% are malnourished and 46.80% are at risk of malnutrition [2]; In a meta-analysis studies, sarcopenia is also associated with mild cognitive impairment, Alzheimer's disease, and other dementias [3]. In clinical settings, these problems rarely present as isolated abnormalities. Reduced intake, feeding dependence, dysphagia, immobility, acute illness, frailty, and progressive cognitive decline may interact to worsen muscle loss, and nutritional status simultaneously[4, 5]. The concept of sarcopenic dysphagia further supports a biologically plausible overlap between whole-body muscle loss and swallowing dysfunction, although the mechanisms and direction of association are not uniform across all patients [5, 6]. Direct prevalence estimates for the full triad occurring together in dementia care remain scarce, largely because recent reviews have tended to examine single domains or, at most, dyads such as malnutrition and dysphagia rather than the three-domain assessment approach [7, 8].

This overlap has practical implications for clinical workflow. In dementia wards, rehabilitation units, and long-term care, separate screening for each domain may increase duplication, delay cross-disciplinary referral, and leave clinically connected problems unnoticed until they have become more severe. Single-domain instruments remain necessary for profession-specific decisions, but they may be insufficient when used in isolation if they do not trigger consideration of related nutritional, swallowing or muscle-related risks. For example, a mealtime tool may identify feeding assistance needs without identifying sarcopenia, a dysphagia screen may identify swallowing safety concerns without clarifying nutritional risk, and a strength-based tool may identify probable sarcopenia without identifying intake or aspiration concerns A combined or at least coordinated screening approach could therefore support earlier recognition of overlapping nutritional, swallowing, and muscle-related risk, allowing physiotherapy, dietetic, and speech and language therapy input to be prioritised more coherently [8, 9]. Currently, direct evidence that screening all three conditions together reduces length of stay or readmission in dementia care is lacking. Even so, earlier recognition remains clinically important, as nutritional risk in older hospitalised adults predicts later readmission. Dysphagia in acute geriatric populations is also associated with longer hospital stay and higher mortality. However, existing dysphagia-malnutrition screening literature reports limited evaluation of downstream service outcomes [8–11].

Despite this clinical overlap, assessment pathways remain largely organised by separate clinical domains. The European Working Group on Sarcopenia in Older People 2 (EWGSOP2) recommends case-finding for sarcopenia using pragmatic strength-based approaches [12], the Global Leadership Initiative on Malnutrition (GLIM) supports structured nutritional screening followed by diagnostic assessment [13], and the 2024 European Society for Clinical Nutrition and Metabolism (ESPEN) dementia guideline recommends routine nutritional and hydration screening in dementia care [4]. Dysphagia screening is also encouraged in older populations, yet available instruments vary in format, operator requirements, and reference standards [8, 14]. This separation is particularly problematic in dementia care, where reliable self-report, sustained attention, comprehension of instructions, and performance on timed or effort-dependent tasks may all be compromised [15, 16]. For this reason, the relevant issue is not only

whether a tool is brief, but whether it remains valid, reliable, and clinically interpretable in the intended dementia setting. In this review, ward-feasible refers to brief, low-burden, non-radiographic and non-invasive tools that could reasonably be delivered within routine inpatient, rehabilitation or long-term/residential care workflows, that are realistic for multidisciplinary staff.

Existing screening assessment adaptations only partly address this problem. Although Strength, Assistance with walking, Rise from a chair, Climb stairs and Falls (SARC-F) is widely recognised as a pragmatic sarcopenia case-finding tool in general older populations, it was developed as a self-reported screening tool and was not designed specifically for people whose cognitive impairment may affect insight or reporting accuracy [17]. Proxy-reported sarcopenia screening has therefore been proposed as a practical alternative. However, the main hospital-based validation study of SARC-F-Proxy was conducted in older adults with confirmed cognitive impairment, including mild cognitive impairment and dementia, rather than in a separable dementia-only sample. In addition, the study was undertaken in a single psychogeriatric hospital cohort, excluded patients unable to undergo muscle evaluation including assessment of muscle strength, physical performance and/or muscle mass because of physical or cognitive impairment, and showed high sensitivity alongside modest specificity. Taken together, these findings support the clinical relevance of proxy screening but do not yet provide sufficiently broad dementia-specific measurement-property evidence across inpatient, rehabilitation, and long-term care settings [15]

The same challenge is seen in swallowing and mealtime assessment. Recent work in Alzheimer's disease suggests that the Eating Assessment Tool-10 (EAT-10) can contribute to dysphagia case-finding; however, self-report and caregiver-report are not interchangeable, and objective swallowing assessment remains important, particularly with advancing disease severity [16, 18]. Dementia-specific mealtime, eating-behaviour, chewing, and swallowing instruments also exist, but recent systematic reviews suggest that their psychometric robustness is inconsistent and that many tools were designed for behavioural or feeding observation rather than for integrated multidisciplinary screening across swallowing, nutrition, and muscle-related function [19, 20]. Reviews of combined dysphagia-malnutrition screening in hospitalised older adults similarly describe heterogeneous implementation and limited reporting of multidisciplinary follow-through, making it difficult to determine how far currently available approaches can be transferred into dementia-specific ward practice [8, 20].

A further difficulty is that current evidence has developed along domain-specific lines rather than reflecting integrated clinical practice. Existing reviews have examined eating ability and mealtime behaviour in dementia, psychometric properties of chewing and swallowing instruments, and combined dysphagia-malnutrition screening in broader hospitalised older populations [8, 19, 20]. However, no dementia-specific evidence synthesis has mapped bedside or ward-feasible tools across sarcopenia, dysphagia/sarcopenic dysphagia and malnutrition together, while also considering psychometric evidence and feasibility features in dementia samples. This scoping review therefore aimed to map screening and assessment tools used for these three domains in older adults with dementia across inpatient, rehabilitation and long-term/residential care settings. The review asked which tools have been

studied, what psychometric evidence and cut-offs have been reported, whether any dyadic or tri-domain approaches exist, and which feasibility features may inform future multidisciplinary tool or pathway development

Methods

Design and reporting

We conducted a scoping review using Joanna Briggs Institute methodology and reported the review in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) [21, 22]. The review mapped ward-feasible screening and assessment tools for sarcopenia, dysphagia or sarcopenic dysphagia, and malnutrition in older adults with dementia, together with the psychometric evidence reported for their use in dementia care. In this review, ward-feasible referred to tools that could reasonably be delivered within routine inpatient, rehabilitation or long-term/residential care without radiographic or invasive procedures. Feasibility features charted included administration time, equipment needs, operator type, training requirements, patient burden, cognitive demand and reported suitability for routine ward or residential care.

Eligibility criteria

Eligibility was structured using the population-concept-context framework [21] (Table 1). The population age threshold of 60 years and above was selected a priori to align with the registered protocol and to avoid excluding dementia-care studies from settings where older adult cohorts are commonly defined from 60 years. The threshold was not intended to imply a biological boundary at 60 years, but to support inclusive mapping of ward-feasible evidence relevant to older adults with dementia.Studies were eligible when all of the following criteria were met:

1. Population: adults aged 60 years or older with a clinical diagnosis of dementia of any aetiology or severity. Mixed-population studies were eligible only when dementia-specific data could be separated.
2. Concept: any named screening or assessment tool, test, instrument or questionnaire for sarcopenia or probable sarcopenia, dysphagia or sarcopenic dysphagia, and/or malnutrition or nutritional risk.
3. Measurement-property requirement: empirical studies had to report at least one psychometric property in the dementia sample, including validity, reliability, measurement error, responsiveness or diagnostic accuracy.
4. Context: acute hospital, geriatric or rehabilitation wards, or long-term/residential care facilities.
5. Exclusions: studies were excluded if they involved non-dementia samples, mixed samples without separable dementia data, prevalence-only use of a tool without psychometric reporting, community/outpatient-only settings, non-peer-reviewed records, or specialist instrumental procedures not suitable for routine bedside use.

Table 1. Eligibility criteria using the population-concept-context framework.

PCC element	Included	Excluded
Population	Older adults (≥60 years) with diagnosed dementia.	Non-dementia samples or mixed samples without separate dementia data.
Concept	Bedside or ward-feasible tools for sarcopenia, dysphagia or sarcopenic dysphagia, or malnutrition or nutritional risk, with psychometric data in dementia samples.	Prevalence-only use of a tool without psychometric reporting; no named screening or assessment tool; no dementia-sample psychometric data; radiographic, invasive or specialist instrumental procedures not feasible for routine bedside use.
Context	Inpatient hospital, rehabilitation, or long-term residential care settings.	Community or outpatient settings, or non-ward-based procedures.

PCC : Population; Concept; and Context

Information sources and search strategy

Searches were conducted in MEDLINE (Ovid), Web of Science Core Collections (Clarivate), Scopus (Elsevier), and PsycINFO (Ovid), from 1990 to December 2025. This date limit was applied to focus the review on the contemporary evidence era, particularly because sarcopenia entered the literature as a defined term in 1989 [23, 24] and earlier literature was less likely to reflect current terminology or assessment approaches. MEDLINE, Scopus and PsycINFO were last searched on 3 December 2025, and Web of Science was last searched on 5 December 2025. Search terms combined dementia with sarcopenia, dysphagia or sarcopenic dysphagia, and malnutrition concepts, together with generic assessment terms such as screen, assess, tool, instrument, test, index, score, and scale. A simplified search structure was: dementia AND (sarcopenia OR dysphagia OR sarcopenic dysphagia OR malnutrition) AND (screen OR assess OR tool OR instrument OR test OR index OR score OR scale). The search strategy was developed by the review team and peer reviewed by Canterbury Christ Church University Library Research Support before finalisation. Psychometric terms were not made mandatory in the main search because the measurement-property requirement was applied during screening and data charting. Search syntax was adapted to each database, and inclusion was limited to peer-reviewed sources. No language restriction was applied at the search stage. In addition to database searching, the reference lists of included studies were checked, and Google Scholar was used to identify papers that had cited the included studies. Full database-specific search strategies are provided in Supplementary File S2.

Selection of sources of evidence and data charting

Records were imported into Covidence (www.covidence.org)for de-duplication and two-stage screening of titles and abstracts followed by full texts. Full-text screening was undertaken by three reviewers TA, AO, and FK). Disagreements were resolved through discussion and, where required, adjudication by a fourth reviewer (HF & DS). Inter-rater agreement statistics were not calculated; consistency was supported through independent screening, discussion of disagreements and third-reviewer adjudication where required. Reasons for exclusion were recorded prospectively, and the selection process was summarised in a PRISMA flow diagram. Data were charted in a shared live extraction excel spread sheet with reviewer and verifier fields. One reviewer charted each included record, and a second reviewer checked the entry against the full text. Charting and verification were distributed across TA, AO and FK as recorded in the extraction file. The charting form captured study characteristics, dementia features, tool details, cut-offs, reference standards, feasibility features, and psychometric properties, including reliability, validity, sensitivity, specificity, and area under the curve. Feasibility features were charted as administration time, equipment needs, operator type, training requirements, patient burden, cognitive demand and reported suitability for routine ward or residential care. The form was refined iteratively as charting progressed.Critical appraisal and synthesis

Critical appraisal and synthesis

Formal critical appraisal was not used as an eligibility filter because the purpose of the review was to map the available evidence. However, to support interpretation, we undertook a supplementary JBI appraisal of primary studies using design-appropriate checklists. Consistent with JBI guidance for scoping reviews, critical appraisal was not treated as mandatory and was undertaken descriptively to support interpretation of methodological completeness. Appraisal findings were descriptive only and were not used to determine inclusion. Because the included evidence was heterogeneous in design, setting, tool purpose, and reported outcomes, we synthesised the findings descriptively, mapping them by clinical domain, care setting, and type of psychometric evidence, with additional narrative synthesis of ward-feasibility features. A tool family was defined as a group of instruments sharing the same core construct, measurement purpose and measurement lineage. Translated, culturally adapted or revised versions were therefore grouped within the same tool family, while each named version was charted separately. For example, original, Spanish, Turkish and revised Edinburgh Feeding Evaluation in Dementia versions were grouped as one EdFED tool family but retained as separate named versions in the charting dataset.

Results

Selection of sources of evidence Searches identified 12,770 records across MEDLINE, Web of Science, Scopus and PsycINFO. After removal of 3,636 duplicates, 9,134 records were screened and 9,026 were excluded at title and abstract screening. Title and abstract exclusions were made where records were clearly outside the population, concept or context criteria; detailed reason coding was applied at full-text stage, where eligibility could be verified from the full report. Of 108 reports sought for retrieval, 9 could not be retrieved. Ninety-nine full-text reports were assessed for eligibility, 88 were excluded, and 11

empirical studies met the inclusion criteria. The reference lists of included studies were checked, and Google Scholar was used to identify papers that had cited the included studies; no additional eligible studies were identified through these supplementary searches No additional eligible studies were identified through reference-list checking or Google Scholar citation searching. The screening and selection process is shown in the PRISMA 2020 flow diagram (Fig. 1). Full-text exclusions were grouped in the PRISMA 2020 flow diagram, with the most common reason being absence of validation, reliability or other psychometric evaluation of an eligible screening or assessment tool.

Characteristics of included sources of evidence

The characteristics of the included evidence are summarised in Table 2. The 11 studies were published between 2001 and 2025 and were from Spain (n = 3)[25–27], Japan (n = 3)[28–30], Turkey (n = 2)[16, 31], Australia (n = 1)[32], South Korea (n = 1)[33], and the United Kingdom (n = 1)[34]. Most studies were conducted in long-term care or nursing home settings (n = 6)[25, 27, 27–30], with the two in geriatric wards (n = 2)[32, 34], one acute hospital study [16], one rehabilitation unit study[33], and one in another inpatient setting[31]. Study designs and purposes varied across the included evidence, with validation or measurement-property work, longitudinal responsiveness analysis, and cross-sectional studies represented across the 11 included studies [16, 25–34].]. Dementia characteristics varied across studies, ranging from Alzheimer's disease-only samples[16, 27, 28] to mixed dementia populations or dementia identified using existing clinical records or cognitive screening thresholds [26, 26, 29–33]. Across the included evidence, eight distinct tool families were identified: five addressed malnutrition or feeding difficulty, three addressed dysphagia, and none addressed sarcopenia. All identified tool families were single-domain; no eligible dyadic or tri-domain pathway was identified.

Overview of psychometric evidence

Psychometric properties reported across the included studies included internal consistency, inter-observer reliability, 48-hour stability, construct validity, criterion validity, diagnostic accuracy, responsiveness and agreement with reference standards. Reliability evidence was reported most consistently for Edinburgh Feeding Evaluation in Dementia variants, while diagnostic accuracy evidence was limited to a smaller number of tools, including the Eating Assessment Tool-10 and Mini Nutritional Assessment. Overall, psychometric reporting was heterogeneous, with several studies reporting validity or diagnostic accuracy without complementary reliability testing in people with dementia. A concise summary of the included tool families and their psychometric evidence is provided in Table 2, and the full charting dataset is provided as Additional file

Critical appraisal within included sources of evidence

A supplementary JBI critical appraisal was completed for the 11 primary studies and is summarised in Supplementary File S1. Appraisal findings were not used to determine eligibility. Methodological

completeness varied across designs: diagnostic test accuracy studies ranged from 3/10 to 8/10 yes ratings, analytical cross-sectional studies from 4/8 to 6/8, and the single cohort study scored 5/11. The main strengths across the included studies were the use of named instruments, dementia-relevant samples, and, in several studies, comparison with established reference standards or nutritional indicators. Edinburgh Feeding Evaluation in Dementia studies also provided relatively consistent reliability and validity evidence across versions. Key weaknesses were incomplete reporting of sampling methods, limited threshold pre-specification in some diagnostic studies, limited handling of confounding in cross-sectional designs, and sparse reporting of training, missing data and feasibility outcomes. These findings support cautious interpretation of the evidence base, particularly where reporting was limited for sampling, threshold specification, confounding or follow-up.

Results of individual sources of evidence

Malnutrition and feeding difficulty instruments

Most included tools addressed malnutrition-related risk, feeding difficulty or mealtime performance. Five tool families were grouped within this domain, representing eight named tool versions or methods: Edinburgh Feeding Evaluation in Dementia Scale variants (EdFED, EdFED-TR, Spanish EdFED and EdFED #2) [25, 26, 31, 34]. Feeding Difficulty Index [32], the Signs and Symptoms Accompanying Dementia while Eating scale [29], the Mini Nutritional Assessment[27], and visual plate-waste estimation [28].EdFED variants dominated this domain and were represented across four primary studies [25, 26, 31, 34]. Feeding difficulty tools were grouped with malnutrition and mealtime assessment because the included studies used them to capture feeding behaviours, assistance needs, intake or nutrition-related risk rather than swallowing safety or aspiration. Overall, this literature was weighted towards observation-based approaches that could be used during meals or routine nutritional review, particularly in long-term care and ward settings.

Reliability evidence was reported mainly for Edinburgh Feeding Evaluation in Dementia variants, with internal consistency ranging from Cronbach's α 0.86 to 0.97, inter-observer reliability from intraclass correlation coefficient 0.78 to 0.94, and one study reporting 48-hour stability with a concordance correlation coefficient of 0.85 [25, 26, 31]. Validity evidence for Edinburgh Feeding Evaluation in Dementia-based tools included confirmatory factor analysis, content validity, and associations with Mini Nutritional Assessment scores and other nutritional indicators [25, 26, 31, 34]. The Signs and Symptoms Accompanying Dementia while Eating scale reported factor structure and lower to moderate internal consistency [29], whereas visual plate-waste estimation showed fair agreement with weighed intake despite high overall agreement [28]. The Mini Nutritional Assessment showed sensitivity of 60.0% and specificity of 94.7% against established nutritional criteria in moderate to severe cognitive impairment [27]. The Feeding Difficulty Index showed acceptable discrimination for assistance level, with an area under the curve of 0.70 [32].

Dysphagia instruments

Only three dysphagia tools met the inclusion criteria: the Eating Assessment Tool-10 in an acute hospital Alzheimer's disease sample[16], the modified Mann Assessment of Swallowing Ability in rehabilitation[33], and the candy sucking test in long-term care residents with dementia[30]. These studies addressed different aspects of swallowing assessment, including symptom burden, aspiration risk, and bedside oral function. The Eating Assessment Tool-10 showed diagnostic accuracy against videofluoroscopic swallowing study and Penetration-Aspiration Scale thresholds in Alzheimer's disease, with area under the curve values of 0.96 for unsafe swallowing and 0.81 for aspiration [16]. The modified Mann Assessment of Swallowing Ability and candy sucking test reported validity evidence, but did not provide a complete reliability and diagnostic accuracy profile in dementia samples [30, 33]. No study evaluated a combined dysphagia-malnutrition screen or sarcopenic dysphagia as a combined tool for use among people with dementia.

Sarcopenia instruments

No included primary study reported psychometric evidence for a sarcopenia screening or assessment instrument in people with dementia. Therefore, within the review eligibility criteria, no sarcopenia-focused bedside tool met the threshold for validation, reliability, measurement error, responsiveness or diagnostic accuracy in this population.

Synthesis of results by domain coverage and feasibility

The included evidence was concentrated in single-domain tools. Five tool families addressed malnutrition, feeding difficulty or mealtime performance; three addressed dysphagia; and none addressed sarcopenia. No eligible instrument or care pathway combined two or more of the review's target domains with psychometric evidence reported in people with dementia. Within the review eligibility criteria, the evidence base therefore does not yet support an integrated dyadic or tri-domain screening pathway for sarcopenia, dysphagia/sarcopenic dysphagia and malnutrition in people with dementia.

Detailed psychometric findings are reported in the domain sections above and summarised in Table 2. Reliability evidence was reported mainly for Edinburgh Feeding Evaluation in Dementia variants, with internal consistency ranging from Cronbach's α 0.86 to 0.97, inter-observer reliability from ICC 0.78 to 0.94, and one recent study reporting 48-hour stability with concordance correlation coefficient 0.85[25, 26, 31]. Validity evidence for Edinburgh Feeding Evaluation in Dementia-based tools included confirmatory factor analysis, content validity, and associations with Mini Nutritional Assessment scores and other nutritional indicators[25, 26, 31]. The Signs and Symptoms Accompanying Dementia while Eating scale reported factor structure and lower to moderate internal consistency[29], whereas the plate-waste estimation method showed only fair agreement with actual weighing despite high overall agreement[28]. Diagnostic accuracy was reported for a smaller number of tools. The Eating Assessment Tool-10 showed strong discrimination against videofluoroscopic swallowing study and Penetration-Aspiration Scale thresholds in Alzheimer's disease, with area under the curve values of 0.96 for unsafe swallowing and 0.81 for aspiration[16]. The Mini Nutritional Assessment provided diagnostic-accuracy

evidence against established nutritional criteria, although sensitivity was lower than specificity in the dementia sample [27]. The Feeding Difficulty Index showed acceptable discrimination for assistance level (area under the curve 0.70) [32]. The characteristics of the included evidence sources' measurement properties is summarised in table 3.Feasibility and clinical applicability features

Feasibility information was reported inconsistently across included studies. Time to administer was rarely stated; the Turkish Edinburgh Feeding Evaluation in Dementia study reported administration in less than 5 minutes, and the candy sucking test used a 2-minute sucking task as part of the procedure [30, 31]. Operators included nurses, nursing assistants, family caregivers, dietitians, research assistants, occupational therapists, physiatrists and swallowing personnel [16, 26, 28, 32, 33]. Training requirements were often poorly described, although some studies reported prior staff preparation [25, 32]. Observation-based feeding and nutrition tools generally involved low patient burden and low cognitive demand and were more readily aligned with routine ward or residential care [25, 26, 28, 29, 31, 34]. By contrast, measures relying on self-report, subjective judgement or active task performance appeared more vulnerable to limitations in more advanced cognitive impairment [16, 30]. Overall, feasibility reporting was not uniform, and direct comparisons between instrument types should therefore be interpreted cautiously.

Discussion

Summary of the findings

This scoping review identified eight distinct tool families from 11 dementia-specific studies reporting psychometric evidence for ward-feasible screening or assessment tools across sarcopenia, dysphagia/sarcopenic dysphagia, and malnutrition or nutritional risk. Five tool families addressed malnutrition, feeding difficulty or mealtime performance, including Edinburgh Feeding Evaluation in Dementia variants, the Feeding Difficulty Index, the Signs and Symptoms Accompanying Dementia while Eating scale, the Mini Nutritional Assessment, and visual plate-waste estimation. Three tool families addressed dysphagia-related assessment, and no eligible study validated a sarcopenia screening or assessment instrument in older adults with dementia within the review settings. No eligible dyadic or tri-domain tool or pathway was identified. The strongest reliability evidence was reported for Edinburgh Feeding Evaluation in Dementia-based tools [25, 26, 31, 34], whereas diagnostic accuracy evidence was available for a smaller number of instruments, including the Eating Assessment Tool-10 [16] and the Mini Nutritional Assessment [27]. However, psychometric reporting was inconsistent across the included studies [16, 25–34]. Some tools reported diagnostic accuracy or validity without complementary reliability testing [16, 30, 32, 33], while others reported internal consistency or factor structure without clinically actionable cut-offs [26, 29, 31]. Therefore, the findings should be interpreted as an evidence map rather than as a basis for recommending one preferred tool across dementia care settings.

These findings extend previous reviews that have examined eating ability, mealtime behaviour, chewing and swallowing instruments, or dysphagia-malnutrition screening in older adults and dementia care [8,

19, 20]. Lee et al. found that dementia-related eating ability and mealtime behaviour instruments were largely focused on nutritional and behavioural aspects of eating [19], which is similar to the finding of this review that the strongest dementia-specific evidence was concentrated around feeding and malnutrition-related tools. Kim et al. similarly emphasised that chewing and swallowing instruments in dementia vary in construct coverage and psychometric robustness [20], which helps explain why the dysphagia evidence in this review was more limited and less directly comparable across tools. In contrast to these previous reviews, the present review applied a tri-domain approach across sarcopenia, dysphagia and malnutrition, and found no eligible integrated dyadic or tri-domain pathway in older adults with dementia

Strengths and limitations

A strength of this review is its dementia-specific and ward-feasible focus. By requiring at least one psychometric property in the dementia sample, the review moved beyond simple documentation of tool use and provided a more practice-relevant map of evidence for bedside screening and assessment. The review also captured feasibility features such as operator type, time burden, patient burden, cognitive demand and training needs, which are often underreported in measurement-property literature. In addition, supplementary JBI appraisal helped contextualise the methodological completeness of the included studies without using appraisal as an exclusion filter.

Several limitations should also be acknowledged. The search was confined to four databases and peer-reviewed sources, so relevant local service evaluations, quality improvement projects, non-indexed implementation reports or grey literature may have been missed. No language restriction was applied at the search stage; however, practical limits in retrieval, indexing and reporting may still have influenced the final included evidence. The evidence base itself was small, dominated by malnutrition and feeding-related studies, and methodologically variable. Because the review required dementia-sample psychometric evidence, tools used clinically but not validated in dementia-specific samples were deliberately excluded from the final evidence map. This strengthened the internal consistency of the review, but it also means the findings should not be interpreted as a complete list of all tools that could potentially be used in practice.

Implications for ward-based multidisciplinary practice

For inpatient multidisciplinary practice, these findings have two immediate implications. First, the dementia-specific bedside evidence currently appears most ready to support nutrition, feeding and mealtime observation processes rather than a fully integrated physiotherapy, dietetic, and speech and language therapy tri-domain workflow. Second, the absence of validated sarcopenia instruments in dementia-specific samples leaves a clear gap in the physiotherapy contribution to integrated detection. This should not be interpreted as evidence that sarcopenia is clinically unimportant in dementia. Rather, it suggests that common sarcopenia approaches, such as self-report questionnaires, grip-strength testing and repeated functional tasks, may be harder to standardise in dementia care because cognition, communication, attention, frailty, acute illness and variable engagement can affect performance and

interpretation. In practical terms, current ward workflows may need to rely on a staged rather than a fully unified pathway: mealtime or nutrition observation to flag feeding difficulty and intake problems, dysphagia screening or escalation where swallowing risk is suspected, and targeted physiotherapy assessment guided by functional observation until dementia-specific sarcopenia tools are better validated. This interpretation is consistent with contemporary dementia nutrition guidance recommending routine nutritional screening and monitoring [4], and with broader literature showing fragmented rather than standardised combined dysphagia-malnutrition screening approaches [8, 19, 20].

A future combined pathway should therefore not be understood as one generic tool replacing profession-specific judgement. Sarcopenia, dysphagia and malnutrition each require different forms of clinical reasoning, and some assessment decisions require specialist physiotherapy, speech and language therapy, dietetic or nursing expertise [4, 12, 14, 35]. This is particularly important for dysphagia, where screening or risk identification should be distinguished from specialist swallowing assessment [14]. It is also relevant to malnutrition care. Bauer et al. found generally low proportions of nursing staff with high malnutrition knowledge across four European countries, and reported that education and specialist training were associated with knowledge levels [35]. This supports the interpretation that a combined tool may be difficult to implement safely unless it clarifies professional roles, referral triggers and escalation thresholds.

This also has implications for acceptability. A fully merged tri-domain instrument may be less acceptable to non-specialist staff if it expects them to make decisions outside their professional training. A more realistic model may therefore be a coordinated triage pathway rather than a single all-purpose assessment tool. Such a pathway could use simple bedside triggers to identify when physiotherapy, speech and language therapy, dietetic or nursing input is required, while preserving profession-specific assessment and management.

The findings also suggest that ward-feasibility should not be equated simply with brevity. A tool may be short but still difficult to implement if it depends on reliable self-report, requires specialist training, involves active task performance, is poorly integrated into routine workflow, or lacks clear referral actions. Dent et al. emphasised that malnutrition in hospitalised older people is common and may remain undetected despite the availability of screening and assessment approaches [36]. This aligns with the concern raised by the present review that validated tools do not necessarily translate into consistent completion, correct use or appropriate follow-through when competing clinical priorities, staffing pressures, unclear accountability or limited training affect routine care.

Research implications

Three research priorities follow from these findings. First, dementia-specific validation of sarcopenia case-finding and assessment tools is needed, particularly for approaches that minimise self-report burden and can accommodate fluctuating cognition, dependence, frailty, acute illness and variable engagement. Second, future studies should test whether coordinated dyadic or tri-domain workflows add value beyond three separate single-domain assessments. This review does not provide direct

evidence that a single tri-domain instrument is superior. Rather, it identifies a gap and a practice-based rationale for testing whether shared bedside triggers, role clarity and referral thresholds improve recognition of overlapping risk while preserving profession-specific assessment. Third, future instrument studies should report feasibility and implementation outcomes more explicitly, including administration time, operator training, patient burden, missing data, completion rates, referral actions and acceptability to different professional groups. These priorities are especially relevant if the field is to progress from isolated tool validation towards a multidisciplinary bedside pathway for dementia care.

Conclusions

The available dementia-specific bedside evidence is concentrated in malnutrition and feeding difficulty instruments, with fewer dysphagia tools and no eligible sarcopenia instrument validated among older adults with dementia. All included tool families were single-domain, and no dyadic or tri-domain pathway was identified. Current evidence therefore supports cautious use of selected observation-based nutrition and swallowing tools in ward practice, but it does not yet provide a validated multidisciplinary pathway spanning sarcopenia, dysphagia, and malnutrition. Dementia-specific sarcopenia validation and integrated workflow development are the clearest next priorities.

Declarations

Ethics approval and consent to participate

Not applicable. This was a desk-based scoping review of published literature and did not involve recruitment of human participants, identifiable personal data or clinical intervention.

Consent for publication

Not applicable.

Availability of data and materials

All data generated or analysed during this review are included in this article and its supplementary information files.

Competing interests

The authors declare that they have no competing interests.

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Authors' contributions

TA conceptualised the review, developed the protocol, coordinated screening and data charting, interpreted the findings and drafted the manuscript. FK, AO and HF contributed to screening, data charting and manuscript review. OAK, AM, SR, SAN, APR and DS contributed methodological, clinical and disciplinary expertise and critically reviewed the manuscript. All authors read and approved the final manuscript.

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Table

Table 2 is available in the supplementary files section

Figures

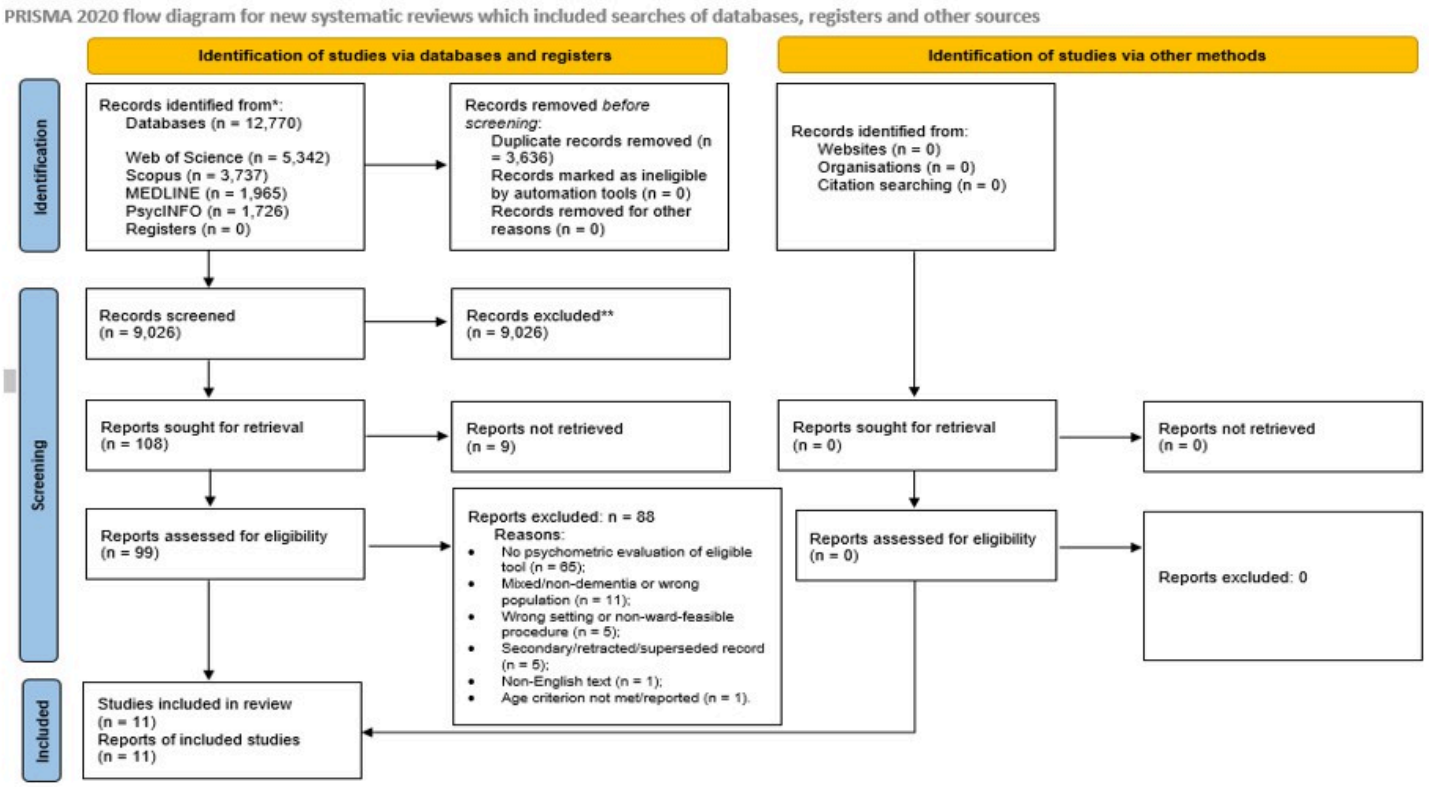


Figure 1

PRISMA 2020 flow diagram showing identification, screening, eligibility and inclusion of sources of evidence

Supplementary Files

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