Sensory Synergy: A Comprehensive Guide to Dementia Care and Intervention Techniques

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Introduction

The SENSE Guidebook represents the end product of broad, transnational research in cooperation with the project partners from Poland, Cyprus, Greece, and Bulgaria within the frame of the Erasmus+ Programme, Project No. 2024-1-PL01-KA220-ADU-000244087. It is intended to provide hands-on, evidence-based means for formal and informal caregivers to foster sensory activation as a humane and non-pharmacological principle in dementia care.

Dementia affects millions of people throughout Europe, creating medical, emotional, and social problems both for the patient and for those who care for them. Pharmacological interventions may alleviate some of the symptoms, but emotional detachment, agitation, and anxiety in patients with dementia demand approaches beyond medication. Sensory activation refers to engaging sight, sound, touch, smell, taste, and movement to create new ways of communication and emotional connection when language and cognitive functions are deteriorating.

The SENSE project responds to the acute need presently felt in European dementia care for structured, accessible training in sensory-based interventions for caregivers. The project performed comparative field and desk research to point out substantial disparities in national strategies, training systems, and institutional support, while at the same time highlighting a shared need for harmonized, person-centered, and ethically guided approaches that prioritize dignity, cultural identity, and quality of life.

The aim of this guidebook is to integrate theory and practice into a clear, hands-on framework that intertwines neuroscientific evidence, therapeutic principles, and real-life caregivers' experiences. It covers the basics of sensory activation, describes the progress of dementia and the related care needs, and provides a toolkit with ready-to-use techniques adaptable to a wide range of cultural and caregiving environments. Each method was designed to be at low cost, replicable, and feasible in both formal care institutions and home environments.

Ultimately, the SENSE Guidebook aims to empower caregivers—professionals and family members alike—to transform daily care into meaningful, sensory-rich experiences. By fostering calm, engagement, and emotional connection, sensory activation supports not only the well-being of people living with dementia but also the resilience and confidence of those who care for them.

Section 1
Understanding Caregivers' Needs & Background Knowledge

Abstract

This chapter presents a comparative analysis of dementia care practices and caregiver experiences across Poland, Cyprus, Greece and Bulgaria, conducted within the SENSE project. The main research aim was to explore caregivers' needs, existing practices, systemic gaps and the potential of sensory activation as a method to improve the well-being of people living with dementia.

The findings combine desk research (reviewing national strategies, training systems and demographic data) with field interviews conducted among researchers and practitioners. Results reveal that while sensory activation techniques are increasingly recognised as beneficial for emotional regulation, Communications and quality of life, their practical implementation is often hindered by limited training, fragmented policy Framework and scarce institutional support. The chapter also identifies significant disparities between countries in terms of policy development and caregiver education, alongside shared challenges such as burnout, lack of ethical guidance and insufficient integration of sensory methods into care curricula. Together, these findings form an evidence base for developing a harmonised European framework for dementia care training that emphasises ethical, person-centred and sensory-based approaches.

Objectives

- Identify gaps in caregiver knowledge and skills, particularly regarding sensory activation techniques, ethical practice, and the management of behavioural symptoms.
- Compare national dementia care policies and training systems across the four partner countries, assessing how institutional structures support or hinder caregiver competence.
- Synthesize insights from desk and field research to connect systemic realities with caregivers' lived experiences, illustrating how everyday challenges reflect broader policy deficiencies.
- Provide an evidence-based foundation for developing the SENSE Guidebook and training framework, ensuring alignment with European dementia care priorities and the WHO Global Action Plan (2017–2025).

Country overview

This section provides a comparative overview of the dementia care landscape in the four partner countries of the SENSE project – Poland, Bulgaria, Cyprus and Greece. Each country faces rapid demographic ageing and a growing number of people living with dementia, a trend reflected at European level, where an estimated 10 million people are currently affected and the number is expected to rise substantially in the coming decades (Alzheimer Europe, 2019, WHO, 2017). Although all four countries recognise dementia as a social and healthcare challenge, they differ in the maturity of their policy responses, the organisation of care, and the level of support offered to caregivers.

The analysis is organised around four key dimensions identified in the national desk research reports:

1. National context (demographic trends, dementia prevalence, and caregiver profiles);
2. Policy and strategy (the existence and level of implementation of national dementia plans);
3. Training structures (the availability and quality of education for professional and informal caregivers);
4. Cultural and practical approaches (everyday care practices, family involvement and locally developed solutions).

This comparative narrative highlights both convergence and divergence. All partner countries report a strong reliance on informal (family) caregivers and increasing strain on care systems. However, access to structured support, specialised services and dementia-specific training varies significantly. For example, while Greece and Cyprus have taken steps toward national dementia strategies, Poland is in the process of developing such a framework and Bulgaria continues to operate without an established national plan (Alzheimer Europe, 2024; Goncharova and Karamelska, 2024).

By linking national policy conditions with observed caregiving practices, this overview identifies where systems are already aligned with international recommendations such as the World Health Organization’s Global Action Plan on the Public Health Response to Dementia 2017–2025 andwhere there are gaps that directly affect daily care (WHO, 2017). These insights form the foundation for later sections of the Guidebook, which will address caregiver needs, training requirements and the integration of sensory activation methods across different care contexts.

National contexts – prevalence of dementia, demographic ageing and caregiver profiles

Across all four SENSE partner countries (Poland, Bulgaria, Cyprus and Greece) dementia is described as an urgent and growing public health challenge linked to population ageing. Although they differ in scale, structure and data systems, all four countries report increasing numbers of older adults living with cognitive impairment and a growing pressure on both formal and informal care structures (Alzheimer Europe, 2019; WHO, 2017). However, the degree to which each country can quantify the problem varies substantially.

Poland

Poland reports an estimated 585,000 people living with Alzheimer's disease and related dementias, corresponding to approximately 1.5% of the population (Alzheimer Europe, 2024). National ageing trends indicate that cognitive decline is not limited to very old age groups: according to the POLSENIOR2 study, roughly one in six people over the age of 60 in Poland shows cognitive impairment suggestive of dementia (Klich-Rączka et al., 2014). This aligns with broader observations that the ageing of the Polish population is accelerating and that both late-onset and early-onset dementia are of concern.

The Polish report also notes that dementia is increasingly visible not only in long-term care facilities but in home-based care, where dependence on relatives is high. Informal caregiving (typically provided by family members) remains the dominant model of support for people with dementia. Caregivers are often spouses or adult children, and a recurrent theme in the Polish context is the emotional, logistical, and financial strain experienced by families who provide daily care with limited institutional support (Leszko, 2019). This reflects a broader European pattern in which the burden of dementia care falls disproportionately on women in the household, particularly daughters and daughters-in-law, although sex-disaggregated data for Poland are not provided in the report (WHO, 2017).

Bulgaria

In Bulgaria, the desk research explicitly states that there are no official national statistics on the total number of people living with dementia. The report cites “about 100,000 people” affected by Alzheimer’s disease, dementia and related disorders, but clarifies that this figure comes from the “last epidemiological study,” not from an active national registry. The authors stress that dementia is still largely outside the focus of public health and social policy, and that the topic remains socially sensitive. The absence of a systematic monitoring mechanism is itself identified as a structural weakness: without robust epidemiological data, planning services, allocating funding, or designing targeted prevention and early diagnosis pathways becomes extremely difficult.

Demographically, Bulgaria faces rapid ageing and depopulation, which produces a paradox: a shrinking overall population but a growing proportion of older adults. The report notes that because of limited formal services and geographic barriers (including transport and infrastructure challenges), many people with dementia remain at home and are cared for within the family. Care is described as “between over-responsibility to the family and distrust in public health services and policies,” indicating that informal caregivers often carry a moral and social expectation of primary responsibility while simultaneously lacking trust that the state can or will provide sustained support (Goncharova and Karamelska, 2024).

In contrast to Poland, where dementia is increasingly framed as a national health priority in policy language, the Bulgarian report suggests that dementia is still often treated as a private family problem rather than a clearly recognized public health responsibility. This affects caregiver profiles: relatives, often without any structured preparation, become default long-term carers for individuals with progressive cognitive impairment. NGOs partially step in, but this role is sporadic and project-based.

Cyprus

Cyprus frames dementia as a “pressing public health concern,” and describes a long-standing recognition of the issue at ministerial level, including the establishment of the Multidisciplinary Committee for Alzheimer’s Disease in 2000 and the development of a national dementia strategy for 2012–2017 (Cyprus Ministry of Health, 2012). This indicates an official acknowledgment of dementia as a national priority, unlike in Bulgaria where such formal recognition is still emerging.

The Cypriot report does not provide a single, current national prevalence figure for dementia across the island. Instead, it emphasises the increasing number of older adults living with cognitive decline and the pressure this places on families and community structures. As in Poland and Bulgaria, the large majority of day-to-day care is carried out by informal caregivers, typically family members, often women, who provide supervision, emotional regulation, and support with activities of daily living. However, unlike in Bulgaria, Cyprus describes an expanding network of community-based services, such as day care centres run by organisations like the Ithaca Dementia Support Association, which offer daily cognitive and psychosocial activities and give families some measure of respite.

This suggests a hybrid care ecology – family is still the core provider, but NGOs and municipal partners are visibly integrated into the care environment. The report also notes initiatives to reduce social isolation and to keep older adults engaged in daily routines, including social companionship programmes and cognitive reinforcement activities. Thus, while Cyprus shares with Bulgaria and Poland a strong reliance on the family, it places more emphasis on structured daytime support and supervised programmes for persons with dementia.

Greece

The Greek desk research highlights dementia as a recognised and growing social and health challenge and presents evidence that dementia care has become a subject of systematic academic, clinical, and technological work (Dimitriou and Tsolaki, 2017). The report discusses the economic burden of dementia and notes that costs increase significantly as dementia progresses, indicating a high level of dependency in later stages and heavy care needs that extend beyond routine support (Tsampalas et al., 2020). Although the report does not provide a single national prevalence figure analogous to Poland’s 585,000 estimate, it treats dementia as a public health priority, and refers to national-level planning efforts and specialist memory services.

Greece, similarly to Cyprus, describes an increasingly structured ecosystem around dementia: NGOs, Alzheimer associations, memory clinics, day centres and research institutions offering both cognitive training and psychosocial support. At the same time, as in Poland and Bulgaria, long-term support for the person with dementia still relies heavily on the immediate family network. The Greek report mentions caregiver burden and the need for more specialised training for mental health professionals and carers, especially in advanced or palliative stages of dementia (Bouri et al., 2024). This reflects a dual reality – on one hand, Greece demonstrates an advanced conversation around dementia (including palliative care needs and behavioural symptoms on the other hand, families remain central to daily care, particularly in the home setting.

Comparative discussion

Viewed together, the four national contexts reveal both convergence and divergence.

All four countries report a rapidly ageing population and increasing visibility of dementia, but they differ in their ability to measure and publicly acknowledge the scale of the issue. Poland provides a concrete national estimate (approximately 585,000 people with dementia-related conditions) and cites a large-scale study indicating that cognitive impairment is already widespread among adults over 60 (Klich-Rączka et al., 2014). Bulgaria, by contrast, explicitly states that there are no official statistics and that even approximate numbers (around 100,000 people affected) come from limited or older studies rather than a national registry. The lack of epidemiological infrastructure in Bulgaria is itself identified as a major structural weakness.

Cyprus and Greece sit somewhere between these two positions. Both acknowledge dementia in policy discourse and through specialised services, but neither desk report provides a current, government-backed prevalence figure for all people living with dementia nationwide. Instead, both emphasise service development, stigma reduction and support to families as core national challenges. In Cyprus, municipal and NGO-led initiatives such as day centres and home support schemes are described as central pillars of dementia care. In Greece, specialised memory services, research on behavioural symptoms and structured non-pharmacological interventions are presented as emerging standards in care practice (Dimitriou and Tsolaki, 2017).

Caregiver profiles across all four countries share a defining commonality: the family remains the primary caregiver. In Poland, Bulgaria, Cyprus and Greece alike, informal caregivers carry the majority of the daily work of dementia care, often with limited preparation, low psychological support and high emotional burden. This stands in contrast to Northern and Western European care models that are more highly formalised and supported by state-funded long-term care infrastructures (WHO, 2017). However, there are also differences in how these caregivers are supported. In Cyprus and Greece, community-based and NGO-supported day services partially relieve family burden. In Poland, there is growing national-level discussion and awareness campaigns but respite and specialist services remain uneven and often difficult to access, especially in rural areas. In Bulgaria, the desk report suggests a situation where family obligation is extremely strong but structural support is weak and public services are fragmented.

Finally, all four contexts describe dementia not only as a biomedical condition but as a social, relational and cultural reality. Dementia is framed as something that reshapes the identity of the person, the rhythm of the household, and the emotional labour of care. This shared understanding across the four reports — even where data are missing — is critical for the SENSE project. It confirms that any training programme aimed at caregivers must speak simultaneously to clinical needs (cognition, behaviour, safety) and relational needs (trust, dignity, emotional regulation). This alignment between biomedical and psychosocial dimensions will inform the design of the Guidebook's training model.

Policy and strategy – national frameworks for dementia care

Poland

Poland does not yet have a fully implemented National Dementia Strategy, although discussions about its creation have intensified in recent years (Poland Desk Research Report, 2025). According to Alzheimer Europe (2024), the Ministry of Health confirmed work on a national strategy, yet as of 2025 it remains at the consultation stage. Dementia-related issues are currently addressed indirectly through broader frameworks such as the National Health Programme 2021–2025, the Healthy Senior Programme, and initiatives under the Active Senior 2030 plan (Ministry of Health, 2022).

At policy level, dementia is gradually being reframed from an individual or family burden into a public health and social care priority, although formal legislative recognition is still pending. There are regional and local initiatives such as municipal "Memory Points" and educational campaigns coordinated by NGOs including the Polish Alzheimer's Society and NGOs such as the Foundation Pełna Życia which provide informal caregiver training, public education and early diagnosis activities. These efforts, however, remain fragmented and rely on short-term project funding rather than stable institutional support.
In contrast to Greece and Cyprus, where dementia strategies have been drafted, Poland's policy framework remains largely decentralised and project-based. The desk research stresses that the absence of a national strategic framework results in inconsistent service provision and limited coordination between health and social sectors. Nonetheless, there is growing public awareness and professional advocacy for change, suggesting that policy development is progressing, albeit slowly.

Bulgaria

Bulgaria presents the weakest formal policy structure among the four partner countries. The Bulgaria Desk Research Report explicitly states that there is no national strategy or dedicated policy framework for dementia. Dementia is not yet prioritised within national health or social care programmes, and the issue is typically embedded within broader geriatric or disability care measures.

While the National Strategy for Long-Term Care (2014–2030) includes general references to support for older adults, it lacks specific objectives, indicators, or funding allocations related to dementia. The absence of such a framework means there are no uniform standards for diagnosis, early intervention, or caregiver training.

As a result, local municipalities and NGOs act as the main providers of dementia-related support, often implementing short-term EU-funded pilot projects rather than sustained policy measures (Foundation Compassion Alzheimer Bulgaria, 2024).

This reliance on non-governmental and international funding creates a fragmented and unsustainable system. Unlike Poland, which is moving towards formal recognition of dementia as a policy issue, Bulgaria remains at an early stage, where institutional awareness and inter-ministerial cooperation are still developing. Importantly, the Bulgarian report highlights that dementia remains socially stigmatised and often treated as a private family concern rather than a collective health priority.

Cyprus

Cyprus represents a more advanced example of dementia policy development within the SENSE consortium. The Cyprus Desk Research Report notes that the country adopted a National Dementia Strategy for 2012–2017, prepared by the Ministry of Health and the Multidisciplinary Committee for Alzheimer's Disease. The strategy established priorities in prevention, diagnosis, care and research, as well as public awareness. However, implementation was only partial due to limited financial and human resources (Ministry of Health of Cyprus, 2012).

Despite the expiration of the original plan, dementia continues to feature in broader ageing and health strategies, such as the Active Ageing 2025–2030 framework. The desk research highlights ongoing cooperation between government agencies, universities and NGOs (most notably the Ithaca Dementia Support Association)in community-based programmes that align with WHO recommendations for non-pharmacological interventions and carer education.

Cyprus therefore occupies a middle position between Greece's developed but under-implemented national plan and Poland's emerging but decentralised efforts. It demonstrates that a national framework, even if only partially executed, can catalyse coordination among public and non-governmental actors. However, the lack of dedicated, long-term funding mechanisms remains a significant barrier to full implementation.

Greece

Greece has taken the most structured policy approach to dementia among the SENSE partner countries. The Greek Desk Research Report references a detailed National Dementia Action Plan, developed through collaboration between the Ministry of Health, the Greek Alzheimer Association, and leading research institutions. Although not formally adopted as law, the plan serves as a de facto national framework guiding service provision, awareness campaigns and research (Greek Alzheimer Association, 2023).

The plan identifies strategic priorities in early diagnosis, multidisciplinary care, caregiver training and community awareness, and aligns with the WHO Global Action Plan on Dementia 2017–2025 (WHO, 2017). Implementation has been supported primarily through NGO networks and EU-funded initiatives, such as the Alzheimer Athens and Thessaloniki Alzheimer Society programmes, which have established memory clinics, day centres and telehealth services. The desk research notes that these NGOs effectively compensate for limited state capacity, forming a strong civil-society backbone of dementia care.

However, similar to Cyprus, Greece faces sustainability challenges due to inconsistent national funding. Many services depend on temporary project financing or regional collaboration rather than long-term state budgets. Nonetheless, Greece remains a regional leader in developing integrated dementia services and is the only SENSE partner country where policy documents explicitly address sensory stimulation, non-pharmacological therapies, and caregiver education within national frameworks (Dimitriou and Tsolaki, 2017).

Comparative discussion

A comparative review of the four desk research reports reveals a clear gradient of policy maturity across the SENSE countries. Greece demonstrates the highest level of strategic planning, with an operational action plan and well-established NGO-led implementation structures. Cyprus has developed a formal strategy but has struggled with consistent implementation and resource allocation. Poland is in a transitional phase, moving towards a national strategy and expanding awareness campaigns but still lacking formal coordination mechanisms. Bulgaria remains at the earliest stage, with no dementia-specific national policy and strong dependence on family and NGO initiatives.

Across all four contexts, several shared challenges emerge:

- Insufficient integration between health and social care systems, leading to gaps in long-term service continuity.
- Limited public funding for non-pharmacological interventions such as sensory stimulation and psychosocial activities.
- Fragmented caregiver support structures, which rely on local or NGO-based efforts rather than coherent national systems.
- High dependency on EU and project-based funding, which threatens sustainability once project cycles end.

Nevertheless, a growing alignment with European and WHO frameworks can be observed, particularly in Greece and Cyprus, where policy language increasingly mirrors global standards of dementia care (WHO, 2017). This trend suggests a gradual regional convergence towards shared values: promoting independence, dignity and community inclusion for people with dementia.

In summary, while Greece and Cyprus provide promising models of partial policy implementation, and Poland is progressing toward systematisation, Bulgaria illustrates the urgent need for foundational policy action. This uneven landscape underscores the importance of the SENSE project's objective — to develop a transnational, evidence-based guidebook that can inform national strategies and fill existing policy and training gaps across Central and Southern Europe.

Training structures formal , non-formal and informal opportunities for caregivers

Across the four SENSE partner countries, caregiver education and professional training remain fragmented, unevenly regulated and insufficiently recognised within national qualification systems. While each country reports some combination of formal and informal initiatives, the overall landscape reveals a common reliance on short-term or non-accredited training rather than coherent national curricula. This creates significant disparities in caregivers' knowledge, preparedness and emotional resilience.

Poland

In Poland, dementia-specific training for caregivers is available through several channels but lacks a national framework or mandatory accreditation system.

- Formal education includes modules on gerontology, nursing and psychosocial support within higher education programmes or postgraduated studies for nurses, social workers and occupational therapists. However, dementia and sensory activation techniques are often treated only as subtopics rather than as independent study areas.
- Non-formal learning opportunities are offered by NGOs, foundations and local authorities. The Polish Alzheimer's Society, for example, runs periodic workshops on dementia care, communication skills and stress management for family caregivers.
- Informal learning remains dominant – most care knowledge is acquired through lived experience and peer exchange among families.

The desk report stresses that training provision is concentrated in urban centres, while rural caregivers (where institutional support is minimal) rarely have access to structured education. Although some universities, such as the Pomeranian Medical University in Szczecin, incorporate sensory stimulation into nursing and occupational-therapy curricula, there is no unified competency standard defining what dementia-care skills are required for professionals. The WHO (2017) and OECD (2021) both note that Poland's system relies heavily on informal caregiving and provides limited psychosocial support or respite services, increasing burnout risk among family carers.

Bulgaria

The Bulgarian Desk Research Report clearly states that there is no national training framework for dementia care. Dementia education is not part of the mandatory curriculum for health-care assistants, nurses, or social-care workers. Basic caregiver training exists under the National Programme for Long-Term Care, but the modules focus on general elder-care procedures rather than cognitive disorders or sensory stimulation.

Training for family caregivers is almost entirely project-based, conducted by NGOs such as the Foundation Compassion Alzheimer Bulgaria or the Bulgarian Red Cross.

These organisations provide short courses on communication, behaviour management, and daily living assistance often funded by EU or municipal grants but the programmes lack formal certification. The absence of accreditation mechanisms means that skills acquired in these trainings are not officially recognised within the national vocational system.

Unlike Poland or Greece, Bulgaria also lacks higher-education pathways specialising in gerontology or dementia studies. Universities offer psychology or social-work degrees with elective gerontological components, but dementia is rarely treated as a dedicated field. Consequently, both professional and informal caregivers depend on peer support and experiential learning rather than structured education.

Cyprus

Cyprus offers a relatively well-organised but small-scale network of caregiver training opportunities, combining state, academic, and NGO efforts (Cyprus Desk Research Report, 2025). The Cyprus University of Technology (CUT) and the Ministry of Health have jointly developed short training cycles for health professionals on cognitive disorders, while the Ithaca Dementia Support Association conducts non-formal workshops for family caregivers focusing on communication techniques, sensory stimulation, and stress reduction.

The National Dementia Strategy (2012–2017) explicitly identified training and professional capacity-building as one of its strategic goals, leading to the creation of pilot training modules aligned with WHO recommendations for dementia care competencies (Ministry of Health of Cyprus, 2012). However, the implementation was limited, and long-term institutionalisation of these programmes has not yet occurred.

A distinguishing feature of Cyprus is the emphasis on multidisciplinary collaboration: psychologists, physiotherapists and nurses often co-deliver training workshops. Nevertheless, the overall scale remains modest and rural caregivers have limited access to in-person sessions. Online delivery modes expanded after 2020, but no systematic evaluation of their impact has been reported.

Greece#

Greece demonstrates the most comprehensive approach to caregiver education among the four partner countries. The Greek Desk Research Report documents multiple levels of training:

1. Formal education – several universities, including Aristotle University of Thessaloniki and the National and Kapodistrian University of Athens, offer specialised postgraduate programmes in dementia care, gerontology, and neuropsychology.

2. Non-formal education – Alzheimer Societies in Athens and Thessaloniki conduct continuous training for professional and informal caregivers, covering behavioural symptom management, cognitive stimulation, and sensory activation. These courses often include certification recognised by professional associations.

3. Informal learning – peer support groups and counselling services complement structured training, allowing caregivers to exchange experiences and emotional coping strategies.

Despite this progress, the desk research report notes that training remains concentrated in major cities and access for caregivers in rural areas or on islands is limited. Moreover, sustainability depends heavily on NGO funding, echoing the pattern observed in Cyprus and Bulgaria. Nevertheless, Greece stands out as the only partner country where sensory stimulation and non-pharmacological techniques are formally included in professional curricula (Dimitriou and Tsolaki, 2017).

Comparative discussion

A cross-country comparison reveals that while all four partners acknowledge the importance of training, systemic provision remains limited. Poland and Bulgaria still rely predominantly on short-term or local initiatives. Cyprus and Greece have made greater strides toward institutionalisation but struggle with coverage and sustainability.

Country	Formal training	Non-formal / NGO training	Informal learning (family / peer)
Poland	Present in medical and social-care education	NGO workshops (Polish	Dominant, experiential
Bulgaria	Minimal No dementia-specific content	Project-based, non-accredited	Dominant
Cyprus	Short university and ministry	Strong NGO involvement	Common, especially among
Greece	Integrated postgraduate and	Continuous NGO training with	Peer-group support

Across all four contexts, caregivers express a strong demand for practical, example-based learning, emotional support modules, and recognition of informal skills through certification. This aligns with WHO (2017) recommendations to integrate dementia-care competencies into both professional education and lifelong-learning systems. However, the gap between policy intentions and actual provision remains wide: no partner country currently offers a fully standardised national training curriculum combining theory, practice and psychosocial well-being components.

In conclusion, the training landscape across Poland, Bulgaria, Cyprus, and Greece reflects a continuum of development rather than discrete stages. Greece leads with established formal education, Cyprus demonstrates effective multi-stakeholder collaboration, Poland shows growing but decentralised practice, and Bulgaria highlights the urgent need for systemic investment in professional capacity. These findings underscore why the SENSE Guidebook must provide a harmonised, adaptable model of caregiver education—grounded in shared European values but flexible enough to fit national realities.

Cultural and practical approaches – traditions, community roles and innovation in dementia care

Cultural values, social norms and community practices deeply influence how dementia is perceived, discussed and managed across Europe. In the four SENSE partner countries caregiving is not only a functional or professional act but also a cultural and moral responsibility rooted in family solidarity and intergenerational ethics. Despite contextual differences, all four national reports highlight the central role of family care, the limited formalisation of community services and the emerging use of sensory and non-pharmacological interventions as innovative responses to resource constraints.

Poland

The Polish cultural context of caregiving is grounded in the strong ethical norm of filial obligation — adult children are expected to care for ageing parents. Dementia care, therefore, predominantly takes place within the home, with women assuming most of the responsibility. This cultural pattern aligns with traditional Catholic values of family solidarity and empathy but it also reinforces gendered expectations and caregiver overload (Leszko, 2019).

Institutionally, Poland's care system remains divided between medical and social care, with limited integration. NGOs and local communities play a crucial mediating role: foundations such as the Polish Alzheimer's Society and Pełna Życia Foundation operate day-care centres, memory cafés, and mobile counselling services. The desk report notes that these initiatives frequently incorporate sensory activation activities, including music therapy, reminiscence, and tactile stimulation, as cost-effective and emotionally engaging interventions for older adults.

At the municipal level, several cities — including Szczecin, Kraków and Poznań — have introduced local senior policies and support schemes for people with Alzheimer's disease. For instance, Szczecin's Assistance Voucher: Alzheimer's 75 programme provides financial and practical support for families caring for persons diagnosed with dementia (City of Szczecin, 2023). Such initiatives indicate that although there is no nationwide dementia strategy, local governments are beginning to recognise dementia as a community concern.

Public attitudes toward dementia are gradually shifting — awareness campaigns and local NGO activities contribute to destigmatisation. However, there is still limited understanding of non-cognitive symptoms and stigma persists, particularly in rural areas. The report concludes that cultural change in Poland is slow but progressive, with growing acceptance of dementia as a shared social challenge rather than a private family matter.

Bulgaria

In Bulgaria, dementia remains strongly family-centred and socially stigmatised. The desk research underlines that older adults with cognitive decline are often cared for at home, sometimes hidden from the wider community due to fear of judgment or shame. Public discussion of dementia is still limited and many families interpret cognitive symptoms as a "normal" part of ageing rather than a medical condition.

Caregiving thus falls predominantly on female relatives, especially daughters or daughters-in-law, who balance work and family roles without formal support. Professional care facilities are scarce, particularly outside large cities and few are adapted to dementia-specific needs. As a result, NGOs such as Foundation Compassion Alzheimer Bulgaria act as critical community actors — offering support groups, counselling and small-scale pilot projects in sensory therapy. These projects, though temporary and donor-funded, illustrate innovative community-driven solutions that fill the institutional void.

Culturally, Bulgaria's care approach reflects a mix of traditional collectivism (care as a family duty) and institutional mistrust, with public services viewed as insufficient or bureaucratically distant (Goncharova and Karamelska, 2024). This duality shapes both the resilience and vulnerability of Bulgarian caregivers.

Cyprus

Cyprus presents a distinctive Mediterranean model of dementia care, where strong family bonds coexist with a growing role for NGOs and community associations. The Cyprus Desk Research Report highlights that family caregiving remains the cultural default but there is a visible trend towards community-based day care and social engagement programmes, particularly in urban areas such as Nicosia and Limassol.

The Ithaca Dementia Support Association has pioneered sensory and reminiscence-based interventions that blend Cypriot cultural elements such as traditional music, local scents (herbs, olive oil) and cooking activities with therapeutic goals. These activities not only stimulate memory and emotion but also affirm personal and cultural identity, reinforcing dignity for people with dementia.

Faith-based organisations and local councils collaborate to support respite and volunteer schemes, reflecting Cyprus's communitarian ethos. Yet, as the report notes, service availability remains uneven, and family caregivers often shoulder the majority of care responsibilities, especially in rural and mountainous regions. Unlike Bulgaria, however, dementia is less tabooed -awareness campaigns and media coverage have made it a more visible social issue, promoting empathy and openness.

Greece

The Greek approach to caregiving combines ancient cultural values of filial piety and social cohesion with modern institutional frameworks. The Greek Desk Research Report highlights that the family remains the primary care unit but there is growing acceptance of community and NGO involvement. Alzheimer Societies in Athens, Thessaloniki and other cities run memory clinics, day centres and sensory rooms (Snoezelen spaces) designed to improve emotional stability and reduce agitation among persons with dementia.

Culturally, Greece places strong emphasis on interpersonal warmth, spirituality and relational care. Traditional activities such as singing, storytelling, and shared meals are integrated into cognitive and sensory sessions, reflecting the view that caregiving is both therapeutic and social. The involvement of the Greek Orthodox Church and municipal solidarity networks contributes to a broader community framework supporting elders and their caregivers.

Unlike in Poland and Bulgaria, the concept of "dementia-friendly communities" is already operational in parts of Greece, reflecting both civic and NGO initiatives. However, inequalities persist between urban centres and rural areas, where access to specialised services remains limited (Bouri et al., 2024).

Comparative discussion

A comparative perspective reveals a shared moral foundation across all four contexts: care as a family duty and moral obligation. Yet, the ways this value translates into practice differ:

- In Poland and Bulgaria, the family is the near-exclusive provider of care, with minimal institutional involvement and persistent stigma.

- In Cyprus and Greece, family care is equally central but is complemented by community-based and NGO initiatives that promote dignity, inclusion, and sensory stimulation as part of holistic care.

Cultural differences also shape the perception of sensory activation. In Bulgaria and Poland, it is viewed mainly as an innovative rehabilitation method, still limited to pilot projects or individual practitioners. In Greece and Cyprus, sensory activation has become an accepted component of non-pharmacological therapy, often integrated into structured activities like music, aromatherapy, tactile work, and reminiscence.

Another cultural variable concerns trust in institutions. While Greek and Cypriot caregivers show increasing openness to professional guidance and training, Bulgarian and Polish caregivers tend to rely on family networks, perceiving public services as underdeveloped or unreliable.

Finally, religious and spiritual traditions play an important role. In Greece and Cyprus, spirituality and communal solidarity are woven into dementia care, offering psychosocial comfort to families. In Poland, spirituality shapes the ethical dimension of care, while in Bulgaria, faith is often private and not institutionally connected to elder support.

Overall, cultural analysis across the four partner countries suggests that successful implementation of sensory activation techniques depends not only on training and policy but also on cultural adaptation. Effective caregiver education must therefore incorporate local customs, languages, and emotional repertoires, ensuring that sensory activities resonate with participants' lived experiences and collective identities.

Lived experiences and needs of caregivers

This section draws upon findings from the Field Research Reports conducted in Poland, Bulgaria, Cyprus and Greece, complemented by the insights from national Desk Research Reports. The combined data reveal the lived realities of caregivers who support people living with dementia, highlighting common emotional, practical and educational challenges. Despite differences in national systems, all participants describe caregiving as meaningful yet emotionally demanding work that requires empathy, patience and adaptability.

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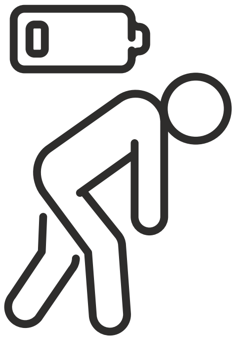
Across all four contexts, caregivers report similar unmet needs: emotional strain, physical fatigue, lack of structured training and insufficient psychological support. These findings are consistent with the desk research results, which show that while informal caregiving is widespread and socially valued, formal support systems and training opportunities remain fragmented or insufficiently institutionalised.



Emotional strain, burnout and psychological support needs

Caregivers across all countries describe their work as emotionally taxing and physically exhausting. The continuous exposure to cognitive decline, behavioural disturbances and emotional distress in patients often leads to chronic fatigue and burnout. In Poland and Bulgaria, emotional exhaustion is exacerbated by understaffing, low remuneration and the absence of institutional psychological support. Similarly, Greek and Cypriot caregivers report that the emotional intensity of working with dementia patients requires constant self-regulation and resilience.

Despite the emotional demands, formal mechanisms for psychological support are largely absent. Most caregivers have no access to counselling, supervision, or structured peer support. In many cases, emotional management depends on personal coping strategies or informal sharing with colleagues. Desk research confirms that none of the four countries have national frameworks for caregiver mental health support. While some NGOs in Greece and Cyprus provide workshops or helplines, these initiatives remain limited in reach and sustainability. The lack of systematic psychological support contributes to burnout, reduced motivation and high turnover within the caregiving profession.

Lack of structured training and reliance on informal learning

One of the most persistent challenges identified in the interviews is the absence of structured and standardised training in dementia care. Caregivers in Poland and Bulgaria rely heavily on experiential learning, observation and intuition rather than formal instruction. While both countries have caregiving-related qualifications, dementia-specific modules particularly on sensory activation and emotional communications are rarely included.

In Greece and Cyprus, there are some organised seminars and short-term workshops offered by Alzheimer associations and NGOs, yet these are not part of mandatory certification systems and often lack follow-up supervision. Desk research findings confirm these observations: while all countries recognise the growing need for dementia-specific education, there is no unified national curriculum or accreditation system for caregivers.

As a result, many professionals report feeling unprepared to deal with complex behavioural and emotional challenges. Training is often theoretical, with limited practical guidance on implementing sensory activation techniques or managing difficult emotions. Continuous professional development is also largely absent, leading to disparities in skills and knowledge between institutions and regions.

Frequently activated senses in dementia care

Findings from the interviews (Q4) reveal that hearing, touch, and smell are the senses most frequently activated in dementia care, while vision and taste are used as supportive elements. The choice of senses depends largely on accessibility, familiarity and emotional resonance.

Auditory stimulation, particularly through music, singing and sounds from nature, is the most commonly applied method across all countries. Caregivers consistently observe that music evokes emotional and memory-related responses, even among individuals with advanced dementia or limited verbal communication. Tactile stimulation through massage, contact with textured materials, or interaction with natural elements serves to foster comfort and grounding. Olfactory stimulation is used through familiar scents such as herbs, perfumes, or food-related aromas, which often evoke reminiscence and emotional engagement.

In Greece and Poland, visual elements like images, colours and contrast are used to support attention and orientation. In Cyprus and Bulgaria, touch and smell play a greater role in the later stages of dementia, when hearing and vision decline. The Polish field report particularly emphasised the multisensory approach, in which several senses are activated simultaneously to strengthen neural connections and sustain awareness.
These observations are consistent with the desk research findings.

Evidence from neurocognitive studies (e.g., Dimitriou and Tsolaki, 2017; WHO, 2017) supports the use of multisensory techniques to enhance neuroplasticity and improve emotional well-being among people with dementia. However, the practical application of these findings varies significantly between and within countries due to differences in training and resources.

Challenges in implementing sensory activation techniques

Emotional and psychological risks

Caregivers in Poland and Bulgaria stress that inappropriate or poorly tailored sensory stimulation may unintentionally evoke negative emotions or traumatic memories, particularly through certain sounds, scents or images. This underlines the importance of individual assessment and sensitivity to personal history before applying sensory interventions.

Organisational and environmental limitations

Across all countries, care settings frequently lack dedicated sensory rooms, equipment or funding. Caregivers often rely on improvised materials such as music, lighting or fabrics. In Cyprus, the absence of advanced tools such as interactive boards, adaptive light systems, or movement devices was noted as a major constraint. Bulgaria and Poland reported similar issues, compounded by limited staff and time resources.

Individual differences and behavioural variability

Responses to sensory activities differ widely among people with dementia. Some individuals show engagement and relaxation, while others resist participation, experience confusion or become fatigued. Cypriot and Greek participants observed that additional conditions such as depression or sensory impairment (e.g., hearing loss) further complicate interventions.

Lack of standardised methodologies and caregiver guidance

The Bulgarian and Polish field reports particularly emphasised the absence of standardised manuals and teaching resources for sensory activation. Without formal procedures or assessment tools, caregivers must rely on personal judgement and improvisation. Similarly, Greek professionals expressed hesitation to use sensory methods outside their official roles due to limited institutional endorsement.

These barriers are mirrored in the desk research findings. None of the countries analysed have integrated sensory stimulation training into their national dementia strategies. Existing educational initiatives are typically short-term, NGO-driven and not subject to formal evaluation. Consequently, caregivers remain uncertain about how to safely and effectively implement sensory interventions.

Linking lived experiences with desk research findings

The comparison between the interview results and the desk research underscores a consistent gap between policy frameworks and practical realities. Across Poland, Bulgaria, Cyprus and Greece, caregivers' lived experiences confirm the structural weaknesses identified in the desk studies – namely the absence of comprehensive dementia strategies, fragmented training systems and limited psychological support for staff.

Both data sources demonstrate that while caregivers intuitively apply sensory activation techniques, these methods are often unsupported by formal training or institutional guidance. The findings further reveal a shared demand for standardised, evidence-based educational frameworks that combine theoretical knowledge with practical instruction and ongoing supervision.

From a policy perspective, the results indicate that national strategies should prioritise the inclusion of emotional resilience training, sensory activation methods, and caregiver well-being programmes within broader dementia care reforms. The SENSE Guidebook, therefore, responds directly to these documented needs by offering a structured, scientifically informal and context-sensitive approach to sensory stimulation in dementia care.

Systemic weaknesses in dementia care

The field and desk research across Poland, Bulgaria, Cyprus and Greece consistently reveal systemic weaknesses that hinder the effective provision of dementia care. Despite growing public awareness and gradual policy progress, dementia remains under-recognised as a national health and social priority in all four contexts. The absence of fully implemented national dementia strategies, combined with insufficient infrastructure, fragmented services and a lack of caregiver training standards, creates significant disparities in access and quality of care.

Across the countries studied, dementia care is characterised by a heavy reliance on families and non-governmental organisations, while state-level systems remain limited in scope, coordination, and financing. As confirmed by both researchers and practitioners in the field interviews, the day-to-day reality of caregiving often unfolds in conditions of resource scarcity and emotional strain, where caregivers must improvise and adapt without structured guidance or institutional support.

These findings mirror broader European and international evidence. According to the World Health Organization’s Global Action Plan on the Public Health Response to Dementia 2017–2025, most countries still lack sustainable national frameworks for dementia care, which hinders early diagnosis, community-based support and caregiver training (World Health Organization, 2017). Similarly, the Organisation for Economic Co-operation and Development (OECD) identifies fragmented policy responses and underdeveloped long-term care systems as major obstacles to equitable dementia care across Europe (OECD, 2021).

In this context, the systemic barriers observed in the four partner countries illustrate how the absence of national coordination translates into practical limitations – restricted access to specialised services, low caregiver preparedness, and uneven implementation of sensory activation or psychosocial interventions. The following subsections examine these weaknesses in detail, drawing on both the field interviews (Questions 5 and 6) and the national desk research findings.

Absence and fragmentation of National Dementia Strategies

The desk and field research confirm that none of the four partner countries currently operate under a comprehensive, fully implemented and continuously monitored national dementia strategy. While some steps have been taken toward policy development, most initiatives remain fragmented, short-term, or driven by non-governmental actors rather than sustained public policy.

In Poland, the desk research notes that the issue of dementia is gradually gaining attention at the governmental level, and a National Dementia Strategy has been under preparation since 2023, as confirmed by Alzheimer Europe (2024).

However, the interviews reveal that this initiative has not yet translated into practical improvements in care settings. Caregivers and researchers emphasise that, in the absence of a coherent national framework, dementia-related services are often embedded within general ageing or social welfare programmes, leading to inconsistent implementation across regions. Institutional support for sensory activation and psychosocial interventions remains limited, with most activity led by universities, local NGOs or municipal senior clubs.

In Bulgaria, the absence of a national dementia plan is one of the most critical systemic gaps. Both desk and field research indicate that care provision relies heavily on families and underfunded social institutions. Public health services are fragmented, and there is widespread distrust toward formal care structures (Goncharova and Karamelska, 2024). Interviewees described how the lack of central coordination leads to limited training opportunities and inconsistent practice standards. Sensory activation methods, when used, depend largely on individual initiative rather than structured institutional frameworks.

Cyprus stands out for having previously introduced a National Dementia Strategy (2012–2017), which aligned partially with WHO recommendations. However, field interviews confirmed that the plan was not renewed or updated after its expiration, leaving a policy vacuum. The lack of ongoing implementation means that coordination among health and social care providers remains weak, and there are no dedicated funding mechanisms for dementia care or caregiver training. As interviewees stressed, this gap hinders the continuity of sensory and rehabilitative programmes, particularly outside urban centres.

In Greece, a national strategy for dementia and Alzheimer’s disease has been formally adopted, largely driven by the Greek Alzheimer Association and related networks. Nonetheless, both desk and field data suggest that implementation remains uneven and insufficiently integrated within the public health system. Interviewees highlighted that many initiatives continue to rely on the efforts of Alzheimer associations, local municipalities, or EU-funded projects. This dependence on non-governmental structures results in unequal access to services and limited sustainability once project-based funding ends.

Taken together, these findings reflect a broader policy fragmentation across all four countries. While the World Health Organization (2017) recommends that member states adopt comprehensive national dementia frameworks with measurable indicators, the reality remains that policy development in Central and Southern Europe is at a preliminary or transitional stage. According to the OECD (2021), only a small number of European countries have succeeded in integrating dementia care into their long-term care systems. The four partner countries thus illustrate the ongoing gap between international policy expectations and national implementation capacities.

Insufficient infrastructure, resources and workforce capacity

Across all four participating countries, the field interviews and desk research highlight a persistent gap between the theoretical understanding of dementia care and the material conditions in which it is delivered. The lack of adequate infrastructure, financial resources, and trained personnel constitutes one of the most critical systemic weaknesses affecting the quality, reach, and sustainability of dementia care services.

Infrastructure limitations

In Poland, Bulgaria and Cyprus, most care facilities lack specialised spaces such as sensory rooms or multisensory environments (often referred to as Snoezelen rooms), which are internationally recognised as effective tools for sensory therapy and emotional regulation. The Polish practitioner described relying on improvised sensory methods – music, scentsand tactile activities – due to the absence of formal equipment or dedicated facilities. Similarly, Bulgarian caregivers reported that interventions are often implemented in ordinary day-room environments without adapted lighting, soundproofing, or safety provisions. Cypriot practitioners noted that while they attempt to use cost-effective materials creatively, the absence of technological aids (e.g., adaptive light systems, digital music platforms or movement-based devices) limits the diversity of sensory interventions.

The Greek field report also documented environmental disparities between urban and rural areas. In larger cities, certain Alzheimer associations and municipal centres offer partially equipped therapy spaces however, in smaller towns, dementia care typically occurs in basic community centres or homes without specialised infrastructure. This discrepancy reinforces social inequalities in access to non-pharmacological support.

These limitations directly contradict WHO recommendations, which emphasise the creation of dementia-friendly environments as a key element of the Global Action Plan on the Public Health Response to Dementia 2017–2025 (WHO, 2017). The absence of such infrastructure in partner countries reveals how systemic underinvestment translates into limited therapeutic capacity and overreliance on caregiver improvisation.

Resource and funding constraints

The field interviews further confirm that dementia care remains underfunded in all four national contexts. In Bulgaria, caregivers described reliance on small-scale NGO or municipal projects, which provide short-term funding without systemic continuation. Similarly, in Cyprus, sensory programmes depend on project-based initiatives rather than stable financial allocations. The discontinuation of the Cypriot National Dementia Strategy (2012–2017) left no dedicated funding framework for ongoing activities, resulting in fragmented provision and reliance on individual practitioners’ efforts.In Poland, public financial support for elderly care is channelled primarily through social welfare and local government programmes, rather than dementia-specific services.

The lack of separate funding streams for cognitive or sensory activation programmes constrains the ability of senior clubs and day-care facilities to purchase equipment or employ trained specialists. Greek interviewees echoed similar concerns, noting that although EU co-funded projects occasionally improve local capacities, there is no national mechanism to sustain these efforts beyond the project lifecycle.

Workforce shortages and professional strain

The interviews from all contexts reveal a growing imbalance between the rising prevalence of dementia and the availability of adequately trained staff. In Bulgaria, respondents highlighted that home assistants and institutional caregivers often lack structured training materials, practical manuals, and professional guidance, forcing them to rely on experience rather than evidence-based methods. In Poland, despite the researcher's involvement in university-level education for nurses and caregivers, the majority of practitioners in non-clinical settings receive little or no formal preparation in sensory activation or dementia-specific care.

In Greece, professionals expressed concern about role demarcation and insufficient institutional endorsement for cross-disciplinary training, resulting in hesitation to implement innovative sensory or psychological interventions. Cypriot caregivers described a similar situation, noting that while some professionals receive academic training, most informal caregivers lack systematic instruction, and existing training resources are not standardised or nationally accredited.

These workforce challenges have tangible effects on care quality. Overstretched staff often struggle to individualise sensory programmes or maintain consistent observation of patient responses. Moreover, the emotional strain associated with constant adaptation and the lack of professional recognition contributes to caregiver burnout—an issue identified in both field and desk research as a major threat to the sustainability of dementia care systems.

Taken together, the evidence from Poland, Bulgaria, Cyprus and Greece illustrates a pattern of systemic undercapacity: inadequate infrastructure, chronic underfunding and insufficiently trained human resources. While isolated initiatives such as university-led workshops in Poland or NGO-run programmes in Greece attempt to fill the gaps, they remain fragmented and unsustainable. These systemic deficiencies not only limit the reach of sensory and psychosocial interventions but also deepen inequalities between urban and rural regions, institutional and home care, and professional and informal caregiving sectors.

The combined findings demonstrate that without strategic investment and long-term policy planning, dementia care in these countries will remain dependent on the goodwill and improvisation of caregivers rather than functioning within a coherent, evidence-based framework.

Training deficits

A recurrent and cross-cutting issue identified in both the desk and field research is the lack of structured and standardised training systems for dementia care professionals and family caregivers. The four partner countries Poland, Bulgaria, Cyprusand Greece share a similar challenge: caregiving relies heavily on practical experience and improvisation rather than systematic education or national certification. This training gap directly amplifies the emotional, cognitive and logistical burden placed on both professional and informal caregivers, who often operate in isolation and without psychological or institutional support.

The Polish field research demonstrates the coexistence of advanced academic initiatives and widespread practical deficits. Universities, such as the Pomeranian Medical University, offer theoretical and workshop-based training for nursing students, incorporating elements of sensory activation and gerontological care. However, these opportunities remain limited to academic contexts. Outside formal education, most care workers and families lack access to structured professional development. Caregivers rely on self-directed learning, local workshops, or ad hoc guidance from NGOs. As a result, training quality and content vary widely, reflecting the absence of a national dementia care curriculum or certification system.

In Bulgaria, this fragmentation is even more pronounced. Interviewed practitioners and psychologists underscored that the country has no methodological handbooks, educational resources, or unified manuals to support the teaching and practical application of sensory activation. Training for home assistants remains generic, focusing primarily on hygiene and safety, with little or no attention to cognitive or emotional stimulation. This gap reinforces the low professionalisation of the care sector and undermines the consistency of dementia interventions (Goncharova & Karamelska, 2024).

In Cyprus, certain rehabilitation centres provide exemplary micro-level models, offering printed guides, hands-on coaching, and family consultations. However, these initiatives operate independently, lacking national accreditation or integration into the public health system. Informal caregivers—mainly family members—learn by observing professionals or receiving occasional guidance. Despite strong engagement, this model depends on individual initiative rather than institutional continuity.

The situation in Greece is comparable. While Alzheimer associations and NGOs have developed effective modular video training and peer-learning programmes, these remain project-based and are not embedded within the national education or healthcare infrastructure. Consequently, caregivers' knowledge retention and professional recognition are limited, while programme sustainability depends on external funding.

Collectively, these examples depict a fragmented training ecosystem, where the quality of dementia care depends on local resources, NGO involvement, and personal motivation rather than on a coherent, state-driven framework. This contradicts the World Health Organization (2017) recommendation that member states integrate dementia-specific competencies into all levels of health and social care education.

The burden on informal caregivers

The lack of training and systemic support directly translates into a heavier burden for informal caregivers (predominantly family members, often women) who provide the majority of day-to-day dementia care. All four field reports confirm that family caregivers typically operate without sufficient knowledge of dementia progression, communication strategies, or sensory stimulation principles.

In Poland and Cyprus, caregivers frequently express uncertainty about how to respond to behavioural symptoms such as agitation or withdrawal. They often rely on trial and error, guided by limited advice from professionals. Cypriot practitioners noted that families sometimes resist sensory interventions, perceiving them as futile for individuals with severe cognitive decline. Such attitudes reflect both limited public awareness and the absence of psychological education for families.

Bulgaria and Greece present similar patterns: care is largely family-based, yet formal support networks are minimal. Interviewees in Bulgaria emphasised that relatives are rarely included in the training process, even though they are the main providers of emotional and practical support. In Greece, peer-support initiatives help fill this gap but remain confined to urban areas and depend on voluntary participation.

The OECD (2021) confirms that across Europe, informal caregivers provide an estimated 70–80% of dementia care hours, often without remuneration, formal recognition or adequate respite. This dependency perpetuates gender and socioeconomic inequalities, as families (especially in lower -income households) struggle to balance employment with full-time care duties. The psychological toll includes high levels of stress, burnout and social isolation, which in turn affect care quality and increase the likelihood of premature institutionalisation of persons with dementia.

The link between training deficits and caregiver burnout

The connection between the absence of structured training and caregiver exhaustion is strongly evident in the field data. When caregivers lack practical competence and theoretical understanding, they must navigate unpredictable patient behaviours and complex emotional responses without professional tools. For example, Polish interviewees described how insufficient preparation can lead to unintended emotional reactions when sensory activities trigger distressing memories. Similarly, Cypriot respondents reported difficulties in interpreting non-verbal cues due to the lack of behavioural observation training.

In Bulgaria and Greece, caregivers often face cumulative pressure – coping simultaneously with emotional fatigue, inadequate institutional banking and unclear professional boundaries. Without a national system for continuous education or psychological supervision, burnout becomes an endemic issue rather than an exception. As the World Health Organization (2017) emphasises, sustainable dementia care systems require not only clinical competence but also emotional resilience among caregivers, supported through structured training and ongoing supervision. The field findings demonstrate that this recommendation remains unmet in all four national contexts.

The findings across Poland, Bulgaria, Cyprus and Greece reveal that the lack of training standardisation and institutional support for caregivers forms a structural deficit at the heart of dementia care systems. Informal caregivers bear the majority of the responsibility for daily care, yet remain the least supported group within these systems. Professional caregivers, though motivated and committed, operate within fragmented educational frameworks without accreditation, evaluation, or progression pathways.

This dual gap between professional training and informal family education perpetuates inefficiency, emotional distress and inequality. Without unified standards, systematic evaluation, and psychological support, dementia care remains dependent on personal dedication rather than professional or policy-driven capacity. Addressing these challenges requires national strategies that align training, certification, and psychosocial support in accordance with WHO's and OECD's international frameworks.

How caregivers evaluate and reflect on dementia care

This section synthesizes findings from the Field Research Reports conducted in Poland, Bulgaria, Cyprus and Greece. The analysis focuses on how caregivers evaluate the impact of sensory activation techniques on people living with dementia, as well as how they reflect on the ethical and emotional dimensions of their practice. The interviews reveal that most assessments remain informal and experiential, based on observation, mood, and behavioural changes rather than standardized diagnostic instruments. Despite the absence of formal tools such as MMSE or MoCA (typically restricted to clinical professional) caregivers demonstrate strong intuitive awareness of change, particularly regarding emotional well-being, engagement and social interaction. Across all countries, sensory activation is viewed as both a therapeutic and relational method, strengthening connection, trust and dignity in care.

Informal assessment practices and observational approaches

The field research indicates that, in all participating countries, caregivers primarily assess progress through observation, relational feedback and emotional cues, rather than through structured or quantitative measures.

In Poland, both the researcher and practitioner described an observational model of assessment rooted in practice and relational sensitivity. Rather than relying on formal testing, caregivers monitor changes in facial expressions, eye contact, participation and verbal responses during or after sessions. Improvements in mood, social engagement and calmness are taken as indicators of positive outcomes. The researcher highlighted that sensory activation is not viewed as a stand-alone therapeutic “tool,” but as a continuous process integrated into daily care – from music sessions to tactile or olfactory exercises. This embedded approach allows caregivers to track subtle improvements, such as greater willingness to interact, reduced anxiety, or momentary memory recall, without imposing stressful evaluation procedures.

Similarly, in Bulgaria, practitioners reported that assessments are experiential and fluid. The harp therapist and psychologists rely on behavioural observation—monitoring how residents respond to rhythm, melody, or visual stimuli. Caregivers gauge the effectiveness of a session when individuals who initially appear withdrawn begin to “wake up,” make eye contact, or join in clapping or singing. Staff members participating in these sessions corroborate changes, noting when residents remain calmer or show signs of emotional presence afterward. No standardized scoring or documentation system is used; instead, progress is perceived collectively and qualitatively.

In Cyprus, caregivers also depend on non-verbal feedback and emotional responsiveness as primary evaluation criteria. Reactions such as smiles, eye movement, laughter or tears are interpreted as meaningful responses to sensory input. Since many patients are in late-stage dementia and unable to communicate verbally, facial expressions and posture serve as the main evidence of impact.

Some facilities combine caregiver observations with family feedback to validate progress, particularly regarding the patient's emotional state at home. However, formal data collection systems or validated assessment tools are not in place.

In Greece, the approach is somewhat more structured due to stronger NGO involvement and the presence of clinical practitioners. Caregivers begin interventions with informal baseline assessments, including sensory acuity checks and interviews with family members. Progress is monitored through activity participation levels and emotional engagement rather than numerical metrics. Practitioners document responses using brief session notes often describing mood shifts, increased cooperation, or cognitive engagement. Nonetheless, these remain qualitative records; standardized tools are rarely employed outside clinical contexts.

Across all four countries, the field findings confirm that care evaluation relies heavily on lived experience and intuitive observation. This informality has advantages it allows flexibility, adaptation and emotional attunement but also represents a significant gap in systematic documentation and comparability of outcomes across care settings.

Perceived benefits of sensory activation in dementia care

Despite the absence of formal evaluation instruments, caregivers across the partner countries consistently reported observable and meaningful improvements in individuals with dementia following sensory interventions.

Emotional and psychological effects

The most immediate and widely recognised benefit is emotional regulation. In Poland and Bulgaria, both professionals and practitioners noted a reduction in agitation, restlessness and anxiety following sensory activities. Music, in particular, was found to calm participants, helping them achieve a sense of safety and emotional balance. Cypriot caregivers observed that even individuals who appeared detached or "asleep" became responsie – smiling, moving their heads toward familiar sounds, or tearing up at a remembered melody. Such reactions were perceived as signs of emotional awakening and reconnection with the environment.

Greek practitioners confirmed similar outcomes, describing that familiar visual and auditory cues often triggered autobiographical memories, producing laughter, conversation and affectionate gestures. These improvements were not temporary: caregivers observed that calmer emotional states frequently extended into mealtimes, sleep routines or interpersonal interactions later in the day.

Cognitive and social benefits

All four national reports link sensory activation to enhanced cognitive stimulation and social participation. Polish and Bulgarian experts highlighted how smell, touch, and sound can evoke fragments of long-term memory even in advanced dementia, thereby supporting orientation and continuity of identity. Greek caregivers similarly noted improvements in task initiation and follow-through for example, greater independence in self-feeding or dressing, suggesting that sensory engagement sustains procedural memory.

Socially, sensory sessions act as catalysts for interaction. Group music or crafting activities encourage cooperation, shared enjoyment, and spontaneous communication. Practitioners in Bulgaria described how residents and staff collectively participate, reinforcing community bonds. In Cyprus and Poland, such activities are also used to strengthen family involvement, as relatives are often invited to join or replicate sensory exercises at home.

Physical and behavioural improvements

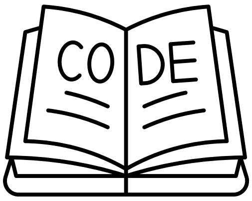
Though less emphasized, some respondents noted physical benefits, including improved mobility and reduced rigidity due to rhythmic movement, clapping, or tactile exercises. In Bulgaria and Greece, these mild physical activities helped prevent apathy and passivity. Behaviourally, caregivers across contexts reported fewer episodes of resistance or aggression, attributing this change to the relaxing and confidence-building effects of sensory engagement.

Together, these findings portray sensory activation not only as a therapeutic technique but as a multidimensional intervention that addresses the emotional, cognitive, and social domains of well-being.

Ethical considerations in sensory-based dementia care

Ethical reflection emerged as a central concern across all countries.

The field data show that caregivers exhibit strong moral awareness, even in the absence of formal ethical protocols.



In Poland and Greece, the principle of human dignity is cited as the foundation of ethical dementia care. Both researchers and practitioners stressed that interventions must preserve respect, privacy and the right to refuse participation. Even when verbal consent is not possible, non-verbal cues of comfort or discomfort are treated as indicators of willingness.

Similarly, Cypriot caregivers underlined that consent must always be sought – either directly from the person or, when not possible, from family members. Activities are introduced slowly, with clear explanation, to maintain a sense of trust and inclusion. Bulgarian respondents echoed this sentiment, noting that the inability to obtain formal informed consent requires close observation and dialogue with relatives to ensure that interventions remain aligned with the individual's preferences and history.

All interviewees acknowledged the risk of sensory overload. Improperly selected stimuli – such as loud noises or unfamiliar scents – may evoke anxiety or traumatic memories. Polish experts described cases where smell or music triggered distress rather than comfort. Similarly, Cypriot practitioners cautioned that multiple simultaneous stimuli might exhaust or confuse patients, especially those with sensory processing limitations. Therefore, ethical practice requires gradual introduction, continuous observation and immediate adjustment based on reactions.

Safety also extends to physical well-being. Caregivers in Bulgaria and Poland emphasized the importance of ensuring that materials such as textured objects or liquids do not pose choking or injury hazards. In every case, comfort and security take precedence over experimentation or performance goals.

Ethical reflection also intersects with culture. In all four countries, family involvement is seen as both an ethical obligation and a therapeutic asset. Caregivers believe that respecting cultural identity and personal history strengthens emotional connection. Bulgarian and greek practitioners highlighted the value of integrating familiar music, food, or rituals from the person's youth, fostering recognition and belonging.

However, this family-centric model raises dilemmas: relatives are not always adequately informed or trained, and in some cases, their overprotectiveness limits patient autonomy. Caregivers across contexts called for clearer ethical guidelines and family education to balance empathy with independence.

Reflections on practice and the absence of standardised evaluation

The cumulative evidence shows that caregivers rely on relational, intuitive evaluation methods grounded in human observation rather than quantitative assessment. While these methods provide valuable insight into lived experiences, they also highlight systemic weaknesses: lack of standardized protocols, limited documentation and absence of validated outcome measures for sensory interventions.

Professionals in Poland, Greece and Cyprus expressed openness to integrating structured observation templates or behavioural scales if such tools were adapted to non-clinical settings. However, as current regulations restrict the use of cognitive screening instruments (e.g., MMSE, MoCA) to medical professionals, most caregivers remain outside formal evaluation frameworks.

This gap creates a paradox. Caregivers are responsible for delivering interventions that demonstrably improve well-being, yet they lack the institutional means to measure or report their impact. As a result, valuable qualitative knowledge generated in practice often remains invisible to policymakers and researchers. Bridging this divide requires tools that combine rigour with accessibility – simple, ethically grounded observation frameworks tailored to community and residential care environments.

The findings from the four national field studies converge around a shared conclusion: caregivers assess dementia care through empathy, observation, and intuition rather than formalized instruments. Their reflections show that sensory activation techniques produce tangible benefits – improved mood, reduced agitation, emotional connection, and social participation – yet the success of these interventions depends on ethical vigilance and contextual sensitivity.

While informal observation preserves flexibility and humanity, the absence of validated documentation systems restricts the visibility of caregiving achievements and limits professional recognition. These insights directly inform the next section of the SENSE Guidebook, which will explore structured yet adaptable assessment strategies for sensory activation balancing measurable outcomes with the respect and dignity essential to dementia care.

Policy implications

The evidence from Poland, Bulgaria, Cyprus and Greece points to a clear conclusion: dementia care systems currently depend on individual effort, local innovation and informal caregiving rather than on stable and coordinated national structures. Caregivers, whether professionals or family members, repeatedly described the need for standardised training, structured guidance, appropriate ethical frameworks, recognition of their work and material support. These findings are consistent with broader European and international recommendations that call for national dementia strategies, better training for the dementia-care workforce and formal support for informal caregivers (Alzheimer Europe, 2024; OECD, 2021; WHO, 2017).

The following policy recommendations translate these documented needs into actionable measures for governments, municipalities, care providers and training institutions.

Introduce and implement national dementia strategies (or update and operationalise existing ones)

- Countries without a fully implemented dementia strategy (e.g. Bulgaria) should develop and adopt a national dementia plan that defines responsibilities across health, social, and community care sectors.
- In countries where strategic documents exist or are in preparation (e.g. Poland, Greece, Cyprus), these frameworks should move beyond declarative status and be linked to dedicated budgets, staffing plans and evaluation mechanisms.
- National dementia strategies should explicitly include non-pharmacological support, including sensory activation, communication support, and behavioural regulation techniques, as described by caregivers in all four national reports.
- These national strategies should also define minimum care standards in long-term care institutions and community settings, including ethical safeguards, informed consent procedures (especially in advanced stages of dementia), and protection of dignity and emotional safety.
- This approach is in line with WHO's call for national dementia policies with measurable objectives, budgets, and workforce components (WHO, 2017) and with Alzheimer Europe's emphasis on structured national responses to dementia (Alzheimer Europe, 2024).

Standardise dementia-care training for professional caregivers

Training in dementia care should become mandatory and structured, not optional or ad hoc. Interviewees across all four countries stressed that current practice relies too heavily on improvisation, goodwill, or individual mentoring.

National or regional authorities should work with universities, Alzheimer associations and care institutions to create an accredited training pathway for professional caregivers that covers:

- basic knowledge of dementia and its progression;
- communication techniques, including voice modulation, tone and non-verbal reassurance (as highlighted in Bulgaria and Cyprus);
- safe implementation of sensory activation techniques across hearing, vision, touch, smell and taste (reported in all four countries);
- crisis de-escalation and emotional regulation;
- ethical and safety protocols in late-stage dementia (raised in Poland, Bulgaria and Cyprus);
- family cooperation and briefing practices.

Such training should combine theory and practice. As Polish interview data emphasised, classroom-based teaching on neurobiology, neuroplasticity and the aims of sensory stimulation must be paired with workshops, simulations, and supervised practice.

Greek interviewees described modular, on-demand micro-training (e.g. short video tutorials, practical walkthroughs, troubleshooting guidance) as a successful model. These formats should be formally recognised, scaled and embedded in professional development systems, rather than left to isolated pilot projects.

Bulgarian interviewees noted the absence of manuals and methodological resources. Developing open-access manuals, case libraries and standard operating procedures would help equalise care quality across regions and facilities.

Formally include sensory activation in curricula and continuous professional development

All four national reports describe sensory activation as essential in dementia care, not an optional add-on. Policy should reflect this reality. Care curricula for nurses, residential care staff, psychologists, occupational therapists and activity coordinators should explicitly include:

- multisensory planning (auditory, tactile, visual, olfactory, gustatory);
- individualisation of stimuli (e.g. matching music, scents, and images to personal history and preferences);
- use of familiar, low-cost materials in settings without specialised equipment;
- observation and adjustment to avoid overstimulation or distress;
- documentation of reactions over time.

Interviewees across countries agreed that training should be practical, concrete and scenario-based. In Poland, this was described as learning not just “what to do,” but “why we are doing it, for how long, with what purpose and with which expected response.” In Bulgaria and Cyprus, respondents stressed voice, tone, presence and pacing as active therapeutic tools.

Cypriot and Greek respondents also noted that structured multisensory approaches (e.g. Snoezelen-type sessions, thematic sensory journeys, reminiscence with music and photos) are most effective when adapted to a person’s biography. Policy frameworks should therefore promote biographical intake (life history, preferences, past occupations, fears and comforts) as a standard first step in sensory planning.

Develop national guidance and ethical standards for dementia care

Caregivers in the four countries consistently reported ethical uncertainty in areas such as informed consent, personal boundaries, emotional safety, use of touch, exposure to strong emotional triggers and recording or observation of sessions.
Policy should establish clear ethical guidelines for:

- consent and substituted consent (e.g. how to proceed when the person cannot provide informed consent, as described in Bulgaria and Cyprus);
- respectful physical contact, hygiene-related intimacy and touch-based techniques such as massage;
- limits on sensory load to avoid distress or exhaustion, especially in advanced dementia or following stroke;
- safe adaptation of materials (including edible items, scented oils, textured objects) to prevent harm or discomfort;
- dignity, privacy, and emotional protection during reminiscence work, particularly when stimuli may evoke traumatic or grief-related memories.

Ethical guidance should also clarify how to involve family members in ways that support, rather than undermine, the person's autonomy. This is especially relevant in systems where relatives are deeply involved but not formally trained, as in Bulgaria and Cyprus.

Support and recognise informal (family) caregivers

All four country reports confirm that families carry a major share of day-to-day care, including emotional regulation, basic activities of daily living, and increasingly, sensory-based stimulation at home.

Families frequently enter the caregiving role without preparation, particularly in Bulgaria and Cyprus, and often without psychological support.

Policy should therefore:

- provide structured briefing and coaching for family members at the point of diagnosis or admission into care;
- create short, accessible guidance materials (brochures, checklists, visual instructions, video modules) that explain how to use music, scent, touch, and reminiscence safely at home;
- offer practical demonstrations, as described in the Cypriot and Polish interviews, where families are shown how to adapt small sensory routines (e.g. hand massage, familiar smells, traditional songs) to maintain comfort and emotional connection;
- deliver basic training on behavioural signals (e.g. recognising signs of fatigue, overstimulation, or agitation);
- include relatives in care planning discussions from the outset, so they understand aims, boundaries, and expectations and can replicate techniques between formal sessions.

Consistent with WHO and OECD recommendations, support to family caregivers should also include psychological support, respite options, and recognition of caregiver burden as a public health concern, rather than a purely private matter (OECD, 2021; WHO, 2017).

Build practical, biographical, person-centred tools into routine care

● Interviewees in all four countries stressed that interventions are most effective when personalised. This requires structured collection of biographical data: past work, hobbies, music preferences, places, scents, food traditions, family rituals, fears and moments of meaning.
● Policy and practice guidelines should require that care providers maintain an individual sensory/emotional profile for each person with dementia and update it over time.

●Poland and Cyprus highlighted the importance of tracking responses over repeated sessions. This suggests the need for simple observation charts or progress journals that can be used by professionals and relatives alike to record what calms, what agitates, what evokes memories, and what supports participation.

●Greece and Bulgaria emphasised repeated, iterative adjustment: professionals should be encouraged to “test, observe, and adapt,” rather than apply a single protocol to all.

●Such tools would also help generate evidence for policymakers. At present, outcomes such as “more relaxed,” “less agitated,” “more verbal,” or “more cooperative at mealtimes” are recognised informally by staff, but they are rarely captured in a structured way. Developing common, low-burden documentation practices would make these results visible and therefore fundable.

Promote interdisciplinary dementia care teams

Interviewees in Bulgaria, Greece and Cyprus described dementia care as multidisciplinary in principle (psychology, nursing, occupational therapy, music/arts-based activation) but fragmented in practice.

National and regional frameworks should support the creation of interdisciplinary teams in residential and community settings, including:

- trained caregivers and nursing staff;
- psychologists and neuropsychologists;
- activity coordinators (music therapy, art therapy, movement);
- family representatives.

This is consistent with WHO recommendations that dementia care should integrate medical, psychosocial, and environmental supports rather than treat them as separate domains (WHO, 2017).

Interdisciplinary collaboration is especially important for safe sensory use with people in advanced dementia, where verbal consent is limited and monitoring must be continuous. Under such a model, responsibility for ethical judgement and adaptation does not fall on a single caregiver working alone.

Invest in accessible and scalable formats for training delivery

Interviewees in Greece described the value of short, on-demand instructional videos, while interviewees in Cyprus and Poland emphasised in-person demonstration and guided practice. Both approaches point to a shared need: training must be practical, repeatable, and easy to access, not theoretical and one-off.

Policy should therefore support blended delivery models that combine:

- short-format audiovisual materials (for repeat viewing and reinforcement);
- printed cue sheets and checklists (for daily routines in care homes and private homes);
- supervised practice or shadowing in real environments;

periodic debriefing sessions or peer groups to share adaptations.

This approach also aligns with what caregivers themselves described as an “ideal curriculum”: a programme that does not offer only a definition of dementia but also concrete examples, suggested phrasing, voice tone guidance, timing considerations, alternative strategies when a person refuses, and safety limits for multisensory input.

This type of structured, scenario-based, incremental curriculum should become a recognised element of both initial and continuing professional education. It should also be open (at an appropriate level) to relatives who provide daily care.

Treat sensory activation as core care, not enrichment

All four national reports framed sensory activation (music, touch, reminiscence, smell, visual recall, guided movement) as fundamental to communication, mood regulation, and cognitive maintenance in dementia, including in advanced stages where speech is no longer possible.

Policy frameworks and funding models should therefore recognise sensory activation as an essential part of dementia care, not an optional recreational activity.

This reclassification has direct implications:

- it justifies allocating staff time to sensory work instead of treating it as extra or “nice to have”;
- it supports procurement of basic materials and safe environments;
- it allows caregiver training in sensory methods to be understood as core professional competence rather than informal talent.

This is consistent with international guidance that non-pharmacological approaches, including sensory stimulation, should be integrated into comprehensive dementia care because they improve well-being, reduce behavioural distress, and can delay escalation to more restrictive interventions (WHO, 2017; OECD, 2021).
Taken together, these recommendations point to a shift in how dementia care should be structured: from informal, personality-driven practice to formalised, supported and ethically guided care systems.

The practical expectations expressed by caregivers in Poland, Bulgaria, Cyprus and Greece are closely aligned with international guidance: they ask for national coordination, protection of dignity, emotional safety, step-by-step practice guidance, recognition of family caregivers and realistic training formats. This findings directly inform the rationale and design of the SENSE Guidebook. The Guidebook can function not only as a training resource, but as a policy tool — demonstrating what comprehensive sensory-based dementia care looks like in practice, and how it can be standardised and scaled.

Conclusion

The comparative analysis presented in this section reveals a complex but coherent picture of dementia care and caregiver needs across Poland, Cyprus, Greece and Bulgaria. Despite national and cultural differences, several overarching themes clearly emerge. All partner countries face similar systemic challenges: insufficient institutional support for caregivers, fragmented training structures, and a general lack of standardized approaches to sensory activation. Emotional strain, burnout and limited psychological or educational support were recurrently identified as shared difficulties among both formal and informal caregivers.

At the same time, the analysis highlights context-specific differences. Greece and Cyprus have introduced national dementia strategies and are moving toward integrated, interdisciplinary care models. Poland is in the process of developing a national framework, while Bulgaria continues to rely primarily on family-based and NGO-led initiatives. These contrasts underscore how uneven policy maturity directly influences the quality and consistency of caregiver training, access to resources and the adoption of sensory-based methods in practice.
Importantly, the voices of caregivers and practitioners, gathered through field interviews, validate and humanize the desk research findings. Their testimonies reveal how policy gaps translate into everyday obstacles – from inadequate training and ethical dilemmas to improvisation with limited resources. Yet, they also demonstrate creativity, compassion and resilience, showing that meaningful care often arises from personal commitment rather than institutional structure.

The evidence collected in this section forms the foundation of the SENSE Guidebook. It establishes a clear need for harmonized, evidence-based and culturally adaptable training that empowers caregivers to apply sensory activation techniques safely and effectively. By bridging research with practice, the findings lay the groundwork for the Guidebook's next chapters, which will translate these insights into concrete educational modules, ethical Framework and policy recommendations. Ultimately, the SENSE Guidebook responds to an urgent European need: to support caregivers not only as implementers of therapy but as skilled professionals whose competence, empathy and ethical awareness are central to dignified dementia care.

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Section 2

Exploring Sensory Activation Theory

Abstract

This section aims to explore several different theories of Sensory Activation. Sensory activation is a foundational, non-pharmacological strategy in dementia care. Structured engagement of the senses—sight, sound, touch, smell, taste, and movement—helps modulate arousal, reduce behavioral and psychological symptoms of dementia (BPSD) such as agitation and anxiety, and open alternative routes for communication when language or executive functioning are compromised. Evidence syntheses on multisensory environments (often referred to as “Snoezelen”), music-based programs, and tailored sensory bundles show consistent short-term improvements in agitation, mood, and interaction quality, with effects strongest during or shortly after sessions and sustained best by regular repetition and individualization. These approaches complement medication by targeting preserved emotional and procedural systems and by aligning environmental input with each person’s thresholds and preferences.

Objectives

- Explain the cognitive, neurological, and therapeutic rationale for sensory interventions in dementia care.
- Present the leading theoretical models: Snoezelen/multisensory environments, Validation Therapy, Reminiscence Therapy, and person-centered frameworks.
- Integrate international evidence on outcomes (e.g., agitation, mood, communication, engagement).
- Translate insights into practice-ready guidance for teams designing or refining a sensory activation program..

Scientific and Theoretical Foundations of Sensory Activation

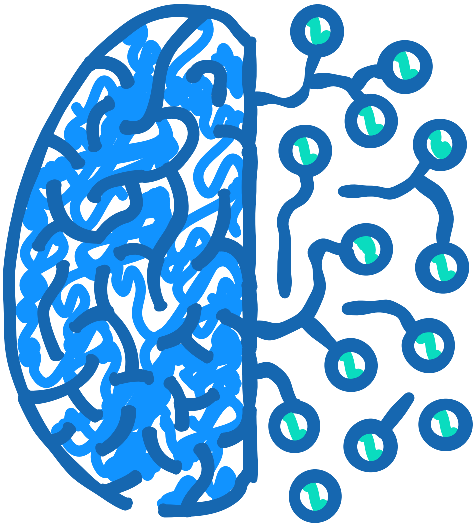
Cognitive & Neurological Basis

Why sensory channels remain powerful in dementia

Dementia disproportionately affects hippocampal networks for episodic memory and aspects of executive control, yet procedural learning, emotional memory, and sensorimotor entrainment are relatively resilient. This is why a person may not recall a caregiver's name but can tap a rhythm, hum a familiar melody, or relax when their favorite hand lotion is used—behaviors supported by cortico-striatal loops and limbic circuits that remain responsive to affectively salient sensory cues. Music-based interventions, for example, repeatedly show reductions in agitation even in moderate-to-severe stages (Pedersen et al., 2017).

Emotionally meaningful stimuli (e.g., the smell of a culturally familiar dish or a song from adolescence) preferentially captures attention and can up-regulate alerting systems, setting the stage for engagement in care activities that otherwise trigger resistance. Reviews of multisensory environments note reliable during-session improvements in affect and calm, which in turn make communication and basic care smoother (Lorusso & Bosch, 2018)

BPSD often reflects a mismatch between a person's arousal state and their surroundings: excessive noise/glare can provoke pacing or calling out; understimulation can feed apathy and withdrawal. Purposeful sensory input lets staff downshift (e.g., dim light, slow tempo, deep-pressure touch) or upshift (e.g., brighter natural light, upbeat rhythm, gentle movement) to an optimal arousal window, reducing distress behaviors without drugs. Contemporary guidance on agitation management emphasizes starting with non-pharmacological, environment-first strategies (James et al., 2023).



Neuroplasticity and “work-around” learning

Although dementia limits new episodic learning, repetition of salient sensory routines (same time, same music, same scent) builds predictability, which reduces uncertainty and can condition calmer responses over time. Enriched, multisensory settings—controlled lights, soft tactile surfaces, gentle sounds—mirror principles seen in broader enrichment literature and are associated with behavioral and mood benefits, even when objective cognitive test scores shift little. Systematic reviews of Snoezelen/MSE find short-term gains in relaxation and agitation reduction, with mixed durability if sessions stop—hence the importance of routine and carryover (Lorusso & Bosch, 2018). Pairing stimuli (e.g., rhythm + movement; scent + biographical photo) creates multiple routes to the same emotional or procedural response. When one pathway is degraded, another can still trigger recognition or soothing—practically, this looks like quicker settling, more eye contact, or spontaneous singing along. Recent meta-analytic work suggests multisensory packages can reduce neuropsychiatric symptoms, including agitation and apathy (Octary et al., 2025).

Memory retrieval and emotional recall

Autobiographical memory is strongly cue-driven. Reminiscence Therapy (RT) operationalizes this by using personally meaningful trigger-regional foods, local sports memorabilia, life-era playlists, textured objects—to elicit memories and emotions. Meta-analyses show RT can reduce depression and improve quality of life, with some studies reporting benefits to cognition and communication. The storytelling need not be perfectly accurate; emotionally coherent recall is often what lifts mood and unlocks connection (Cammisuli et al., 2022). Olfaction’s direct connections with limbic structures and music’s ability to recruit widespread networks (auditory, motor, reward) make these modalities especially potent. Clinical music therapy trials in dementia report lower agitation and reduced need for psychotropic dose escalation when programs are individualized and sustained over weeks (Ridder at al., 2013).

Sensory thresholds, overload, and behavioral expressions

Mismatch hypothesis: many “behaviors” are rational responses to sensory overload (e.g., fluorescent glare, alarms, crowded corridors) or to sensory deprivation (monotony, lack of meaningful touch). Sensory activation seeks the “just right” load: enough structure to orient and comfort, not so much novelty that it overwhelms. Recent reviews of sensory stimulation programs describe benefits but caution that protocols and dosing vary widely underscoring the need to titrate intensity and personalize content (Pinto et al., 2020). Predictable, rhythmic inputs (walking to a beat; gentle rocking; metronome pacing) and affective touch (hand/forearm massage) tap spinal-brainstem-limbic pathways that calm autonomic systems. Combined music-and-touch bundles are associated with reductions in verbal agitation, especially for “sundowning” patterns (Pedersen et al., 2017)

Practical notes for non-specialists

- Start with one channel (often music), layer slowly, and observe micro-responses (facial muscles, hands unclenching, eye tracking).
- Personalize relentlessly (life history, cultural background, language, faith traditions).
- Keep sessions brief but frequent (10–30 minutes, several times weekly) and build carryover (e.g., the same calming playlist before evening care).
- Document overload signs (e.g., brow furrow, turning away, increased vocalization) and effective stimuli to refine a living "sensory profile." Reviews emphasize personalization and staff training as key moderators of effect (James et al., 2023).

Theoretical Models

The following models commonly guide sensory activation. Each contributes distinct principles; in practice, teams blend them within a person-centered framework.

Snoezelen / Multisensory Environments (MSE)

- Principles:
  a. Choice & autonomy: residents freely explore a room equipped with adjustable lights, projected visuals, tactile panels, bubble tubes, aroma diffusers, soft music.
  b. Graded sensory input: staff titrate intensity and channels (start with one, layer a second if tolerated).
  c. Safety & "no-fail" exploration: the room invites curiosity without task demands.
  d. Therapeutic presence: staff match the person's pace, validate emotion, and follow rather than lead.
- Where used: long-term care, day centers, memory clinics; mobile carts substitute where rooms aren't feasible. A functional analytic approach (FAMSET) adds structure for setting goals, observing behavior, and refining stimuli.
- Evidence:
  - Controlled studies report short-term reductions in agitation/apathy and improved affect; carry-over improves when elements are embedded on the unit (Sánchez et al., 2012).
  - A 2025 narrative review found MSE consistently promotes relaxation and reduces agitation, though durability depends on session frequency (Calderone et al., 2025)
  - A 2025 meta-analysis concluded multisensory stimulation substantially reduces agitation/NPS, supporting MSE as a behavior-focused, non-pharmacological option (Octary et al., 2025)

Practice example: In an inpatient unit, 15-minute MSE sessions (two to three times weekly) preceded evening care. Staff reported fewer refusals and faster bedtime routines; CMAI agitation scores dipped on session days, rising when sessions lapsed—illustrating dose-dependency (Sánchez et al., 2012).

Validation Therapy (VT)

- Principles: Developed by Naomi Feil, VT prioritizes empathic joining—meeting the person in their subjective reality rather than correcting them. Techniques include affect-mirroring, tone and posture matching, respectful touch, and gently exploring the emotion beneath statements. VT often sets the relational context for sensory work (Neal & Briggs, 2000).
- Evidence: Cochrane reviews conclude insufficient randomized evidence to determine superiority for cognitive or functional outcomes; nonetheless, VT remains influential as a communication stance that can reduce confrontation and resistance to care when paired with sensory strategies (Neal & Wright, 2003).

Practice example: A person insists, “I must go home to feed my children.” A VT-informed response validates (“You’re worried they might be hungry”), offers supportive touch if welcomed, and then introduces a sensory bridge—perhaps the smell of soup or a favorite lullaby—to settle the emotion before redirecting to dinner.

Reminiscence Therapy (RT)

- Principles: Use personally meaningful sensory cues—photos, music, recipes, objects—to elicit identity-affirming memories and emotions. Formats include group circles, life-story books, and digital reminiscence apps.
- Evidence:
  - Research show improvements in depression and quality of life, with growing evidence for cognitive gains (e.g., SMD ~0.5 for immediate cognition; sustained effects reported in some analyses; Staal et al., 2007).
  - A 2025 network meta-analysis comparing cognitive approaches ranked reminiscence among the most effective for global cognition across subjective cognitive decline to dementia (Liang et al., 2025).
  - Digital RT formats may increase engagement and flexibility (e.g., curated playlists, narrated photo albums; Pu et al., 2025).

Practice example: A “Hometown Café” group meets weekly with period music, vintage menus, and local photographs. Residents choose a “memory object” (bus ticket, team scarf) and share short stories; staff document topics that lift mood for later 1:1 use during care. Outcomes include visible smiles, increased eye contact, and more spontaneous speech immediately post-session—typical short-term RT effects (Staal et al., 2007).

Person-Centered Care (PCC) with Sensory Tailoring

- Principles: PCC is the operating system for all sensory work—aligning interventions with the person's preferences, cultural background, sensory thresholds, and life story. It emphasizes choice, dignity, and identity, embedding stimuli into daily routines (e.g., morning bright light near a window; familiar cooking aromas before lunch; NICE, 2018).
- Evidence: Meta-analytic and review evidence shows short-term agitation reductions when PCC interventions are activity-based, intensive, and tailored; effects wane without continued delivery (Kim & Park, 2017).

Practice example: Using a Sensory Profile (see tables below), staff learn Mr. K dislikes fluorescent glare and prefers jazz guitar; the team dims corridor lights after 18:00 and offers a soft lamp in his room with a pre-sleep jazz playlist. Evening restlessness declines. This approach operationalizes PCC with precise sensory adjustments (Kim & Park, 2017).

Evidence & Research

Agitation and neuropsychiatric symptoms (NPS)

- Multisensory stimulation (MSS/MSE): A 2025 meta-analysis reports significant reductions in agitation and other NPS with MSS; effects are strongest during or shortly after sessions and require scheduling to sustain. Narrative reviews converge on improved relaxation and affect; heterogeneity persists in protocols and dosing (Octary et al., 2025).
- Music-based interventions: Systematic reviews (2020–2024) indicate benefits for cognition and BPSD, with listening/singing often outperforming more complex tasks for accessibility. Network meta-analysis comparing music formats suggests some modalities may be more effective for agitation reduction, although comparators and settings vary (Morales et al., 2020).
- Touch/massage and aromatherapy: A controlled study of hand massage demonstrated decreased stress biomarkers and agitation; aromatherapy (e.g., lavender) shows modest agitation reductions in several trials, though results vary. Safety (skin sensitivity, asthma) and cultural scent preferences matter (Schaub et al., 2018).
- Nature-based and environmental interventions: Exposure to gardens, natural sounds, and daylight relates to agitation reduction and improved affect in emerging studies, complementing indoor multisensory work (Choe, Lee & Montayre, 2025).

Implementation takeaway: Build repeated, brief sessions (10–30 min) and micro-interventions (e.g., headphones with a personal playlist during personal care). Track day-to-day outcome metrics (CMAI, mood scales) to refine (James, Reichelt, Shirley & Moniz-Cook, 2023).

Communication, social interaction, and engagement

- Reminiscence reliably increases verbal participation and social warmth during sessions; some studies show carry-over into mealtimes and group activities, especially when topics are biographically resonant and facilitated by trained staff. Digital RT may enhance participation for people who enjoy touchscreens or family-curated media (Staal et al., 2007)
- Music with movement fosters synchronous interaction (clapping, swaying), which can reduce isolation and improve mood; attention improvements have been reported when exercise is paired with music in care homes (Wang et al., 2025).

Cognition and function

- RT and cognition: Meta-analyses suggest small-to-moderate cognitive benefits (e.g., SMD ~0.5), with durability when sessions are ongoing; individual variability is high (Han et al., 2024).
- Comparative frameworks: A 2025 network meta-analysis ranked reminiscence among the more effective cognitive approaches within non-pharmacological options—useful when selecting a primary cognitive-adjacent modality in a resource-limited setting (Liant, Wang, Li & Wu, 2025).
- Multisensory + task pairings (e.g., MSS with simple ADL cues) may enhance initiation and sequencing (getting started with grooming), though high-quality RCTs are limited (Calderone et al., 2025).

Safety, ethics, and acceptability

- Guideline stance: NICE guidance and related reviews endorse non-pharmacological, person-centered methods first-line for behaviors that challenge; antipsychotics should be time-limited and risk-balanced. Sensory interventions have favorable safety profiles when monitored (NICE, 2018).
- Risks & mitigations: Overstimulation (bright lights, loud sounds), scent sensitivities, touch boundaries, and trip hazards in darkened rooms. Mitigate via individual profiles, low-and-slow titration, consent/assent, and staff supervision (Sánchez et al., 2012).

Practice Tables

Table 1. Quick comparison of major sensory activation models

Model	Core Principles	Typical Delivery	Strengths (What it's best for)	Limitations / Cautions
Snoezelen / MSE	Graded, choice-driven multisensory input; "no-fail" exploration; therapeutic presence	10–30 min sessions in sensory room or via mobile cart	Rapid relaxation, agitation reduction, arousal modulation	Effects often short-term; requires equipment & trained facilitation; monitor for overstimulation
Validation Therapy	Empathic joining; validate feelings; match tone and posture; respectful touch	Used continuously during interactions	Low-cost, culture of de-escalation; reduces confrontation; primes acceptance of sensory input	Insufficient RCT evidence for cognition/function; requires communication training
Reminiscence Therapy	Cue-dependent autobiographical recall via music, photos, objects, life-story books	Group or 1:1; 30–60 min weekly	Mood, quality of life, social participation; growing cognitive benefits	Needs personalization; some topics may elicit grief—facilitator skill needed
PCC with Sensory Tailoring	Align sensory input with identity, culture, thresholds; embed in daily routines	Continuous; micro-interventions during care	Sustained carry-over, dignity, feasibility without special rooms	Requires assessment time and staff consistency

Table 2. Sensory Profile

Domain	Likes / Meaningful Cues	Aversions / Triggers	Early Signs of Overload	Calming “Go-Tos”	Activating “Go-Tos”
Music & Sound	(e.g., 1950s folk; church hymns)	(e.g., television talk shows)	Frown, eyelid flutter, turning away	Slow familiar playlist; staff humming	Upbeat rhythm; call-and-response clapping
Visuals & Light	Soft warm lamp; nature videos	Fluorescent glare	Squinting, shielding eyes	Dim lighting; single visual focus	Brighter natural light near window
Touch & Proprioception	Hand massage; knitted blanket	Light tickling	Pulling hand away, stiffening	Moderate-pressure hand massage	Seated sway with rhythm; stress ball
Smell & Taste	Cinnamon, coffee, local dishes	Strong perfume	Grimace, head turn	Mild familiar aroma (e.g., lavender if tolerated)	Citrus scent; peppermint
Movement & Position	Rocking chair; short corridor walk	Crowded hallways	Freezing, refusing to stand	Gentle sway; caregiver side-by-side	Marching in place to music

Table 3. "Dosing" and scheduling guidance

Intervention	Typical Session	Frequency	Setting	Notes
MSE / Snoezelen	10–30 min	2–5×/week	Sensory room or mobile cart	Expect immediate mood/agitation benefits; plan carry-over (e.g., bedside playlist) to sustain
Reminiscence (Group)	30–60 min	Weekly–biweekly	Lounge/activity room	Use biographical themes; combine with snacks/scents for immersion; monitor emotional triggers
Music + Touch	10–20 min	3×/week or PRN	Bedside/quiet corner	Hand massage + preferred music reduces verbal agitation; document oil/skin sensitivity
Aromatherapy	10–30 min exposure	Daily or PRN	Diffuser/patch	Choose culturally acceptable scents; screen for asthma/allergy; mixed evidence—individualize
Nature-Based	15–30 min	3×/week	Garden/window walk	Natural light and greenery can reduce agitation; combine with reminiscence cues from local area

Implementation Playbook (“how-to”)

A. Preparing the ground

- Assemble a core team: nurse champion, activity lead, occupational therapist/psychologist, and a family liaison. Define roles for sensory profiling, delivery, and outcome tracking. (Team-based models are common in successful implementations.)
- Create or adapt space: If no Snoezelen room exists, designate a “calm corner”: movable lamp with dimmer, portable speaker, tactile box, diffuser (if appropriate), and a folding screen for visual privacy.
- Build the Personal Sensory Profile from Table 2 using family interviews and observation. Update monthly; highlight absolute “no’s” (e.g., scent aversion).

B. Safety, consent/assent, and cultural humility

- Consent/assent: Seek assent at each session; watch for micro-signals (turning away, frowning). Document how consent is obtained and any capacity considerations, aligned with local policy.
- Sensory boundaries: Touch is opt-in; obtain explicit permission; offer alternatives (e.g., guided breathing) if declined.
- Cultural tailoring: Use locally meaningful music, foods, and scents (e.g., regional spices). Family-curated playlists increase acceptance; avoid scents associated with mourning or discomfort in a given culture.
- Risk checks: Tripping hazards in dim settings, photosensitivity, asthma/allergies with aromatherapy, and noise spillage. Keep lighting pathways clear, test scents sparingly, and use headphones to contain sound.

C. Delivery micro-skills (trainable in 60–90 minutes)

- Start low, go slow: Begin with one channel (most often music) and layer a second (touch or visual) only if engagement and relaxation are observed.
- VT-first entry: Validate emotion (“You seem worried”) before offering the cue (“Would your favorite song help right now?”). This reduces resistance and primes acceptance.
- Observe & titrate: Watch face, breath, hands. If eyelids flutter or shoulders tense, reduce intensity or switch channels.
- Narrate choice: Offer two options (“the seaside sounds or the jazz guitar?”)—maintains autonomy.
- Close and carry over: End with a transition cue (e.g., same soft track), then carry a portable element back to the unit (headphones, small tactile item) to prolong benefits.

D. Measurement & iteration

- Core metrics: Cohen-Mansfield Agitation Inventory (CMAI) 2–3× weekly, a simple mood scale (0–10 or smiling faces), staff-rated engagement checklist (eye contact, verbalization, participation).
- Plan-Do-Study-Act cycles: Adjust stimuli, timing, or facilitator based on data. For example, if agitation peaks at 16:00 ("sundowning"), move sessions earlier as pre-emptive regulation.

Common Barriers and Practical Solutions

- "We don't have a sensory room." → Use a mobile kit: clip-on dimmer lamp, headphones, tablet with playlists, small tactile items, scent strips (PRN), and a privacy screen.
- Staff time constraints → Embed micro-interventions into care (2–5 min): headphones during dressing, hand massage during wait times, calming playlist at mealtimes. Track with a simple tick-box on the medication round sheet.
- Inconsistent effects → Re-check the Sensory Profile and timing; many effects are state-dependent. Consider switching from generic to biographical cues (family-curated).
- Adverse responses (overstimulation, scent dislike) → Remove the stimulus; try a different channel (e.g., from olfactory to tactile). Document as a "hard stop" on the profile.

Conclusion

Sensory activation leverages preserved emotional and procedural systems in dementia to regulate arousal and enable cue-dependent recall. Multisensory integration provides redundant access routes to attention and comfort, consistent with residual neuroplasticity and enriched-environment principles. VT offers the relational stance—joining before redirecting—that prepares the ground for sensory input to “land.” RT contributes identity-affirming cues that strengthen mood and social connection, and PCC ensures everything is tailored, ethical, and sustainable within daily routines.

Across systematic reviews and meta-analyses up to 2025, the most consistent effects are short-term reductions in agitation and other NPS, improved mood/relaxation, and enhanced participation—especially for MSE and RT. Music-based approaches are accessible and impactful; music + touch and aromatherapy can further reduce agitation for some individuals. Cognitive benefits are most consistently observed with reminiscence (small-to-moderate effects), with promising early signals for pairings of multisensory stimulation and simple tasks. Effects typically fade without maintenance, highlighting the importance of repetition, scheduling, and carry-over into the living environment.

Key Messages

1. Make sensory profiling standard at admission and revisit monthly; include hard stops (aversions) and favorite cues.
2. Program brief, frequent sessions (10–30 min, 2–5×/week) plus micro-interventions during care to sustain gains.
3. Use VT to defuse distress, then apply tailored sensory input; the sequence matters for acceptance.
4. Embed PCC: carry favorite music, lighting preferences, and tactile items into daily routines; this is where lasting benefit emerges.
5. Measure what matters (CMAI, mood, engagement) and iterate with PDSA cycles.
6. Train, train, train: skills are simple but need practice (titration, reading micro-responses, consent/assent).
7. Plan for culture and equity: match cues to the person’s cultural identity; involve families in curation; avoid one-size-fits-all kits.

In short, sensory activation is a humane, evidence-informed pillar of dementia care. When delivered within a person-centered, validation-informed framework and backed by routine measurement and consistency, it can reduce distress, improve daily life, and uphold personhood for people living with dementia and those who care for them.

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Section 3

Dementia Disease Characteristics & Population Traits

Abstract

This section aims to synthesize a practice-ready overview of dementia disease characteristics and population traits by tracing progression from mild to moderate to severe stages; link stage-specific cognitive changes (e.g., episodic memory loss, disorientation, executive and visuospatial decline) with behavioral and psychological symptoms of dementia—including agitation, wandering, sleep disruption, apathy, anxiety, and depression—and the resulting impact on daily function, risk management, and caregiver roles; distill common care challenges (memory loss, repetitive behaviors, emotional withdrawal, and communication decline) into actionable responses such as environmental cueing, structured routines, non-pharmacological calming strategies, and timely legal/financial planning; integrate European population data and system realities—highlighting Greece's reliance on family caregiving, Bosnia and Herzegovina's data and strategy gaps, Bulgaria's NGO-driven stopgaps, and Cyprus's mixed family–formal model—to show how culture and infrastructure shape what support is feasible; and translate disease stage into sensory techniques that are both evidence-informed and culturally resonant (e.g., reminiscence and autobiographical cues in mild disease; tactile/olfactory and structured activities in moderate disease; rhythmic, auditory, and gentle touch approaches in severe disease), emphasizing iterative assessment and caregiver-friendly tools to personalize care, reduce distress, and uphold personhood.

Objectives

- Map dementia's mild–moderate–severe progression and its implications for function, risk, and caregiving.
- Identify core symptoms and challenges and pair them with practical, non-pharmacological responses.
- Summarize country-specific population traits (Greece, BiH, Bulgaria, Cyprus) that shape care pathways.
- Link disease stage to sensory interventions, with guidance for cultural tailoring.
- Promote an iterative assessment loop that blends informal observation with periodic formal screening.
- Provide practice-ready tools (checklists, trackers, adaptation prompts) to personalize and sustain care.

Dementia Disease Characteristics & Population Traits

Stages of Dementia

Most types of dementia—including Alzheimer’s disease (AD), vascular dementia, dementia with Lewy bodies, frontotemporal dementia, and mixed etiologies—progress over years from mild to moderate to severe stages. Across stages, cognitive decline intertwines with behavioral and psychological symptoms of dementia (BPSD) and progressive loss of independence, with implications for caregiver role, risk management, and service intensity. Although staging tools differ (e.g., three-stage clinical model; seven-stage Global Deterioration Scale), the mild–moderate–severe framework is widely used in education and care planning.

Mild Stage (Early dementia)

- Cognitive: New learning is impaired. People repeat questions, misplace items, or miss appointments. Orientation to time is inconsistent; complex instrumental activities (finances, medications, driving, work) become error prone. Prospective memory and divided attention are commonly affected; word-finding pauses increase (Alzheimer’s Association, 2018; Jack et al., 2018; Jack et al., 2024).
- Behavioral/Emotional: Heightened anxiety, irritability, or mild depressive symptoms may reflect insight into changes; some people compensate by withdrawing from cognitively demanding situations. Subtle apathy (reduced initiative) is common (Cloak, Schoo & Al Khalili, 2019).
- Caregiving/Support: Families shift toward cueing and oversight rather than physical help (e.g., creating visual checklists; setting medication reminders; limiting driving). Safety reviews focus on stove use, financial exploitation, and wayfinding. Early education and support groups help anticipate progression and reduce crisis responses. Guidelines emphasize timely diagnosis and person-centered planning at this stage (NICE, 2018).

Moderate Stage (Middle Dementia)

- Cognitive: Marked short-term memory loss; increasing disorientation to date/place; impaired sequencing and problem solving. People need help with instrumental ADLs and begin to need supervision/assistance with basic ADLs (dressing, bathing). Language shows reduced phrase length and circumlocutions; visuospatial difficulties cause navigation problems even in familiar neighborhoods (Alzheimer's Association, 2018; Jack et al., 2018; Jack et al., 2024).
- Behavioral/Emotional: BPSD becomes prominent: agitation, repetitive vocalizations or movements, suspicion/delusions, sleep–wake disruption, wandering/exit-seeking, and fluctuating anxiety or depressed mood. Pain, infection, and environmental overstimulation/understimulation commonly precipitate behaviors (Cloak, Schoo & Al Khalili, 2019)
- Caregiving/Support: Caregivers transition to daily hands-on care and risk mitigation (e.g., door alarms, ID bracelets, structured day routines). Multidisciplinary input—OT for task simplification, nursing for continence/skin care, and social work for respite—becomes essential. Guidelines recommend non-pharmacological approaches first for BPSD, reserving psychotropics for severe distress or risk after careful risk–benefit assessment (NICE, 2018).

Severe Stage (Late Dementia)

- Cognitive: Profound impairments in memory and comprehension; minimal verbal output; loss of recognition of close others may occur. Attention span is seconds to minutes; sensory processing becomes slower and more bottom-up (Alzheimer's Association, 2018; Jack et al., 2018; Jack et al., 2024).
- Behavioral/Emotional: Apathy predominates; episodic agitation may reflect discomfort (pain, constipation, unmet needs). Startle responses, hypersensitivity to noise/light, and sundowning (late-day agitation) are frequent (Cloak, Schoo & Al Khalili, 2019).
- Caregiving/Support: Needs are near-total: feeding support with aspiration risk management, pressure-injury prevention, safe transfers, and palliative symptom control. Families need guidance on goals of care and comfort-focused approaches. Sensory-based soothing and routine are central (NICE, 2018).

Symptoms and Challenges

Memory loss & disorientation

Impact on daily care: Missed medications, leaving appliances on, lost items, and unsafe wandering. Care practices adapt via external memory aids (labels, whiteboards), environmental cues (contrasting colors to cue bathrooms), and supervised routines. Early legal/financial planning is time sensitive.

Agitation, aggression, and repetitive behaviors

BPSD affects most people with dementia at some stage and correlates with caregiver burden, accelerated institutionalization, and higher costs. Triggers include pain, communication barriers, boredom, noise, and misperceived threats; pain is specifically associated with aggression, depression, and agitation, underscoring the need for active pain assessment. First-line responses are non-pharmacological: adjust the environment, ensure comfort, validate emotion, and employ structured sensory input (music, soothing touch).

Depression, withdrawal, and emotional strain

Depressive symptoms and apathy are prevalent, especially in early–mid AD and reduce participation in therapy and self-care. Supportive counseling, pleasant-event scheduling, sensory-rich reminiscence, and carer psychoeducation are recommended; pharmacotherapy is individualized.

Communication difficulties & language loss

Word-finding pauses progress to reduced phrase length and eventual minimal speech. Care adaptations include short sentences, one-step prompts, visual demonstration, time to process, and reliance on nonverbal cues (touch, rhythm, eye contact). In advanced stages, sensory channels often outperform verbal channels for connection and calming (Alzheimer’s Association, 2018).

Main Dementia Types: Clinical Picture, Specific Symptoms & Early Signs

Alzheimer’s Disease (AD)

Alzheimer’s disease is a gradual, insidious, progressive neurodegenerative disorder in which episodic memory impairment (recent events, appointments, conversations) is typically the leading feature, followed by deficits in word-finding, visuospatial skills, and executive functions as the disease advances. Contemporary criteria increasingly integrate biomarkers (amyloid/tau and neurodegeneration) to define the biological disease, but clinically it is still recognized by its signature amnestic syndrome and slow progression across years (National Institute on Aging, 2022).

Common symptoms across the course

- Cognition: prominent recent memory loss, repetitively asking the same questions; later, impaired planning, organization, and visuospatial orientation (getting lost), and anomia with empty or circumlocutory speech.
- Behavior & emotion: apathy, depression, irritability or anxiety, reduced initiative; later, agitation or delusions may emerge, often triggered by pain, infection, or environmental stressors.
- Function: early difficulties with instrumental activities of daily living (medications, finances, complex cooking), progressing to assistance with basic ADLs (Alzheimer’s Association, 2018).

Early signs to watch for (family/staff level)

- Memory lapses that disrupt daily life (relying on lists/relatives for things previously managed independently).
- Difficulty planning/solving problems (bills, recipes), disorientation to time/place, word-finding trouble, misplacing items and inability to retrace steps, poor judgment, social withdrawal, and mood/personality change (often subtle apathy).

Practice note: If memory loss is the lead symptom and decline is slow and steady without early gait or visual hallucinations, AD should be high on the differential. A structured interview with examples of “missed steps” in daily life improves early detection.

Vascular Cognitive Disorder / Vascular Dementia (VaD/VCI)

Vascular dementia results from cerebrovascular disease (large/strategic infarcts, small vessel disease, hemorrhages, hypoperfusion). Compared to AD, the cognitive profile more often shows slowed processing speed, impaired attention and executive function, and variable memory involvement. The course may be stepwise (after strokes) or fluctuating, and focal neurological signs or gait disturbance are common. Diagnosis rests on the temporal link between vascular events and cognitive decline plus neuroimaging evidence of vascular brain injury (Dichgans & Leys, 2017).

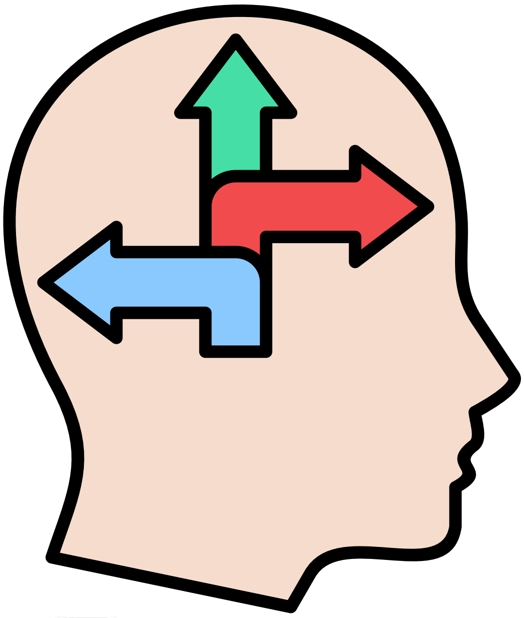
Common symptoms across the course

- Cognition: executive dysfunction (planning, sequencing, mental set-shifting), inattention, slowed thinking; memory may be relatively less impaired early on compared with AD.
- Behavior & emotion: apathy, mood changes, emotional lability; sometimes early psychomotor slowing and reduced initiation.
- Neurological/system signs: gait disturbance, falls, urinary urgency/incontinence, focal deficits (e.g., hemiparesis, visual field loss) depending on lesion location.

Early signs to watch for

- Sudden or subacute changes after a stroke/TIA, or a stepwise decline.
- Early executive problems (can’t sequence multistep tasks) more than memory, early gait slowing or balance issues, and vascular risk factors (hypertension, diabetes).

Practice note: If families report “good days and bad days” linked to fatigue or blood-pressure swings, and you observe slowed thinking and early gait change, consider vascular contributions and optimize stroke prevention alongside cognitive care.



Dementia with Lewy Bodies (DLB)

DLB is characterized by early attentional/executive and visuoperceptual deficits, recurrent, well-formed visual hallucinations, marked fluctuations in cognition/alertness, spontaneous parkinsonism, and a strong association with REM sleep behavior disorder (RBD; Yamada, Iseki, Nakano & Ito, 2019). Neuroleptic sensitivity is a hallmark risk. The 2017 international consensus criteria and subsequent summaries specify core clinical features and indicative biomarkers (e.g., abnormal DAT-SPECT; McKeith et al., 2017).

Common symptoms across the course

- Cognition: fluctuating attention/alertness, slowed thinking, visuospatial dysfunction; memory may be relatively spared early.
- Neuropsychiatric: vivid visual hallucinations (people/animals), systematized delusions; depression/anxiety not unusual.
- Motor & sleep: parkinsonism (bradykinesia, rigidity, postural instability), RBD (acting out dreams), dysautonomia (orthostatic hypotension). High sensitivity to antipsychotics can precipitate severe rigidity or neuroleptic malignant–like reactions.

Early signs to watch for

- Fluctuations (“zoning in and out,” daytime drowsiness), recurrent detailed visual hallucinations, dream enactment reported by bed partners, and early parkinsonian features (stooped posture, reduced arm swing) before or around cognitive symptoms.

Practice note: Ask specifically about RBD and hallucinations in first interviews; if present, avoid typical antipsychotics unless absolutely necessary and under specialist guidance.

Parkinson’s Disease Dementia (PDD)

PDD shares clinical features with DLB but occurs in individuals with established Parkinson’s disease, where dementia develops after at least one year of well-documented motor symptoms (the “one-year rule” distinguishing it from DLB). Prominent cognitive domains include attention, executive and visuospatial functions, with frequent apathy, hallucinations, and daytime sleepiness (Emre et al., 2007; Poewe et al., 2008).

Common symptoms across the course

- Cognition: slowed processing, reduced attention/working memory, visuospatial impairment; memory retrieval more than encoding.
- Neuropsychiatric: visual hallucinations, apathy, depression/anxiety; sometimes delusions.
- Motor: underlying parkinsonism (bradykinesia, rigidity, tremor), gait/balance impairment; cholinesterase inhibitors may help cognitive/behavioral symptoms in some patients.

Early signs to watch for

- In a person with years of PD, look for increasing cognitive fluctuations, attention/executive problems (can’t follow multistep tasks), visuospatial errors (misjudging doorways), and emerging hallucinations, especially with dopaminergic dose changes.

Practice note: Review medications (anticholinergics, dopamine agonists) and optimize sleep, vision, and hearing; small environmental changes (contrast tape on stairs, uncluttered pathways) can meaningfully reduce risk.

Frontotemporal Dementia (FTD) Spectrum

FTD typically has earlier onset than AD (often 50s–60s) and presents with changes in personality/behavior or language-led decline rather than memory loss. The behavioral variant (bvFTD) centers on disinhibition, apathy/inertia, loss of empathy, compulsions/rituals, and hyperorality. The primary progressive aphasias (PPA) are language-predominant variants: nonfluent/agrammatic, semantic, and logopenic, each with distinguishing clinical features and imaging patterns (Rascovsky et al., 2011).

Common symptoms across the course

- bvFTD: early social conduct change, tactlessness, reduced empathy, binge-like eating or new sweet preference, rigid routines; relative sparing of episodic memory early on. Executive dysfunction is common.
- PPA variants:
  - Nonfluent/agrammatic (nfvPPA): effortful, halting speech; agrammatism; apraxia of speech.
  - Semantic variant (svPPA): fluent output but loss of word meaning (single-word comprehension, object knowledge).
  - Logopenic variant (lvPPA): word-finding pauses, impaired repetition with phonologic errors; often associated with AD pathology.

Early signs to watch for

- New personality change (disinhibition, loss of empathy), stereotyped behaviors, or dietary changes without insight (bvFTD).
- Language-led complaints without memory emphasis: effortful speech (nfvPPA), “words feel empty/labels lost” (svPPA), or “can’t hold a sentence in mind to repeat” (lvPPA).

Practice note: Families often report, “He’s not the same person,” or “She can’t find words but remembers appointments.” Early referral for speech-language assessment and carer counseling is crucial.

Mixed Dementia

“Mixed” dementia refers to coexisting pathologies—most often Alzheimer’s disease plus vascular disease, sometimes with Lewy body pathology. Autopsy and research center cohorts suggest mixed pathology is very common, frequently >50% among people diagnosed with a single dementia during life. Clinically, presentations are heterogeneous (e.g., amnestic AD picture with early gait/executive problems from small-vessel disease; Custodio et al., 2017).

Common symptoms across the course

- Features of AD (memory-led) combined with vascular (executive/gait) or Lewy (fluctuations/hallucinations) elements; progression can be faster and functional impact greater than single-pathology disorders.

Early signs to watch for

- Mixed signal history: clear amnestic difficulties plus early executive slowing or gait change; or amnestic syndrome with early hallucinations. Imaging often shows both neurodegenerative and vascular changes.

Practice note: Treat what’s treatable (vascular risk reduction), while tailoring cognitive/behavioral strategies to the dominant clinical phenotype; manage expectations by explaining the multi-cause nature of decline.

Table 1. Dementia Types, Common Symptoms & Early Signs

Dementia type	"Clinical image" (typical)	Common symptoms (course)	Early signs families notice
Alzheimer's disease	Gradual, amnestic onset; progressive across years	Recent-memory loss → word-finding, visuospatial, executive deficits; apathy/depression; later BPSD	Memory lapses disrupting life, repetition, misplacing items, word-finding problems, poor judgment, withdrawal
Vascular dementia / VCI	Stepwise or fluctuating decline linked to vascular events; executive/attention profile	Executive dysfunction, slowed thinking, gait imbalance, urinary urgency; mood lability/apathy	Post-stroke cognitive change, early planning/organization problems, early gait slowing/falls; vascular risk factors
DLB	Fluctuating cognition; visual hallucinations; parkinsonism; RBD; neuroleptic sensitivity	Visuospatial & attention deficits; hallucinations/delusions; parkinsonism; dysautonomia	Day-to-day alertness fluctuations, detailed visual hallucinations, dream enactment, early parkinsonism
Parkinson's disease dementia	Dementia after years of PD motor symptoms (one-year rule)	Attention/executive & visuospatial deficits; apathy, hallucinations; PD motor decline	Worsening attention/executive skills and visuospatial errors in longstanding PD; emerging hallucinations
Frontotemporal dementia	Early behavioral or language-led decline, often younger onset	bvFTD: disinhibition, apathy, loss of empathy, rituals, hyperorality; PPA variants by subtype	New personality/social changes or language-specific complaints without memory-led story
Mixed dementia	Combination of AD + vascular (± Lewy) pathology, very common in autopsy	Mixed amnestic + executive/gait ± hallucinations; often faster impact	"Mixed picture": memory problems with early gait/executive issues or hallucinations; imaging shows both pathologies

Population Traits

Global/European context

WHO estimates 57 million people lived with dementia in 2021 worldwide (nearly 10 million new cases annually). In Europe, Alzheimer Europe projects continued growth, with EU cases almost doubling by 2050; women are disproportionately affected (WHO, 2025).

Greece

- Prevalence & policy: Alzheimer Europe projected ~241,000 people with dementia in Greece by 2025 (≈2.37% of population), rising to 356,000 by 2050 (≈3.95%). Greece's National Dementia Plan (2016; implementation from 2018) is now incorporated into the National Mental Health Action Plan 2021–2030, prioritizing home-based support, mobile units, and incentives for relatives to provide care.
- Caregiving culture: Studies and policy analyses highlight strong reliance on family caregiving amid limited formal long-term care capacity; caregivers report loneliness and unmet information/support needs. Eurocarers notes a strong tradition of family care; Greek studies report burden and resilience dynamics among informal carers.

Bosnia and Herzegovina (BiH)

- Data gaps: Alzheimer Europe's 2019 Yearbook estimated ~40,000 (2018) and ~46,000 (2025) people with dementia, but official epidemiological data are lacking, limiting planning; fewer than 3% of cases may be diagnosed, underscoring under-recognition.
- Caregiving culture/system: Reports describe limited structured services and fragmented policy; families shoulder care, especially in rural areas, with stigma and low awareness hindering help-seeking.

Bulgaria

- Prevalence & policy: Alzheimer Europe estimated ~109,000 (2018) and ~115,000 (2025) people with dementia; Bulgaria does not currently have a national dementia strategy (a draft was discussed in 2014).
- Caregiving landscape: With weak formal structures, NGO-driven initiatives (e.g., Alzheimer Bulgaria; Foundation Compassion Alzheimer Bulgaria) provide training, information centers, and family support, often filling service gaps.

Cyprus

- Prevalence & policy: EU projections estimate ~15,700 people with dementia by 2025 (≈1.26% of population). The National Action Plan on Dementia (2012–2017) established a mixed approach combining formal structures with family care; many people live in the community with families as primary caregivers.
- Caregiving culture: Cyprus studies consistently show high family caregiving burden and predominance of family-provided care, with limited formal services; qualitative work documents emotional strain and "third-party disability" among carers.

Poland

- Prevalence & policy: Alzheimer Europe estimates 525,084 people with dementia in Poland in 2018 (≈1.38% of the population), 654,451 in 2025 (≈1.74%), and a rise to 1,075,099 by 2050 (≈3.23%) despite an overall population decline—indicating a steep increase in dementia's share of the population. Historically Poland had no national dementia strategy, but in May 2024 the government publicly confirmed work toward one, and on 23 June 2025 it opened public consultation on a draft National Programme for Action against Dementia (2025–2030).
- Caregiving culture/system: Care is predominantly family-based: about 92% of older adults with dementia are cared for at home and 44% of caregivers provide care entirely on their own, with limited respite and fragmented links between health and social care services—challenges repeatedly noted in Polish studies and reviews. Broader system analyses highlight shrinking family caring capacity and uneven access to long-term care, while recent public surveys suggest gaps in dementia knowledge and underdiagnosis. These features shape intervention delivery and underscore the value of low-cost, caregiver-guided supports (e.g., sensory routines at home) alongside development of formal services.

Connection to Sensory Techniques

Dementia progression alters what sensory activities work best, while cultural context shapes which stimuli feel meaningful.

Mild stage: leverage autobiographical memory and choice

- Techniques: Reminiscence with photos, keepsakes, local songs, neighborhood maps; curated playlists; guided storytelling about work, migration, conscription, festivals. Pair visual cues with light olfactory cues (coffee, citrus) to deepen emotional recall.
- Why it works: People retain autobiographical islands; cue-dependent retrieval and personal salience enhance mood and participation (Alzheimer's Association, 2022).
- Cultural tailoring:
    - Greece: traditional rebetiko/laiko songs; Orthodox feast-day foods; village photographs—aligns with family-centered identity (Albani et al., 2024)
    - Cyprus: family albums, church music, and community rituals; carers commonly facilitate at home (Papastavrou et al., 2007)

Moderate stage: simplify, structure, and engage the body

- Techniques: Tactile baskets (textiles, prayer beads, olive-wood objects), aroma strips (lavender if tolerated; coffee; spices), gardening with herbs, call-and-response singing, hand massage during agitation. Use one–two channels at a time and titrate intensity (Cloak, Schoo & Al Khalili, 2019).
- Why it works: BPSD often reflects arousal mismatch and unmet needs; bottom-up sensory regulation (touch, scent, rhythm) reduces hyperarousal and prompts engagement when language wanes. Pain checks are integral when agitation escalates (Shi et al., 2025).
- Cultural tailoring:
    - Bulgaria: NGO centers often curate culturally familiar music and crafts; regional spices and folk textiles can be powerful prompts.
    - BiH: leverage family-held items (traditional fabrics, coffee sets); community networks help compensate for scarce formal services.

Severe stage: soothe through rhythm, tone, and presence

- Techniques: Auditory and rhythmic inputs (humming, lullabies, heartbeat-tempo drum, prayer/chant), slow rocking, hand-over-hand rhythmic touch, familiar scents at very low intensity, single-focus visuals (soft lamp, candle-like light). Keep sessions short and repeatable (Alzheimer's Association, 2022).
- Why it works: With profound language loss, limbic and sensorimotor pathways remain responsive; consistent, predictable sensory cues can reduce distress and improve comfort and care acceptance (Cloak, Schoo & Al Khalili, 2019).
- Cultural tailoring: Incorporate faith-based sounds or lullabies relevant to the person's tradition (e.g., Byzantine chant, sevdalinka, Bulgarian folk lullabies), always guided by family preference.

Service design overlay: In Greece and Cyprus, family caregivers are central deliverers of sensory routines—guide them with simple toolkits and remote coaching. In Bulgaria, NGO hubs can host sensory-friendly groups and loan kits. In BiH, prioritize low-cost, family-led strategies and community education while advocating for data systems and policy support.

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Section 4

SENSE
Techniques in Practice

Abstract

The chapter provides a clinical handbook of sensory stimulation activities for dementia caregivers. Drawing on scientific theory, practice in the field, and experience from interviews with caregivers, the handbook contains easy-to-apply, flexible, and stage-tailored interventions. Recognizing that dementia is a progressive disorder, activities are stage-specific to address the special needs of the individual at mild, moderate, and severe stages of the disease.

The toolkit covers six core sensory areas—auditory, touch, smell, sight, taste, and kinesthetic—with 18 step-by-step treatments. The treatments are described in terms of theoretical basis, brief guidelines, and presumed effects in order to enable caregivers to use them with confidence in formal and informal situations.

The ultimate goal is to provide simple, cost-effective, and culturally sensitive approaches that tap the power of memory, reduce anxiety, and enhance emotional and social health. Through the use of the senses, caregivers can create moments of connection, stimulate thinking, and improve quality of life for people with dementia, as well as provide caregivers with functional and translatable skills.

Objectives

- Provide caregivers with a systematic, evidence-based toolkit of sensory interventions.
- Provide stage-specific adaptations for individuals with mild, moderate, and severe dementia.
- Provide replicable, low-cost, and accessible interventions adaptable to multicultural environments.
- Facilitate cognitive, emotional, and social improvements through sensory stimulation.
- Bridge theory and practice by integrating caregiver testimonials, field practice, and research findings.

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Auditory Domain

Theoretical Background:

Auditory stimulation is an example of non-pharmacological dementia care, stimulating intact neural circuits for emotion, sociality, and memory. Musical memory continues to be intact far into advanced-stage dementia, so that music and rhythm can stimulate autobiographical memory and euphoria (van der Steen et al., 2025). Systematic reviews attest that music-based interventions are able to minimize depression, anxiety, and behavioral disorders, and improve emotional functioning and quality of life, but its impact on cognition is less clear. Emerging research indicates that systematic auditory interventions can push beyond the boundaries of conventional music therapy. For instance, gamma frequency auditory stimulation (40 Hz) has been linked with good mood, arousal, and in certain research, stability of cognitive decline (Clements-Cortés & Bartel, 2022) . Similarly, soundscapes of known or biographical sounds have been found to involve storytelling, nostalgia, and good-quality interaction, which facilitate identity and social interaction (Houben et al., 2022). Consistent with the evidence base, a recent scoping review of 14 studies confirmed active (e.g., BrainHQ cognitive training) and passive (e.g., 40 Hz entrainment, acoustic sleep enhancement) auditory stimulation can enhance cognitive performance and brain activity modulation in Alzheimer's disease (Thamizhmani et al., 2024).

Technique 1: Music Therapy Using Familiar Tunes

Target Dementia Stage: Mild / Moderate

Materials Needed:

- Speaker or headphones
- Playlist with familiar songs

Step-by-Step Instructions:

Step	Action	Time	Notes
1	Before the session prepare a playlist with 3 or 5 songs that the person used to hear when they were young, or songs that are from their cultural background.	5 min	Be advised by person's family or caregivers.
2	Create a calm setting for the person with dementia, a place that can seat comfortable.	2 min	Make sure that the person feels relaxed and not seating uncomfortable.
3	Play the first song, encouraging passive listening.	5 min	Observe how the person reacts- face or body reaction.
4	Encourage any reaction of the person such as clapping, hamming.	10 min	The caregiver can demonstrate the movement.
5	Choose a calm song to finish the session.	5 min	Soft music help the person come back to routine.

Intended Outcomes:

- Stimulates long-term memory recall and body movement.
- Reduces anxiety, lifts mood, evokes positive emotions.

Technique 2: Storytelling with Sound Cues

Target Dementia Stage: Mild / Moderate / Severe

Materials Needed:

- Short, simple story (folk tale, personal story, children's story)
- Sound effects (from apps, recordings, or caregiver's voice)
- Printed or visual aids (optional)

Step-by-Step Instructions:

Step	Action	Time	Notes
1	Before session select a short story that is familiar with person's cultural background or personal story.	5 min	Adapt to the individual's cultural background and personal story
2	Invite the person to sit with you in a quiet space.	2 min	Make sure that there are no distractions.
3	By using a calm and clear voice start the storytelling.	5 min	Make eye contact.
4	Add sound cues (birdsong, sea waves, rain) at key points.	10 min	Play softly alongside narration.
5	Pause to invite reactions (smiles, comments, gestures).	5 min	Encourage reactions but not force them.

Intended Outcomes:

- Captures attention by arousing curiosity,
- Improves response to sound-related stimuli in daily life.

Technique 3: Tone Modulation Games

Target Dementia Stage: Mild / Moderate / Severe

Materials Needed:

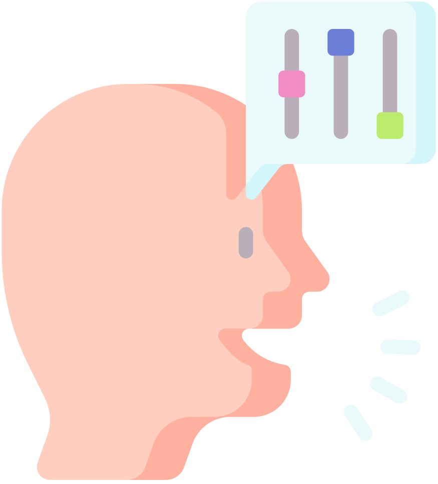
- Small instruments (bells, shakers, tambourine) OR caregiver's voice

Step-by-Step Instructions:

Step	Action	Time	Notes
1	Introduce activity by demonstrating sounds (high/low tone, loud/soft) by using your voice.	3 min	Use exaggerated contrasts.
2	Invite participant to repeat back or imitate the sound that you make.	5 min	Encourage even small attempts.
3	Follow up imitation by adding structured rhythm — such as: clap–clap–pause, shake–shake–pause, or drum–pause–drum. Use your body (your hands, feet) or instruments (bells, shakers, small drum).	7 min	Keep patterns simple.
4	Slowly transition over a gentle, slow beat (e.g., one slow chime or gentle clap every few seconds).	7 min	Reduces overstimulation.

Intended Outcomes:

- Enhances auditory discrimination, rhythm recognition, and focus.



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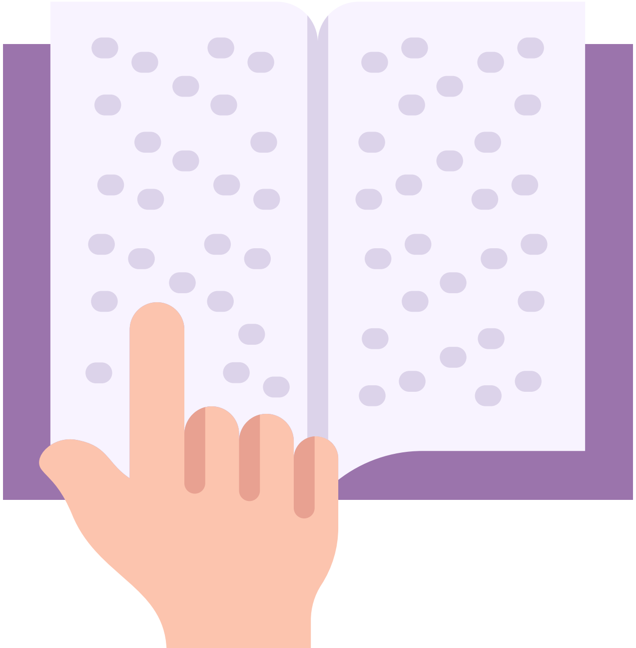
Tactile Domain

Theoretical Background:

Tactile stimulation is an effective non-pharmacological treatment for dementia care that supports comfort, management of behavior, and opportunities for meaningful interaction. In a recent meta-analysis, it was discovered that short-term massage and touch can significantly reduce agitation safely in patients with dementia with hand, head, and foot massage having specific effects in reducing agitation (Liu et al., 2025). These findings suggest that clinical nursing staff and carers must be positively encouraged to employ massage and touch as part of routine care practice. These findings suggest that carers and clinical nurses must be encouraged to use massage and touch as a normal part of care practice. Yet, currently there is a poor evidence base and trials to provide proof of long-term effectiveness before recommendations can be made. In addition to massage, low-level tactile interventions such as weighted blankets, fidget mats, folding towels, or familiar object use can increase communication, social interaction, and enjoyment. Interdisciplinary nursing home research also indicates that multisensory interventions, including touch, like massage, acupuncture, and pet visits, increase sleep duration and continuity and reduce nocturnal restlessness and promote overall well-being and reduce behavioral disturbances (Prins et al., 2020). In addition to their rehabilitative and soothing functions, touch techniques can provide enrichment. Research identifies tactile art-making therapy—in drawing, painting, or working with clay—paired with affect-evoking music as improving self-expression, evoking autobiographical memory, and assisting emotional regulation even in at-risk populations for cognitive decline (Palmiero et al., 2023).



Technique 4: Sensory Sand & Hand Massage

Target Dementia Stage: Moderate / Severe

Materials Needed:

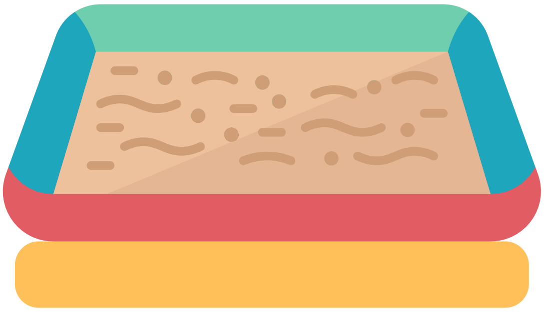
- Small basin with clean sand or rice
- Small safe objects (buttons, beads, shells)

Step-by-Step Instructions:

Step	Action	Time	Notes
1	Invite participant to place hands or gently place their hands into a tray or bowl with sand/rice.	2 min	Demonstrate first by slowly moving your hands to indicate the movement.
2	Encourage participant to search through the material, discovering hidden objects (e.g. buttons, beads).	8 min	Guide gently.
3	Let them hold and examine found objects.	5 min	Reinforce curiosity.
4	Transition to gentle hand massage with lotion.	10 min	Use calm tone.

Intended Outcomes:

- Stimulates attention.
- Provides comfort, reduces anxiety.



Technique 5: Fabric & Texture Matching

Target Dementia Stage: Mild / Moderate

Materials Needed:

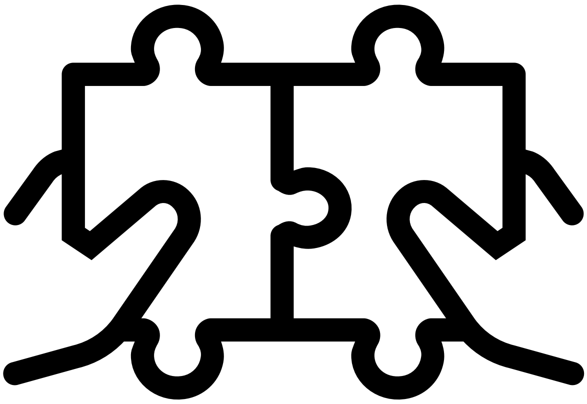
- Collection of different fabrics (wool, silk, cotton, velvet, denim, fleece)
- Tray or table for sorting

Step-by-Step Instructions:

Step	Action	Time	Notes
1	Present 4–6 fabric samples to the participant.	3 min	Use familiar and culturally relevant textures.
2	Invite them to feel each fabric and describe sensations.	5 min	Encourage descriptive words (soft, rough).
3	Invite participants to group the fabric based on how they feel (e.g., soft vs. rough, smooth vs. coarse).	7 min	Provide gentle guidance if needed.
4	Encourage them to select a “favorite fabric.”	3 min	This builds a sense of choice and comfort.
5	End session with participant holding the chosen fabric.	2 min	Reinforces calm and positive closure.

Intended Outcomes:

- Encourages comfort and pleasure with familiar textures.
- Encourages focus, reduces agitation and restlessness.



Technique 6: Sensory Boards

Target Dementia Stage: Mild / Moderate

Materials Needed:

- Wooden or sturdy cardboard board

The sensory board can include:

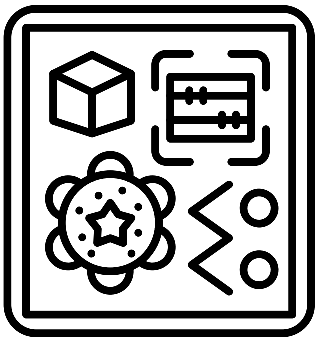
- Everyday items securely attached: zippers, buttons, beads, laces, switches, knobs

Step-by-Step Instructions:

Step	**Action**	**Time**	**Notes**
1	Introduce the sensory board slowly, opening 1–2 objects (e.g., zipper, button, light switch).	2 min	Use a warm and welcoming tone.
2	Invite participant to explore objects freely.	8 min	Avoid overwhelming—offer 2–3 objects at a time.
3	Encourage the participant repeat simple, meaningful movements such as zipping/unzipping, buttoning/unbuttoning, or turning switches on/off.	10 min	Praise and comment on even limited success ("That was a good zip!").
4	Invite the participant to select or indicate their preferred item on the board. Invite them to say why they enjoyed it, in words or gesture.	5 min	Provides closure and validation.

Intended Outcomes:

- Reinforces sequencing, problem-solving, and tactile memory.
- Builds satisfaction, reduces anxiety through repetitive activity.



Olfactory Domain

Theoretical Background:

Olfactory stimulation offers a highly effective, drug-free treatment in the care of dementia at the confluence of sense perception, emotion, and memory. As olfaction is one-to-one with hippocampus and amygdala, odour-evoked memory is particularly powerful and emotionally engaging, and to give extended access as other memory systems are failing (D'Andrea, 2022; D'Andrea et al., 2022). Familiar smells such as coffee, herbs, perfumes, or spices cause flash recall, autobiographical memory, and positive mood, and enhance identity and social relatedness. Controlled clinical studies demonstrate that formal olfactory interventions, as well as reducing agitation, anxiety, sleep, and behavioral symptoms, also enhance communication and mood control. Notably, combining odour exposure with cognitive performance and reminiscence therapy has been shown to stabilise cognition, improve olfactory performance, and even decrease dementia biomarkers (Tau, Aß1-42), with a hint of potential neuroprotection (Lin & Li, 2022). Even though results vary across studies as a function of habituation and limitations in methodology, the results indicate that individually individualized, meaningful smell and interactive smell-based treatments hold potential to improve well-being, stimulation of cognition, and quality of life in people with dementia.

Technique 7: Aromatic Memory Box

Target Dementia Stage: Mild / Moderate

Materials Needed:

- Small box with jars/cotton pads infused with familiar scents (coffee beans, cinnamon, lavender, basil, citrus peel, perfumes).

Step-by-Step Instructions:

Step	Action	Time	Notes
1	Introduce the box and explain the activity in simple words.	2 min	Adapt language to stage.
2	Present first scent for gentle inhalation (e.g., citrus, coffee, and lavender) for light inhalation, holding it at short distance from the nose.	2 min	Hold safely at distance.
3	Pause, observe reactions (facial expression, gestures).	1 min	Encourage response but don’t pressure.
4	Repeat with 3–4 scents.	8 min	Keep session short to avoid fatigue.
5	Invite reflection (“This reminds me of…”).	5 min	For severe dementia, skip reflection, just observe mood.

Intended Outcomes:

- Stimulates autobiographical memory recall.
- Evokes positive emotions, reduces apathy.
- Encourages storytelling and sharing.
- Improves alertness and participation in activities.

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Technique 8: Seasonal Scent Walks

Target Dementia Stage: Mild

Materials Needed:

- Outdoor garden, park, or patio area with seasonal plants (lavender, rosemary, roses, citrus trees).
- Comfortable walking shoes and support aids if needed.

Step-by-Step Instructions:

Step	Action	Time	Notes
1	Guide participant outdoors, ensuring comfort and safety.	5 min	Choose calm weather.
2	Invite them to stop near plants and gently smell flowers/herbs.	10 min	Offer simple cues: "This is rosemary."
3	Encourage touch (leaves, petals) while smelling.	5 min	Combines tactile + olfactory.
4	Pause for reflection or conversation.	5 min	Allow spontaneous sharing.
5	End with quiet seated rest outdoors.	5 min	Enhances relaxation.

Intended Outcomes:

- Reduces stress and fosters calm.
- Increases physical engagement.

Technique 9: Essential Oils Relaxation

Target Dementia Stage: Moderate / Severe

Materials Needed:

- Essential oils (lavender, lemon balm, citrus).
- Cotton pads, diffuser, or small spray bottle.

Step-by-Step Instructions:

Step	Action	Time	Notes
1	Prepare cotton pad/diffuser with a few drops of essential oil.	2 min	Avoid direct skin contact for safety.
2	Place scent near participant for gentle inhalation.	5 min	Monitor comfort.
3	Encourage slow breathing or relaxation posture.	10 min	Caregiver models calm behavior.
4	Rotate scents across sessions (lavender for calm, citrus for alertness).	—	Not in same session to avoid overstimulation.
5	End session with quiet time and reassurance.	5 min	Helps with transition.

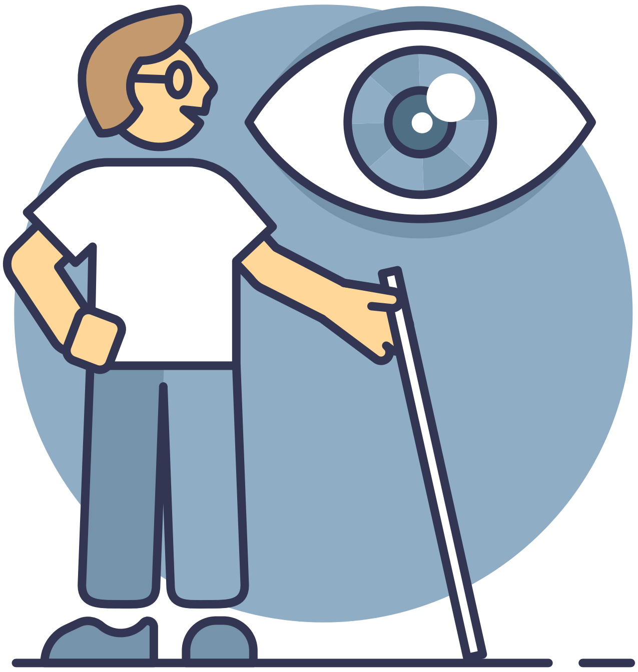
Intended Outcomes:

- Reduces agitation, anxiety, and promotes calm.

Visual Domain

Theoretical Background:

Visual stimulation with the arts is a successful non-pharmacological therapy for dementia that encourages resilience, identity, and creativity. It has been demonstrated that involvement in structured visual art interventions—production of art, looking at art, or both—is linked with more well-being, attention, enjoyment, and self-esteem but less sadness and negative affect (Windle et al., 2018). Visual arts activity in the care home environments also enhances communication, social interaction and building of relationships, enhancing resilience and self-knowledge even at late-stage dementia (Newman et al., 2019). Systematic evidence is unambiguous that effective interventions are 60–120 minutes' duration weekly, involve doing hands-on creative activity with viewing or discussing art, and are led by trained staff who offer safe, interactive, individual space (Shoesmith, Surr & Charura, 2020).



Technique 10: Photo Albums & "Memory Windows"

Target Dementia Stage: Mild / Moderate

Materials Needed:

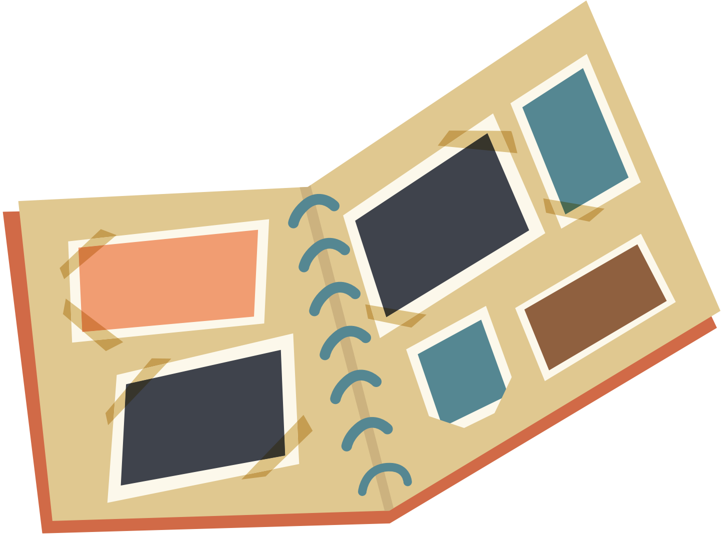
- Personal/family photo albums, cultural or historical images, photo cards.

Step-by-Step Instructions:

Step	Action	Time	Notes
1	Present 5–10 photos in an album or card set.	3 min	Include culturally relevant images.
2	Invite participant to look through images slowly.	5 min	Offer verbal prompts if needed.
3	Ask gentle questions ("Who might this be?").	7 min	Avoid pressuring for exact answers.
4	Encourage storytelling or emotional sharing.	10 min	Caregiver listens actively.
5	Conclude by placing a "favorite" photo on display.	2 min	Reinforces continuity.

Intended Outcomes:

- Stimulates memory recall strengthens identity, enhances emotional well-being, encourages communication



Technique 11: Art Exposure & Coloring

Target Dementia Stage: Mild / Moderate

Materials Needed:

- Simple coloring books/pages, markers or colored pencils, reproductions of artworks.

Step-by-Step Instructions:

Step	Action	Time	Notes
1	Provide coloring materials (soft pencils, crayons, markers) or reproductions of art with clear outlines and recognizable themes (e.g., nature, common scenes, and flowers).	3 min	Choose clear, bold images.
2	Invite participant to color or observe images.	10 min	Offer gentle encouragement.
3	Discuss colors, shapes, or personal preferences.	7 min	Keep prompts open-ended.
4	Store the artwork in a "memory portfolio" which you can develop in following sessions.	5 min	Builds a sense of achievement.

Intended Outcomes:

- Enhances fine motor coordination, promotes creativity, reduces anxiety, encourages pride and expression.

Technique 12: Visual Pattern Games

Target Dementia Stage: Mild

Materials Needed:

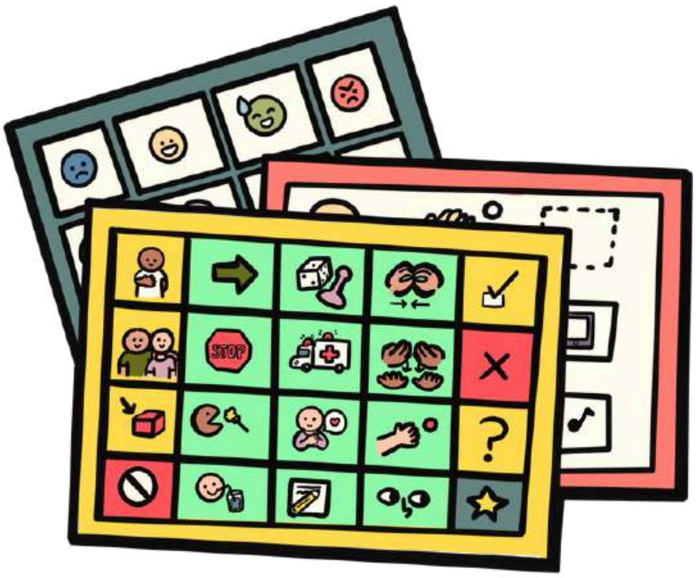
- Simple puzzles, matching cards, dominoes, shape or color-sorting games.

Step-by-Step Instructions:

Step	Action	Time	Notes
1	Present a simple visual puzzle or pattern game.	2 min	Start with large, clear pieces.
2	Demonstrate first move (e.g., matching shapes).	3 min	Keep instructions simple.
3	Invite participant to complete 3–5 matches.	8 min	Provide guidance if needed.
4	Encourage completion of short sequence (3–4 steps).	7 min	Adjust difficulty as required.
5	Conclude with positive reinforcement.	2 min	Praise effort, not accuracy.

Intended Outcomes:

- Improves attention span, supports problem-solving, fosters sense of mastery, and reduces passivity.



Gustatory Domain

Theoretical Background:

Taste stimulation remains the most unexploited sensory intervention for individuals with dementia despite having evidence that substantiates its strong connection with memory, identity, and health. Sonas is one of the therapies that incorporate the use of taste within multisensory stimulation while acknowledging the existence and impact of compromised gustatory and olfactory senses for people with dementia (Strøm et al., 2016). Apart from diet, normal taste has the power to evoke autobiographical memory and positive mood and position individuals in important experience (Jakob & Collier, 2017). Everyday activities include communal eating, taste testing, cooking or gardening activity, which strengthen social interaction and cultural identity. On the rehabilitation side, thermal-tactile stimulation like gustatory stimulation has been tried in the treatment of dysphagia, but in severe dementia little evidence is found of its efficacy against the pathophysiology of disease progression (Olchik et al., 2020). In general, literature suggests gustatory stimulation to be effective if it is culture-sensitive and individualized and incorporated into daily routines and social communication rituals rather than as an intense form of therapy.

Technique 13: Taste-Based Memory Triggers

Target Dementia Stage: Mild/ Moderate

Materials Needed:

- Small samples of culturally relevant tastes (honey, lemon, chocolate, herbal tea).

Step-by-Step Instructions:

Step	Action	Time	Notes
1	Present a small tasting tray with 3–4 items.	3 min	Include familiar flavors.
2	Invite participant to taste each sample slowly.	8 min	Encourage savoring.
3	Pause after each taste and observe reactions.	5 min	Note smiles, gestures, or words.
4	Encourage reflection ("Does this remind you of anything?").	7 min	No pressure to answer.
5	End session with a favorite item.	2 min	Reinforces comfort.

Intended Outcomes:

- Triggers autobiographical recall, evokes positive emotions, fosters conversation, and improves mood.

Technique 14: Seasonal Fruit Tasting

Target Dementia Stage: Mild

Materials Needed:

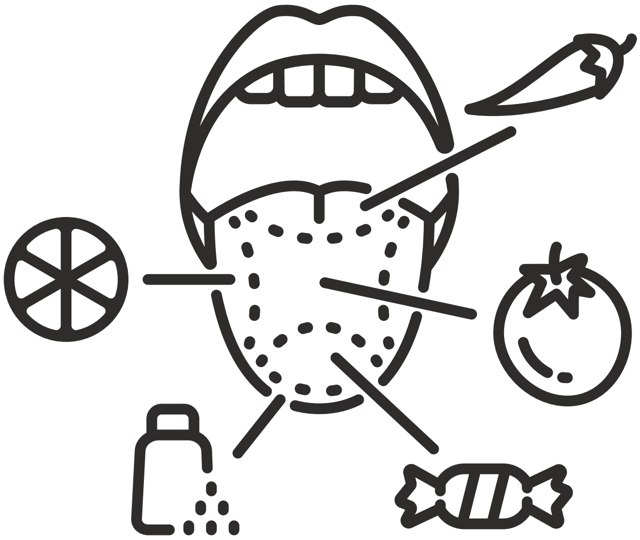
- Seasonal fruits (e.g., watermelon in summer, oranges in winter).

Step-by-Step Instructions:

Step	Action	Time	Notes
1	Select 2–3 fruits typical of current season and cut the in small portions for the person to taste.	5 min	Use fresh, ripe produce.
2	Encourage identifying flavors.	3 min	Encourage identifying flavors.
3	Start a conversation with person on when they used to eat this fruit, what season and occasion.	7 min	Example: “We eat this at Easter.”
4	Conclude by asking person which fruit was their favourite.	7 min	Reinforces comfort.

Intended Outcomes:

- Supports orientation to time/season, enhances appetite, fosters cultural connection, and promotes social interaction.



Technique 15: Simple Food Preparation

Target Dementia Stage: Mild/ Moderate

Materials Needed:

- Bread, butter, fruit, simple utensils (plastic knife, bowls).

Step-by-Step Instructions:

Step	Action	Time	Notes
1	Provide a familiar, uncomplicated task, for example, spreading a slice of bread with butter, peeling an apple, or spreading jam.	5 min	Keep tasks safe and easy.
2	Guide step-by-step but allow independence.	10 min	Support only when needed.
3	Encourage participant to taste their creation.	5 min	Reinforces achievement.
4	End the activity by expressing acknowledgement of their exertion ("You prepared well today").	7 min	Builds pride and self-worth.

Intended Outcomes:

- Promotes independence, enhances self-esteem, stimulates appetite, and fosters social engagement.

Kinesthetic Domain

Theoretical Background:

Kinesthetic therapies such as walking, gardening, and dancing constitute an important part of dementia care because they incorporate movement, sensory exposure, as well as social interaction. They improve motor coordination, mood, quality of life, and they reduce behavior and psychological symptomsof dementia(BPSDs).

Horticultural Therapy (HT) is one of the strongest, non-pharmacologic interventions in dementia care that offers more than gardening—it's therapy in the form of significant sensory experience. In this regard, interactive horticultural interventions—like planting, watering, and caring for sensory gardens—reduced agitation, improved mood, and improved participation by people with dementia (Wichrowski & Moscovici, 2024; Borella et al., 2023) These activities promote emotional thriving, autonomy, and connection with nature—outcomes that linger after momentary sensory experience.The evidence affirms that the HT interventions need to be introduced best when they are centered on the person and thus can be tailored towards the person's history, likes, and physical ability. When incorporated as low-resource alternatives at bed-side—like indoor planters in rooms or use of sensory gardens—they provide care environments with feasible and rewarding ways to alleviate behavioral and psychological symptoms of dementia (BPSD) as well as adaptive engagement.

Mobility also enables interpersonal relationships in addition to embodiment. Imaginative, movement-oriented activities—like shadow puppetry, movement, or acting out—adequately utilize intellectual capacity, narrative communication, as well as emotional restoration in dementia, thus enriching interpersonal relationships as well as maintaining identity (Chao, Chen, & Su, 2025).

In addition, facilitated by music as well as by movement, kinesthetic interventions become all the stronger still. Evidence learned from participatory projects finds music facilitated by movement enhances social interaction, memory, as well as affective arousal, affording people who live with dementia important tools toward social participation as well as identity affirmation (Perkinson et al., 2022).

Technique 16: Guided Walking Routines

Target Dementia Stage: Mild/ Moderate

Materials Needed:

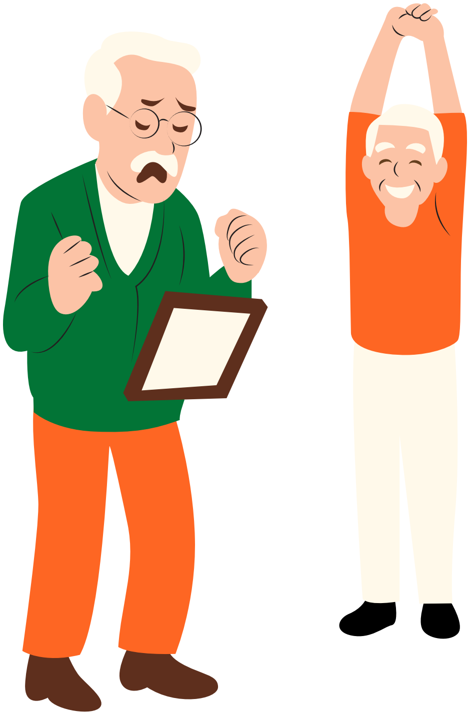
- Comfortable shoes, walking aid if needed, safe indoor or outdoor path.

Step-by-Step Instructions:

Step	Action	Time	Notes
1	Invite participant for a short walk.	2 min	Ensure safe environment.
2	Begin with slow pace, caregiver by side.	5 min	Encourage steady rhythm.
3	Introduce simple verbal cues (“Step, step”).	5 min	Supports rhythm and focus.
4	Pause midway to rest and chat.	5 min	Prevents fatigue.
5	End walk with gentle stretching.	3 min	Reinforces relaxation.

Intended Outcomes:

- Maintains mobility, improves mood, reduces agitation, fosters social interaction.



Technique 17: Gardening & Planting

Target Dementia Stage: Mild/ Moderate

Materials Needed:

- Small pots, soil, seeds or herbs, watering can.

Step-by-Step Instructions:

Step	Action	Time	Notes
1	Present gardening materials.	3 min	Choose familiar plants.
2	Guide participant to fill pot with soil.	5 min	Encourage independence.
3	Help place seeds/herbs in soil.	5 min	Simple, repetitive action.
4	Water plant together.	5 min	Sensory + movement combined.
5	Place pot in visible location for follow-up.	2 min	Builds continuity.

Intended Outcomes:

- Encourages physical activity, fosters responsibility, stimulates senses, reduces stress.

Technique 18: Movement & Dance Games

Target Dementia Stage: Mild / Severe (adaptable to seated activity)

Materials Needed:

- Music player, selection of rhythmic songs.

Step-by-Step Instructions:

Step	Action	Time	Notes
1	Play rhythmic music with clear beat.	2 min	Choose familiar songs.
2	Demonstrate simple movement (clapping, tapping, swaying).	5 min	Adapt to ability.
3	Encourage imitation or free movement.	10 min	Keep relaxed and fun.
4	For groups: introduce call-and-response moves.	7 min	Builds social energy.
5	End with slow, calming music.	3 min	Supports relaxation.

Intended Outcomes:

- Improves coordination, reduces apathy, fosters joy and creativity, promotes group bonding.

Conclusion

SENSE Techniques toolkit highlights the paramount importance of multi-sensory stimulation as a viable, evidence-based, and non-pharmacological intervention for dementia. By activating the six principal senses—auditory, tactile, olfactory, visual, gustatory, and kinesthetic—caregivers can structure activities that are simple, versatile, and phase-specific, hence applicable to mild, moderate, and severe phases of dementia.

One of the most important insights is that sensory stimulation is optimal if it is tailored to the person with dementia, their lifetime, interests, and cultural background, as well as to their stage of dementia. Tailoring makes each day sounds, textures, odors, visuals, tastes, and movements gateways to memory, emotional expression, and social interaction.

The interventions outlined in this section are purposely low-cost, replicable, and flexible, therefore accessible to formal caregivers in institutions and informal caregivers in the home. They stimulate cognition but reduce anxiety, improve mood, and encourage social interaction, each of which directly leads to enhanced quality of life for individuals with dementia.

Equally important, the toolkit provides caregivers with sound strategies that close the theory-to-practice gap. As caregivers infuse these sensory activities into routines, they build relational meaning that balances isolation and supports dignity. In doing this, they build not only benefits for people with dementia but also for the development of caring, person-centered environments in which connection, identity, and joy can flourish despite disease adversities.

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Section 5
Assessment Strategies for Dementia

Abstract

This section aims to provide a roadmap for assessing dementia across settings by weaving together every day, informal observation with standardized tools and clear escalation pathways. It explains why assessment is a continuous loop—observe, test, record, adapt, repeat—rather than a one-off event; shows how structured caregiver observations of mood, behavior, sleep, appetite, comfort/pain, and environmental triggers can detect change early and personalize care; and details strengths and limitations of commonly used instruments (MMSE, MoCA, QoL-AD, ADL/IADL), including training/licensing needs, cultural/education bias, and the importance of functional history and informant input. The section also surfaces real-world gaps—time constraints, inconsistent documentation, sensory/motor confounders, equity issues in multilingual/low-literacy contexts, and the risk of missing delirium or treatable causes—then addresses these with a practical ENSE-Friendly Assessment Toolkit: a Sensory Response Checklist, Mood & Behaviour Tracker, Caregiver Reflection Log, and Adaptation Suggestions page that teams can deploy immediately. Together, these components enable services to track cognition, function, quality of life, and day-to-day responses to care, translating assessment findings directly into safer routines, better symptom management, and culturally tailored supports for people living with dementia and their caregivers.

Objectives

- Define assessment as an iterative process that links observation, standardized measurement, and care-plan adaptation.
- Describe informal assessment practices (caregiver observations, family feedback, simple diaries/trackers), with pros and cons.
- Summarize formal instruments (MMSE, MoCA, QoL-AD, ADL/IADL): what they measure, who administers them, time required, and key limitations.
- Identify common gaps and challenges (bias, training/time, sensory confounds, proxy–patient discrepancies, overlooked delirium/pain).
- Introduce a plug-and-play ENSE Toolkit (Sensory Response Checklist, Mood & Behaviour Tracker, Caregiver Reflection Log, Adaptation prompts) for immediate use in homes and facilities.
- Provide clear escalation rules for when informal findings or screens should trigger specialist referral or further testing.
- Promote equitable assessment by recommending culturally adapted tools (e.g., RUDAS, IQCODE) and attention to language/education differences.
- Ensure that findings translate into concrete care changes (timing, environment, sensory strategies, risk management) and ongoing review.

Informal Practices in Dementia Assessment

Most real-world dementia care decisions are made outside the clinic—in kitchens, corridors, and day rooms—where caregiver observations guide what happens next. Informal methods help teams notice change early, personalize routines, and decide when to seek formal evaluation. They are fast, flexible, and low-cost, and they capture context (what happened right before/after a behavior) that formal tools often miss. However, they can be subjective and inconsistent unless structured with simple prompts and a shared vocabulary. Guidance from NICE emphasizes using person-centered observation to understand triggers (pain, discomfort, environment) and to adjust care before resorting to medication (NICE, 2018).

What caregivers can track and why are they important

- Mood & affect (e.g., content, worried, low). Fluctuations often relate to pain, sleep, social contact, or overstimulation; mapping these patterns helps tailor timing and intensity of activities.
- Behavior (agitation, pacing, calling out, refusals, repetitive questions). Recording what happened before (A), the behavior (B), and what followed (C)—an ABC note—reveals precipitating factors (noise, hunger, task complexity) and reinforces effective de-escalation tactics (music, quiet space, validation).
- Sleep–wake cycle (bedtime, awakenings, daytime naps): key for sundowning and daytime engagement.
- Appetite & hydration (what was eaten, with whom, and under which conditions): signals infection, constipation, low mood, or sensory issues (noise, lighting).
- Pain/discomfort cues (frowning, guarding, withdrawn touch, vocalizations): NICE recommends structured observational pain tools when self-report is difficult and repeating assessments after any intervention.

Ready to use informal documentation tools

One-page Caregiver Diary (daily use)

- Morning mood (0–10): ___ | Quality of sleep (0–10): ___
- Meals/fluids (✓): breakfast __ lunch __ dinner __ snacks __ | Approx. fluids: ___ ml
- Activities tried (circle): music / photos / gentle walk / hand massage / TV / family call / garden
- Notable events (free text, 2–3 lines): ____
- ABC note (if behavior occurred):
    - A (what happened right before): ___________________________
    - B (what we saw/heard): __________________________________
    - C (what we did/what happened after): ______________________
- Pain signs observed (✓): facial grimace __ guarding __ calling out __ resisting care __ dozing __
- What worked today (✓): playlist __ quiet corner __ snack __ reassurance/validation __ other: ___

(Keep copies in a binder; review weekly to spot patterns and decide on adjustments or formal check-ups.)

Formal Assessment Tools

Below are widely recognized measures, what they assess, who uses them, administration time, and caveats. (Use them to complement daily observation, not replace it.)

MMSE — Mini-Mental State Examination

- What it measures: Orientation, registration/recall, attention, language, visuoconstruction (max 30). Good for tracking global cognitive change over time (Folstein, 1975)
- Who administers: Trained clinicians (physicians, nurses, psychologists, OTs) in clinics, hospitals, or community assessments; 7–10 minutes.
- Limitations: Education, language, and cultural bias; ceiling effects in highly educated adults; under-detects mild cognitive impairment; requires adequate vision/hearing; not diagnostic on its own.

MoCA — Montreal Cognitive Assessment

- What it measures: Executive function and visuospatial tasks, attention, language, delayed recall, abstraction—more sensitive than MMSE to mild impairment (MCI) and early dementia. ~10 minutes (Nasreddine, 2020; Nasreddine et al., 2005)
- Who administers: Health professionals with MoCA certification (mandatory since Sept 1, 2019) to ensure standardization; available in >100 languages/dialects.
- Limitations: Requires training/certification and licensing; performance influenced by education/culture; sensory impairments can confound; still a screen, not a diagnosis.

QoL-AD — Quality of Life in Alzheimer's Disease scale

- What it measures: Self- or proxy-rated quality of life across 13 items (mood, relationships, living situation, memory, ADLs). Validated in patient–caregiver dyads; reliable for many with MMSE >10; useful for evaluating intervention impact from the person's perspective (Logsdon, Gibbons, McCurry & Teri, 2002)
- Who administers: Clinicians or trained staff; can be completed by the person and/or caregiver. ~5–10 minutes.
- Limitations: Severe dementia may preclude self-report; proxy ratings can diverge (often lower) than self-ratings; cultural adaptation/translation needed.

ADL / IADL — Functional measures

- Katz Index of ADL (bathing, dressing, toileting, transfers, continence, feeding) gauges basic self-care (Katz et al., 1963).
- Lawton–Brody IADL (using phone, shopping, cooking, housekeeping, laundry, transport, medications, finances) captures complex daily tasks that decline early (Lawton & Brody, 1969; Lawton & Brody, 1970)
- Who administers: Nurses, OTs, social workers, or trained staff via interview/observation; 5–15 minutes.
- Limitations: Gendered task assumptions can bias scoring; cultural and role differences (e.g., finances traditionally handled by one spouse) can misrepresent ability; ceiling effects in high-functioning adults. Use alongside goal-oriented interviews.

Useful complements

- IQCODE (Informant Questionnaire on Cognitive Decline in the Elderly): informant-based change over ~10 years; helpful when education/language confound direct testing or when delirium precludes testing (Jorm, 1989; Jorm & Jacomb, 1989)
- RUDAS (Rowland Universal Dementia Assessment Scale): designed for multicultural/low-education settings; systematic reviews support good diagnostic accuracy across sociocultural contexts (Nielsen, Jørgensen & Waldemar, 2020).

Who should test—and when?

NICE recommends brief, validated cognitive tools in primary care, with referral for specialist/neuropsychological assessment when the picture is unclear, functional impact is significant, or younger onset/atypical features are present. Neuropsychology provides domain-level profiles to guide rehabilitation and supports the differential diagnosis (e.g., AD vs. FTD vs. DLB; NICE, 2018).

Gaps and Challenges in Dementia Assessment

1. Cultural and language bias: Many tools were developed in English-speaking, highly educated populations. Translation is not the same as cultural adaptation; norms may not fit migrant, rural, or low-literacy groups. Instruments like RUDAS and informant scales (IQCODE) help—but are still underused (Nielsen & Jørgensen, 2020).
2. Education and health-literacy effects: MMSE and MoCA performance shifts with schooling; misclassification risks both over- and under-diagnosis. Always integrate functional history and informant reports.
3. Sensory & motor confounders: Poor vision/hearing, dominant-hand weakness, or parkinsonism may artificially lower scores. Tools are not replacements for clinical judgment or comprehensive geriatric assessment.
4. Proxy–patient discrepancies in outcomes: QoL-AD caregiver ratings often differ from self-ratings, especially as depression or burden rises—interpret with care (Torisson, Stavenow, Minthon & Londos, 2016).
5. Implementation barriers: Time, training, licensing (MoCA), and workflow friction in primary care; lack of integrated documentation to aggregate informal observations into action.
6. Overlooked causes of "decline": Delirium, depression, polypharmacy, and pain remain frequent reversible drivers of poor test performance; NICE flags the need to reassess after treating contributors (NICE, 2018).
7. Equity gaps: WHO notes growing prevalence and uneven access to diagnosis/support; many countries lack clear clinical pathways or trained workforce capacity (World Health Organization, 2025).

Sensory Response Checklist (tick-box; 1 page)

Item	Before activity	During activity	After activity (10–15 min)
Arousal: asleep / drowsy / calm / alert / agitated	☐	☐	☐
Facial cues: smile / neutral / frown / grimace	☐	☐	☐
Body cues: relaxed hands / fidgeting / pacing / guarding	☐	☐	☐
Voice: more words / same / less / calling out	☐	☐	☐
Engagement: eye contact / tracks object / withdraws	☐	☐	☐
Comfort: accepts touch / pulls away / no response	☐	☐	☐
Notes (2 lines): what seemed meaningful? Any triggers?	—	—	—

Note: (Use with music, photos, massage, garden time. If “agitated” or “grimace” rises, pause, lower intensity, check pain or basic needs—consistent with NICE pain/comfort guidance.)

Mood & Behaviour Tracker (before/after ratings; 1 page)

Goal: Detect which activities reliably help (or harm).

- Scale: Mood 0–10 (0 = very distressed, 10 = very content).
- Columns: Date | Time | Activity (e.g., playlist, photo book, walk) | Mood before | Mood after | Behavior (✓ none / pacing / calling out / refusal) | Carer notes (what helped).
- Weekly summary: list Top 3 helpful activities; schedule them before usual stress times (e.g., before evening care).

Caregiver Reflection Log (short, narrative; ½ page)

Prompts (bullet answers, 2–3 sentences each):

- “What worked today and why do I think it worked?”
- “What didn’t and what might I change next time?”
- “Comfort & pain observations today (signs, what I tried, result).”
- “One thing to try tomorrow.”
- This creates a learning loop across shifts and supports escalation to formal review when patterns change.

Adaptation Suggestions (prompt page; 1 page)

- If overstimulated (frowning, turning away): lower volume, offer single-channel input (music or touch), reduce crowding, consider pain; try again later.
- If disengaged/apathic: shift to personally meaningful cues (family-curated playlist, beloved objects), add gentle movement (hand-over-hand sway), shorten tasks.
- If language is limited: rely on nonverbal communication—show, don’t tell; use rhythm and visuals; slow the pace; check hearing/vision.
- If sleep is poor: increase daylight and gentle exercise earlier; avoid late caffeine; use calming pre-sleep ritual the person enjoys.
- If pain suspected: observe face/body cues; use an observational pain tool and reassess after intervention (position change, analgesia, massage).

How to embed the toolkit

- Keep printed pages on a clipboard near the care area.
- Review weekly in a 15-minute huddle; update the care plan (e.g., schedule top-rated activities before known stress windows).
- Pair with a quarterly formal screen (MoCA or MMSE + ADL/IADL) and a QoL-AD check when feasible to keep person-reported outcomes in view (Alzheimer’s Association, 2020).

Conclusion

In dementia care, assessment is not a one-time test but a continuous loop: observe → try → record → adapt → repeat. Informal methods (caregiver diaries, tick-box response sheets, before/after mood ratings) capture nuance and context at the bedside; formal tools (MMSE, MoCA, QoL-AD, Katz ADL/Lawton IADL) provide standardized anchors to track severity, function, and quality of life and to trigger referral or service changes. Used together, they yield a whole-person picture that is more accurate—and more humane—than either alone.

Key messages:

1. Standardize informal observation with simple sheets—so data are consistent across shifts and families.
2. Schedule brief formal screens (e.g., at intake and quarterly)—and ensure MoCA certification where required.
3. Triangulate: combine cognitive scores + function + QoL + observed responses to activities.
4. Mind equity & bias: consider education/language; switch to RUDAS/IQCODE when appropriate; adapt language and norms.
5. Reassess after change (falls, infections, medication shifts, hospitalization) and after any intervention—this is core to NICE recommendations.
6. Close the loop: use weekly huddles to adjust plans, celebrate what works, and escalate when patterns worsen.

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Section 6
Training Curriculum for Caregivers

Abstract

This section translates the research and theory of SENSE into a practical training program. It is designed for practical use by trainers, flexible for different countries, and adaptable for both formal and informal caregivers.

The purpose of the curriculum is:
•To strengthen caregivers' knowledge and skills in sensory stimulation.
•To provide adaptable tools for diverse contexts (home care, care facilities, NGOs).
• To ensure caregivers feel confident in applying SENSE techniques.

Objectives

The curriculum aims to achieve the following main results:
–Equip caregivers with a basic understanding of dementia and sensory activation.
– Build communication and emotional intelligence skills.
–Enable caregivers to implement SENSE techniques in practice.
–Promote reflective practice and continuous improvement.
– Encourage ethical, inclusive caregiving.

Introduction to Dementia and Sensory Theory

Learning Outcome

Caregivers will understand the basic characteristics of dementia and recognize the role of sensory stimulation in supporting memory, emotion, and quality of life.

Key Content

What is Dementia? Dementia is a progressive syndrome affecting memory, communication, reasoning, and daily functioning. It is not a single disease, but includes and can be caused by conditions such as Alzheimer’s disease, vascular dementia, and Lewy body dementia.

The term dementia refers to a loss of intellectual and cognitive abilities significant enough to interfere with an individual’s everyday life and lead to ongoing and irreversible damage to brain cells.

Dementia progressively affects also thinking and behaviour and gradually advances to severe brain dysfunction. It can be a challenging condition for both the individuals living with it and their caregivers. In is not a normal part of ageing. The condition is characterized by impairments in memory, language, and reasoning, but its most troubling manifestations often include behavioral and psychiatric disturbances. It is an etiologically nonspecific syndrome, meaning it can result from a variety of underlying conditions. Common causes include Alzheimer’s disease, frontotemporal lobar degeneration, stroke, basal ganglia degeneration, multiple sclerosis, traumatic brain injury, brain tumors, central nervous system infections, normal pressure hydrocephalus, major depressive disorder, and toxic or metabolic disorders.

We can understand dementia not just from a neurological standpoint, but also from psychological and psychodynamic perspectives.

According to the psychodynamic conceptualization of dementia the condition is a vulnerable state of being that results in weakened ego functioning, diminished mastery over the environment. The affected person demonstrates increased dependence on others to regulate emotions and support identity.

<u>Common manifestations include:</u>

- Heightened need for reassurance,
- Shadowing behavior (following caregivers closely),
- Rising agitation, aggression, disturbed reactions, and
- Emotional states such as isolation, despair, and loneliness.

Introduction to Dementia and Sensory Theory

Behavioral and psychological symptoms of dementia—such as agitation—are not solely attributable to neurobiological changes like hyper-responsiveness or hypersensitivity of the amygdala. Agitation can also stem from a wide range of unmet needs or environmental stressors. These include untreated pain, overstimulation in a noisy or overcrowded ward, insufficient privacy, uncomfortable room temperatures, sleep disturbances, delirium, depression, and violation of personal space, particularly during intimate care activities such as bathing or dressing. Moreover, the use of physical restraints, as well as feelings of loneliness or the presence of acute or chronic illness, can further contribute to agitation. Recognizing and addressing these multifactorial causes is essential for developing effective, compassionate interventions.

No official treatment is available yet, but various pharmacological and non-pharmacological treatments and care strategies continue to evolve. Medical research continues to explore various approaches to improve the quality of life and sensory therapy has emerged as a promising avenue.

In addition to the well-known cognitive symptoms, lesser-known characteristics of dementia in some individuals include significant sensory and perceptual abnormalities. These may manifest as altered visual and auditory perception, difficulties in processing sounds in noisy environments, diminished senses of smell and taste, and changes in tactile sensitivity. Such sensory processing challenges often co-occur with memory loss and other cognitive impairments typically associated with conditions like Alzheimer’s disease, yet they may be underrecognized. These alterations can significantly affect daily functioning, emotional well-being, and quality of life, underscoring the importance of comprehensive, sensory-informed approaches in dementia care.

Sensory and perceptual changes can have a profound impact on everyday functioning and overall quality of life for individuals living with dementia. These changes may lead to increased difficulty navigating familiar environments, such as misjudging distances or misinterpreting visual cues, which can increase the risk of falls or disorientation. Visual processing deficits can impair the ability to read, recognize faces, or interpret environmental features, while auditory processing issues may lead to challenges in understanding speech—particularly in noisy or crowded settings—thereby exacerbating communication difficulties. Furthermore, complex or overstimulating sensory environments may trigger heightened anxiety, agitation, or withdrawal, particularly when individuals are unable to make sense of the stimuli around them. Collectively, these impairments underscore the need for sensory-informed dementia care that emphasizes environmental adaptation and personalized intervention strategies.

Introduction to Dementia and Sensory Theory

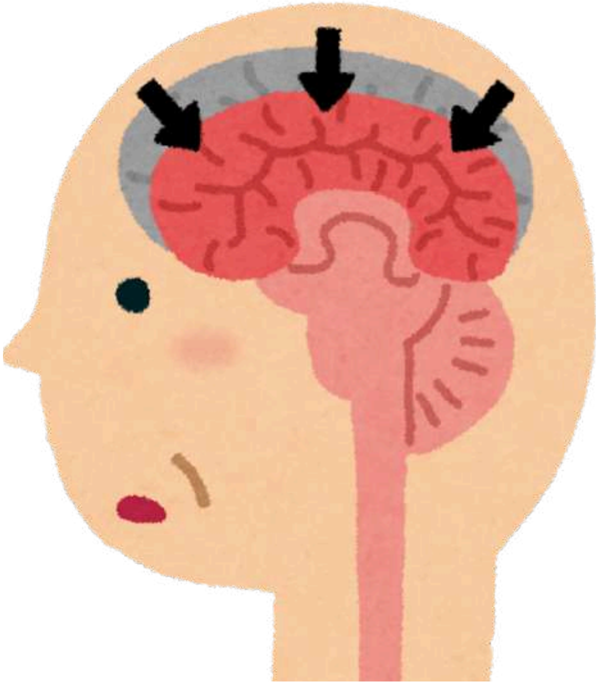
Stages of Dementia:

Mild: forgetfulness, disorientation, difficulty finding words.

Moderate: behavioral changes, confusion, greater dependency.

Severe: loss of communication, motor decline, complete care dependency.

In the later stages of dementia, the capacity to use others to enhance one's sense of self is also impaired. This leads to profound confusion, anxiety, and reliance on psychotic-level defenses.



Why Sensory Stimulation?

Sensory input (sound, smell, touch, taste, movement, sight) connects directly to emotional memory, which often remains longer than factual memory.

Sensory stimulation offers a valuable, non-pharmacological approach to managing these challenges. By engaging the senses through structured activities, caregivers can help individuals with dementia reconnect with their surroundings, evoke positive memories, and enhance emotional well-being.

Current interventions for dementia, particularly Alzheimer's disease—the most common form of dementia—include both pharmacological and non-pharmacological approaches. In elderly individuals with dementia, long-term pharmacological treatment is often challenging due to age-related declines in liver and kidney function, the presence of comorbidities, drug-induced adverse effects, and difficulties with medication adherence.

In contrast, non-pharmacological interventions are generally easier to implement as they avoid these complications and can be applied regardless of the symptoms or stage of the disease. Various types have been explored for dementia, including cognitive training, physical exercise, dietary treatments, art therapy, reminiscence therapy, and aromatherapy.

Sensory methods offer a personalized approach to modulating sensory experiences and potentially induce neuroplastic changes in the brain of individuals with dementia. Neuroplasticity means that even in case of dementia, the brain can respond to stimuli.

Introduction to Dementia and Sensory Theory

The sensory integration approach is grounded in an understanding of individual sensory processing patterns, which are shaped by a person's life history, preferences, and the stage of their disease. Interventions must be personalized and flexible. These may include relaxation-oriented strategies—such as massage, soft lighting, or calming auditory stimuli—to alleviate anxiety and agitation, or stimulation-oriented strategies—such as tactile activities, music therapy, or light physical exercise—to combat apathy and encourage engagement.

Dementia often affects cognitive and sensory processing, leading to symptoms such as agitation, confusion, and social withdrawal. Through sensory stimulation activities could be improved the overall well-being. In the same time those who apply the methods should be careful, as both overstimulation and understimulation can lead to negative outcomes and the interventions should be tailored to individual needs.

Sensory stimulation supports brain organization by encouraging positive responses to sensory input received through the five senses. This process is facilitated by the activation of the reticular activating system (RAS)—a network of neurons located in the brainstem that plays a crucial role in regulating attention, arousal, and consciousness. When appropriately stimulated, the RAS helps filter and prioritize sensory information, promoting alertness and enhancing the brain's ability to process and respond to environmental stimuli effectively.

What Are Sensory Stimulation Activities and which are most common types?

Sensory stimulation activities are structured exercises that engage the senses—such as touch, sight, sound, and smell—to support cognitive function, reduce agitation, and enhance emotional well-being, particularly in individuals living with dementia.

By engaging the senses, these activities help preserve cognitive function, evoke positive memories, reduce anxiety, and promote emotional well-being. They also encourage social interaction and contribute to a higher quality of daily life. Their frequency should be tailored to individual needs, but incorporating these activities into a consistent daily or weekly routine can significantly support ongoing cognitive and emotional engagement.

Many sensory stimulation activities are simple and adaptable for home settings. Caregivers can modify activities to align with the individual's preferences, abilities, and comfort levels.

Research on sensory integration in dementia care, while still developing, shows promising results:

- Studies have reported reductions in agitation and anxiety through multisensory environments (e.g., Snoezelen rooms).

- Music therapy and aromatherapy have been shown to decrease BPSD in moderate to severe dementia.

- Engaging sensory-rich activities can improve mood, attention, and social interaction.

Best practice guidelines recommend regular assessment of sensory needs and close collaboration between caregivers, occupational therapists, and nursing staff.

Trainer Method

•Step 1 – Icebreaker (10 min): Ask participants: "Which sense do you use most to feel comforted or calm?" → Short discussion.

•Step 2 – Mini Lecture (15 min): Present slides or short video on dementia basics + sensory theory.

•Step 3 – Case Example (10 min): Read a short vignette (e.g., Maria, a woman with moderate dementia, calms down when smelling lavender). Discuss why.

•Step 4 – Group Reflection (15 min): Small groups list sensory cues they have seen or could use in care.

Assessment

- Practical Task: Learners select one sense (e.g., smell) and describe how they would use it in a daily care routine.

- Reflection Log: “What did I learn today about dementia and sensory theory that changes how I see caregiving?”

- Trainer Check: 1–2 learners role-play introducing a sensory cue (e.g., playing music for a patient).

Communication & Emotional Intelligence

Learning outcome:

By the end of this session, caregivers will be able to:
- Recognize how dementia impacts communication and emotional expression.
- Apply emotional intelligence to respond with empathy, patience, and understanding.
- Use effective verbal and non-verbal communication strategies during sensory activities.
- Foster emotionally safe, engaging environments through the use of sensory tools.

Effective communication with people living with dementia and maintaining a good level of emotional Intelligence are possible when people are prepared about and know:

- How dementia affects language, processing, and emotional expression.
- The importance of non-verbal cues: facial expressions, tone of voice, body language.
- Recognizing signs of distress, discomfort, or pleasure during sensory engagement.

Key content

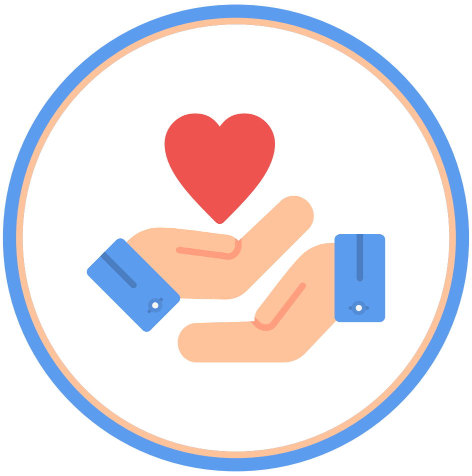
The core emotional intelligence competencies include:

Self-awareness: Recognize your own stress and emotions while caregiving.

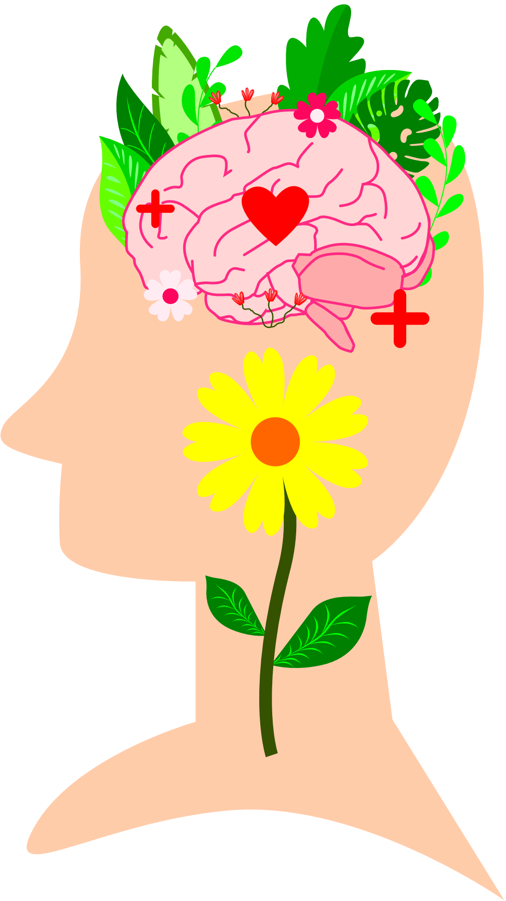
Self-regulation: Stay calm when facing confusion or aggression.

Empathy: Tune into the emotions behind a person's behavior.

Social skills: Build trust and connection even when verbal communication is limited



Sensory Activity	Communication Tip for caregivers	EI Focus
Aromatherapy	Describe scents, ask preferences	Empathy, Active Listening
Music Therapy	Observe reactions, use rhythm to connect	Social Awareness
Textured objects	Ask how something feels, watch facial cues	Empathy, Self-regulation
Hand massage	Maintain gentle touch, respond to body language	Trust-building, Empathy



Applying SENSE Techniques

Learning outcome

By the end of this session, participants will be able to:
Identify the five key sensory areas (touch, sight, sound, smell, and taste) and describe how each can be used meaningfully in dementia care and to apply appropriate sensory activities tailored to individual preferences, histories, and cognitive abilities.

Key content

Practical examples on the use of sensory techniques to reduce anxiety, agitation, and confusion, enhancing overall well-being and connection. How to create a person-centered sensory environment that promotes safety, comfort, and familiarity.

Incorporation of emotional intelligence and communication strategies when delivering sensory-based care to ensure comfort, dignity, and engagement.
Typical selections of sensory activities for people with moderate and late dementia may include listening and singing along to favourite music, looking at and sorting pictures, arranging flowers, sorting dry pastas, folding towels, screwing nuts and bolts together, planting seeds, and making puzzles.

Epidemiological evidence shows a strong link—often causal—between physical activity and cognitive function across all ages, including those with early-stage dementia. A decline in physical activity is associated with worsening cognition and behavioral symptoms in dementia, potentially worsening neuropathology and behavioral issues like agitation. In contrast, regular physical activity may help reduce stress and alleviate agitation. Neurodegeneration in brain regions responsible for emotional regulation, such as the amygdala and prefrontal cortex, may contribute to agitation in dementia.

Therefore, inactivity may exacerbate these symptoms by further impairing these regions. Some of the activities proposed below, aim to maintain the locomotor activity, balance, coordination and fine motor skills through targeted sensory activities.

Practical activity

Activity 1: Explore and create sounds

Auditory Domain
Target: Dementia
Stage: Moderate / Severe
Materials Needed: musical instruments like tambourines, shakers, bells or instruments such as plastic plates for clapping, spoons and pots, homemade maracas

Step	Action	Time	Notes
1	Offer simple musical instruments like: ○ Tambourines ○ Shakers ○ Bells or use	5 min	Keep movements simple and adaptable to all abilities Ask about preferred music instrument
2	Encourage participants to experiment with rhythm, beat, and	10 min	Praise participation and encourage self-expression.
3	Offer seated exercises for balance and coordination in	5 min	You can additionally use songs they the people enjoy or remember Enhance coordination
4	Dancing or simple actions can be added to increase engagement and	10 min	Be creative and offer kind support for the dances/simple
5	Avoid overstimulation—use soft sounds and movements	5 min	Offer snacks and preferred drinks.

Intended Outcomes:

• Stimulate memory, encourage physical movement, and promote joy and social connection through music.
• Reduces anxiety, lifts mood, evokes positive emotions.

Step	Action	Time	Notes
1	Offer simple musical instruments like: ◦ Tambourines ◦ Shakers ◦ Bells or use	5 min	Keep movements simple and adaptable to all abilities Ask about preferred music instrument
2	Encourage participants to experiment with rhythm, beat, and	10 min	Praise participation and encourage self-expression.
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Intended Outcomes:

- Stimulate memory, encourage physical movement, and promote joy and social connection through music.
- Reduces anxiety, lifts mood, evokes positive emotions.

Activity 2: Sorting everyday objects
Tactile Domain
Target Dementia Stage: Mild / Moderate / Severe
Materials Needed: A small collection of everyday objects (e.g., colorful socks, kitchen utensils, buttons, or dishware); containers or baskets for sorting; a clear, clutter-free workspace (table or countertop)

Step-by-Step Instructions:

Step	Actions	Time	
1	Prepare the Workspace Clear a flat surface with good lighting. Place the objects in one pile or container, and arrange empty sorting containers nearby.	5 min	Use familiar objects to enhance comfort.
2	Explain the Activity Clearly Use simple language: "Let's sort these socks by color." or "We're going to put all the spoons in this basket, and forks in that one."	2 min	Keep instructions simple and clear. Be patient and supportive.
3	Demonstrate one example Sort a few items yourself slowly and clearly, narrating your actions. "Here's a red sock. It goes in this pile."	5 min	Avoid rushing; allow breaks if needed.
4	Break down the task If needed, guide step-by-step: "Pick up a sock." → "Is it blue or green?" → "Put it in the blue basket."	10 min	Encourage Participation Invite them to try sorting some objects themselves, offering help as needed.

Step	Actions	Time	
5	Conclude with reflection highlight the accomplishment: “Look at this neat pile you made!” Encourage a brief conversation about how the people feels or what they noticed.	5 min	

Intended Outcomes:

Engaging in organizing and sorting tasks—such as laundry, dishware, or small household items—can help stimulate cognitive functions related to organization, while also engaging the senses of touch and vision. These simple activities support mental focus, promote a sense of purpose, and offer a feeling of accomplishment when a space becomes neat and orderly. This activity involves sorting small items based on attributes such as color, size, or shape. It is suitable for individuals with moderate to late dementia, providing both mental stimulation and an opportunity to exercise fine motor coordination.

Some individuals may also enjoy choosing the objects for sorting, which adds a layer of autonomy and may spark casual, meaningful conversation with the caregiver.

Activity 3: Olfactory Stimulation with multisensory memory stimulation

Olfactory Domain
Target Dementia Stage: Moderate / Severe
Materials Needed: jars, memory boxes, herbs, spices, soap

Step-by-Step Instructions:

Step	Action	Time	Notes
1	Prepare the materials and explain the steps of the activity.	5 min	Sit in a quiet, well-lit room. Use familiar items. Identify any known likes/dislikes. Avoid anything unpleasant or triggering
2	Offer smell jars or memory boxes with items like herbs, spices, or soaps	5 min	Choose appropriate scents. You can pair smells with photos, music, or conversation for multisensory memory stimulation Present one scent at a time. Let the person smell naturally—don't push or force the scent toward them. Let them engage at their own pace. Observe facial expressions and body language. Be patient if no memory is triggered—relaxation alone is still beneficial.

Intended Outcomes:

Olfactory stimulation can evoke vivid, positive emotional responses and autobiographical memories, even in individuals with moderate to advanced dementia. It can be a powerful tool for enhancing their well-being. Scents can evoke memories, improve mood, reduce anxiety, and even support appetite or sleep.

Step	Action	Time	Notes
3	Offer scent jars: cotton balls or fabric infused with essential oils in small containers with holes. Try with aromatherapy diffusers: for room-wide, subtle dispersion (use with supervision).	15 min	Always monitor for adverse reactions (e.g., sneezing, nausea, agitation). Never apply essential oils directly to the skin without dilution. Avoid if person has asthma or severe allergies unless medically cleared. Respect personal space and choice—never force engagement
4	Observe and engage. Use the experience for interaction: • Ask open-ended questions: “Does this remind you of anything?” “How does this make you feel?” • Look for non-verbal responses (smiles, relaxed posture, alertness). • Document positive and negative reactions for future sessions.	10 min	You can adjust and repeat. Build a scent profile over time based on reactions. Repeat successful scents regularly but avoid overuse (olfactory fatigue). Rotate new scents every few sessions to maintain interest. Examples of scents that may be used: • Lavender or chamomile – calming, can reduce anxiety • Citrus (lemon, orange) – uplifting and energizing • Cinnamon, vanilla, or baked goods – may trigger warm family or holiday memories • Freshly cut grass or rain – evoke outdoor and nature memories • Coffee, herbs, or perfumes – can connect to past routines or favorite activities.

Activity 4: Cup Drop Game with ping-pong balls

Visual Domain

Target Dementia Stage: Moderate / Severe
Materials Needed: Table, balls for tennis table, egg carton

Step-by-Step Instructions:

Step	Action	Time	Notes
1	Place several plastic cups on a table. Prepare the ping-pong balls and explain the purpose of the activity.	5 min	Choose balls of a bright color. You can use balls with different colors, if available and if the participants do not have severe visual problems.
2	Have the person try to drop or gently toss ping pong balls into the cups. Vary distances or cup sizes for challenge.	10 min	Always supervise closely to avoid falls or confusion.
3	Use colored cups and ask the participants to aim for a specific color.	10 min	Provide positive encouragement regardless of performance.
4	Make a short evaluation with open questions how the participant felt and found the game. Look for comments about the socialising effect of the activity.	10 min	For repeating or improving the activity for next times you can note the following: whether the participants required assistance. Do you notice an increased alertness afterward. Would they repeat the activity and is for them possible to play with lighter colored balls for better visibility?

Intended Outcomes:

- Using ping pong balls for visual stimulation offers a simple, low-cost, and effective method to engage individuals with dementia. These activities support hand-eye coordination, enhance focus, and improve the ability to track movement. Stimulates color recognition. Additionally, they can be enjoyable and promote social interaction.
- Reduces anxiety, evokes positive emotions and good mood.

Activity 5: Preparing smoothies and consuming them with colorfoul straws

Gustatory Domain

Target Dementia Stage: Moderate / Severe
Materials Needed: Chosen fruits, blender for smoothie, colorful straws, glasses for serving

Step-by-Step Instructions:

Step	Action	Time	Notes
1	Present the smoothie preparation activity and the available fruits. Explain and show the technique for preparation and demonstrate how the blender works.	5 min	Make it simple, with only 2–3 choices to prevent overwhelm. Always check for allergies and dietary restrictions.
2	Let participants choose fruits and assist with blending Prepare colorful straws according to the colors of the smoothies that will be prepared (for example for a citrus smoothie prepare a yellow/orange straw, for a red berries smoothie a red one etc.)	20 min	Ensure that fruits are cut is small pieces and that the smoothie will be easy to chew/swallow. Encourage participation and help with the peeling of the fruits, with the blender functions etc.
3	Put the straws at the table when the smoothies are ready ask them to add the corresponding colorful straw to every smoothie.	5 min	You can add decorations. Use real utensils and dishes (not plastic) when safe — they improve sensory feedback. Use flexible or wide straws, or specialty drinking cups designed for people with dysphagia if needed.

Step	Action	Time	Notes
3	Put the straws at the table when the smoothies are ready ask them to add the corresponding colorful straw to every smoothie.	5 min	Observe closely when introducing a straw—watch for coughing, choking, or signs of discomfort. Consult a speech-language therapist if there are concerns about swallowing or feeding safety
4	Tasting and degustation, combined with a reminiscence conversation. You can ask “What was your favourite fruit when you were a child? What kind of drinks have you prepared at home with your family?”, thus combining degustation with a reminiscence.	10 min	Observe for facial expressions or gestures if the person is non-verbal.
5	Debriefing. Ask the participants how did they like the activity. Observe for non-verbal expressions to evaluate the impact on the mood and expression.	5 min	Ask additional questions about would they like to have another tasting workshop and what they would like to prepare next time.

Intended Outcomes:

Taste-based activities can stimulate appetite, evoke memories, improve mood, and offer opportunities for social interaction and sensory engagement — especially in individuals who may have limited verbal abilities.

Activity 6 : Art Therapy with unspun wool

Kinesthetic Domain

Target Dementia Stage: Mild / Moderate / Severe
Materials Needed: water, unspun wool, stiff paper or felt sheet as a base. Optional: glue, if appropriate, table covering or tray for easy clean-up

Step-by-Step Instructions:

Step	Action	Time	Notes
1	Present the activity and the available pieces of unspun wool and provide a few colours of it. Explain and show the technique for the activity. Introduce the wool: Let the participant touch and explore it. Offer a base (paper or felt) and say: “Would you like to make a picture using these colors? You can place the wool however you like.” Encourage expression (but don't pressure): “You can choose any colors you like. There’s no right or wrong way to do it.”	5 min	Use bright, contrasting colors for visual engagement. Avoid loose fibers around those with respiratory issues. Supervise to prevent ingestion or confusion with food. Keep sessions short and structured, especially in later dementia stages.

Step	Action	Time	Notes
2	Invite participants to start shaping, twisting and layering the wool and to make flowers (or decorations). Show that through wet felting they can make small shapes (with supervised use of warm, soapy water).	20 min	Observe without correcting. Participants can shape, twist, or layer wool into patterns or collages —there's no right or wrong. Encourage memory recalling, creative expression and storytelling. Wool's natural feel and scent may evoke comforting memories.
3	Make an improvised exhibition with the art works.	5 min	Prioritize the experience, not the outcome: focus on the joy of participation rather than perfection. What matters is engagement, not whether the task is done "right."
4	Assessment: You can ask the participants "How does it feel to you?", follow the emotional expression, do they seem calm, joyful, focused, or frustrated? Look at facial expressions, body language. **Verbal engagement :** Do they talk about the colors, textures, memories, or feelings? Encourage gentle conversation: "Does this color remind you of anything"?	5 min	Note if the participants asked for clarification or seem confused. Motor skills: were they able to pick up, pinch, tear, or place wool? Sensory response: do they show pleasure, curiosity, discomfort, or distress when touching the wool?

Intended Outcomes:

- Stimulates long-term memory recall and body movement.
- Reduces anxiety, lifts mood, evokes positive emotions. Art therapy using unspun wool can be a fully engaging and therapeutic activity for individuals with dementia. It provides rich sensory input and opportunities for creative expression without requiring advanced fine motor skills.
- Tactile stimulation - unspun wool is soft and textured, offering a soothing sensory experience. This can help reduce agitation or anxiety.
- Encourages creativity
- The activity is accessible at all stages, even people with advanced dementia can enjoy the colors and feel of the wool, while those in earlier stages may engage in more complex projects like felting or wool painting.
- Wool's natural feel and scent may evoke comforting memories, especially in those with rural or crafting backgrounds.

Observation & Reflection

Assessment of sensory activities and Guidelines for Supporting Activity Engagement in Dementia Care

- Provide clear, simple instructions: break tasks into easy, step-by-step directions. Avoid giving too many instructions at once to prevent overwhelm.
- Be Flexible: If your loved one resists an activity or if it unfolds differently than planned, go with the flow. Encourage continued involvement in a way that feels comfortable for them.
- Assist with challenging steps: support your loved one by handling the more difficult parts of a task (e.g., reading a recipe), and offer alternative roles that they can manage independently.
- Reinforce their value: regularly ask for their help to reinforce a sense of purpose and belonging.
- Avoid criticism or correction: let them complete the activity in their own way, as long as it's safe. Encouragement builds confidence and preserves dignity.
- Encourage self-expression: Include creative activities like painting, music, or storytelling that allow emotional and personal expression.
- Maintain conversation: keep talking throughout the activity. Even if they cannot respond, your voice provides comfort and connection.

Ongoing evaluation of the sensory activities is essential to ensure it continues to meet the individual's emotional, cognitive, and physical needs. As preferences, abilities, or health status change, the plan should be adjusted accordingly. Continuous monitoring and flexible adaptation help maintain its relevance and effectiveness over time.

What to Assess:

- Area Observation Focus Example Prompts/Notes
- Cognitive Can they follow simple instructions? Can they sequence steps (choose, place, arrange)? Note if they ask for clarification or seem confused.
- Motor skills Are they able to work with the materials provided? Watch hand steadiness, grip strength, and coordination.
- Sensory response Do they show pleasure, curiosity, discomfort, or distress during the sensory activity? "How does it feel to you?"
- Emotional expression Do they seem calm, joyful, focused, or frustrated? Look at facial expressions, body language.
- Verbal engagement Do they talk about the colors, textures, memories, or feelings? Encourage gentle conversation: “Does this color remind you of anything?”

Optional Simple Scoring (for professional use):

Area	Score 0–2 (0 = no response, 2 = full engagement)
Attention span	
Motor function	
Verbal expression	
Emotional affect	
Task completion	

Use this informal scale to track changes over time.

Ethics & Inclusion in Dementia Care

Healthcare providers are increasingly being encouraged to pay closer attention to patients' reports of subtle changes in how they perceive and interact with their environment, as disruptions in sensory function and perception may be early manifestations of dementia. These sensory-related changes are often overlooked, yet they can precede or accompany cognitive symptoms.

In response, there is a growing emphasis on developing standardized protocols for assessing sensory and perceptual function, training healthcare professionals to recognize non-memory symptoms of dementia, and designing environments and interventions that accommodate sensory processing changes. Incorporating sensory assessments into routine cognitive screening may also enhance early detection and lead to more comprehensive, person-centered care.

The Capability Approach (CA) is a human-rights-based framework that evaluates well-being through individual freedom and the ability to pursue valued goals. In dementia care, CA shifts the focus from deficits to what people can still do and be, even as cognitive function declines.

Ethics & Inclusion in Dementia Care

It has been applied to person-centred care, support for decision-making, and upholding the dignity of individuals with dementia. CA allows for more nuanced, respectful, and empowering care, aligning with the principles of the UN Convention on the Rights of Persons with Disabilities (CRPD). Ultimately, the Capability Approach supports carers in balancing protection with autonomy, helping ensure that the freedom and preferences of people with dementia are promoted throughout the progression of the disease.

Key ethical principles in dementia care include:

- Respect for autonomy: Supporting decision-making for as long as possible.
- Beneficence and non-maleficence: Acting in the person's best interest while minimizing harm.
- Justice: Providing fair access to resources and opportunities, regardless of diagnosis or background.
- Dignity: Preserving a person’s sense of self and worth at all stages.

By integrating ethics and inclusion into practice, caregivers and professionals foster compassionate, empowering care that upholds the rights and humanity of people living with dementia.

Conclusions

Sensory integration presents a promising and person-centered approach to enhancing the well-being of older adults with dementia. By tailoring interventions and designing sensory-friendly environments, caregivers can help reduce behavioral disturbances, promote independence, and significantly improve quality of life.

The effectiveness of this approach relies heavily on well-trained staff and the active participation of family caregivers, who play a vital role in implementing and sustaining personalized strategies. As such, continuous education and collaboration are essential components of successful care.

Ultimately, sensory integration is not just a therapeutic tool—it is a pathway toward more humane, respectful, and sustainable care for people living with dementia.
With ongoing research, innovation, and clinical advancement, sensory interventions are emerging as a vital component of dementia therapy. These approaches offer individuals the opportunity to feel safe, calm, and meaningfully engaged, even in the later stages of the disease.

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Section 7
Reflection and Continuous Improvement on the Techniques and Strategies Employed in the SENSE Program

Abstract

This section of the SENSE Guidebook focuses on reflection and continues improvement in care for people with dementia. Reflection is presented as a key practice for caregivers because it allows caregivers to make sense of experience, gain self- knowledge and adjust caregiving techniques to respond to the evolving needs of people with dementia. Reflection promotes resilience and reduces burnout in caregivers and supports professional development. For patients, this ensures care that is person-focused, culturally sensitive and attuned to each stage of dementia.

In this section are indicated concrete reflection techniques, such as journaling, peer reflection groups and mentoring, all made feasible and accessible to caregivers in a broad range of settings. In addition, it is outlined how reflection in care giving carries improving of the services provided. Finally, the chapter comes full circle to the policy and organizational level of reflection and addresses how carers and policymakers can carry out reflective practice through audit cycles, sharing best practice, funding, and education. With all of these in place, the SENSE Program supports sustainable, adaptive, high-quality dementia care.

Objectives

- Emphasize reflection's importance for caregiver well-being and patient outcomes.
- Offer practical reflection tools that caregivers can actually use in their work.
- Show how reflection contributes to continuous improvement in caregiving competences.
- Highlight the organizational function in the integration of reflection through cycles of assessment and practice sharing.
- Propose how policymakers can support reflection through funding, training, and strategic directions.
- Highlight that reflection and continuous improvement need to be at the core of sustainability and resilience of SENSE approaches.

Reflection and Continuous Improvement

The Role of Reflection in Dementia Care

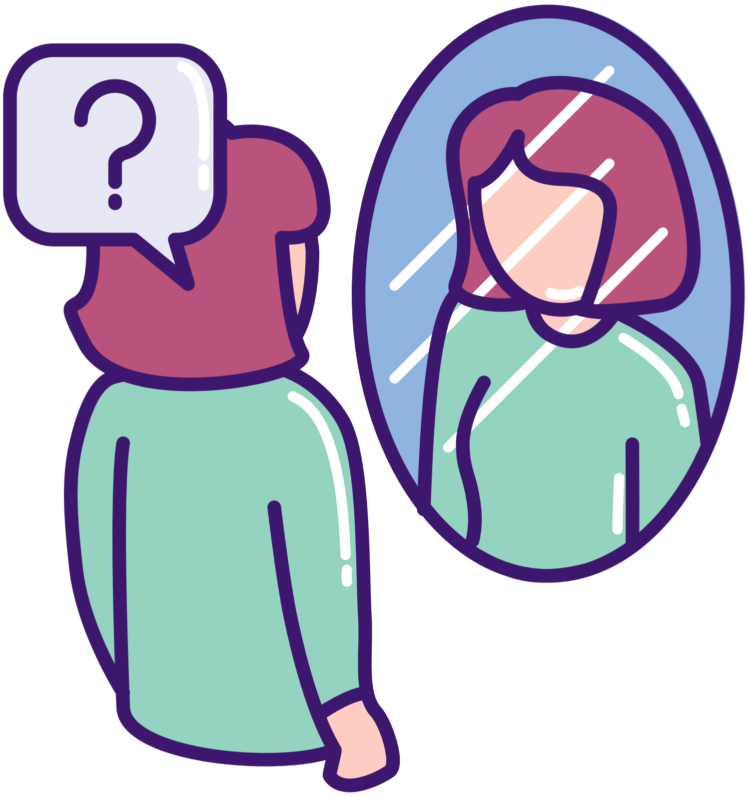
Reflection in caregiving is an orderly process for critically exploring one's actions, motivation, and reactions with the intention of enhancing future practice. Reflection is more than recalling the event; reflection compels caregivers to pose questions as to why occurrences took place the way they did, how things went well, and how future occurrences could improve. This cyclical involvement with experience converts care into an ongoing learning process. In health and social care, reflection has been extensively accepted as an approach strengthening motivation, facilitating self-direction in learning, and enhancing the quality of care provision (Koshy et al., 2017).

In the field of healthcare education, reflection has been defined as an attentive, critical, exploratory, and cyclical process by which practitioners not only examine their actions but also further understandings, enabling relevant change in behavior and practice (Fragkos, 2016). Such interventions emphasize reflection as an indispensable agent for bridging theory-practice gaps enabling caregivers to manage complex emotionally challenging circumstances. Through reflection on practice, the caregiver becomes increasingly self-aware with enhanced empathetic responses, facilitating better identification by the caregiver of his or her challenges but also optimizing the responsiveness of the individual's care.

Emerging evidence identifies the importance for reflection in the management of dementia. Wittmann et al. (2024) indicate how self-experience exercises, for example, role-playing, simulation, and group debriefing, develop the ability to cultivate empathy and critical reflection among the caregivers. Such interventions permit the person to walk into the shoes of the individual with the disease, furthering the individual's understandings with person-centered approaches. Bosch et al. (2019) additionally reveal the value of highly structured reflective tools, for example, journaling and electronic tools, for obtaining the day-to-day experiences among the caregivers. These tools facilitate the caregivers in the processing of the momentary felt experiences, increase self-awareness, manage stress but improve the well-being of the person providing the care, optimizing the relationship with the person with the relationship. To these findings, Shi et al. (2025) add that reflection provides an indispensable contribution to the ability of the person (caregiver), facilitating their ability to adopt their buffering mechanisms during the varying phases among the different phases for the management for the individual with the disorder. Through the process for reflection for the challenges with the attendant self-awareness, the management for the person with the disorder becomes better, optimizing the results with the person with the disorder.

Additional evidence also identifies reflection as one strategy for enhancing professional abilities like empathy, compassion, and caring actions. Yang (2025) illustrates how reflection helps nursing students improve their skills for handling better the emotional parts of care. This research is relevant to dementia care, as emotional sensitivity and patient vulnerability are most evident. Reflection enable caregivers to improve their practices while making sure that their approach is person- centred and respects individual's dignity and safety.

This research collectively demonstrates that reflection in caring is not only a passive act of remembrance, but an active and structured activity that benefits both carers and care recipients. Through reflection caregivers build resilience, they have lower risks of burnout, and motivates them to keep learning and growing in their jobs. In addition to that, people with dementia are provided with flexible care, which is culturally sensitive and responsive to their individual needs.

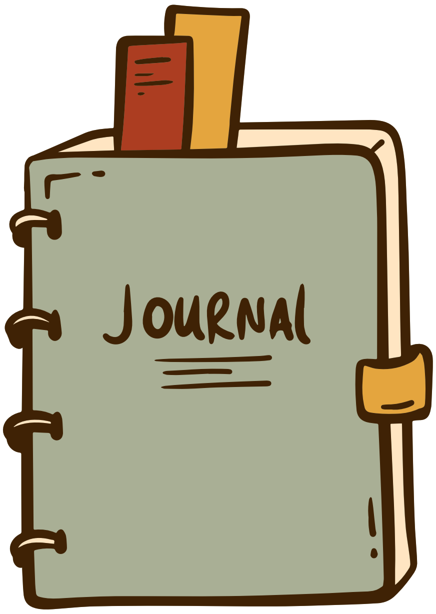


Practical Reflection Tools for Caregivers

Journals and Written Reflection

Written reflection and particularly journaling is an accessible and easy to do reflective practice tool. Daily or weekly journals help caregivers keep a track on what happened, how they felt about it and what they learned from it. A research of Langan and Keppen (2022) demonstrate that journaling helps caregivers on being more self-aware, process their emotions and built resilience avoiding burnout. Based on their research, structured reflective journaling expanded the overall wellbeing of the nurse by facilitating the processing of challenging experiences, appreciation for their professional development, and maintenance of compassion in emotionally challenging settings. In similar findings, Bosch et al. (2019) discovered that informal carers who kept journals became better attuned to their requirement needs, coping mechanisms, reframed stressfully challenging circumstances in a healthier manner, but also identified the rewarding features alongside the challenging sides of their caregiving role. These results reaffirm the conclusion that journaling is not simply a record-keeping process but rather an effective therapy facilitating the integration of experiences, observation over time, as well as the enhancement in the delivery of person-centered care.

How it works: Caregivers can take 5–10 minutes daily or weekly to jot down short answers to three questions: What happened? How did I feel? What did I learn? The idea is not to compose essays but ongoing observations. Journals can be written by hand on paper or saved electronically, and occasional reviewing of entries enables monitoring of recurring problems and progress.



Peer Reflection Groups

Peer reflection groups—ongoing, intimate sessions where caregivers gather to share experiences—are a central component of developing emotional resilience and education among caregivers of individuals with dementia. Being part of a reflection group caregivers can share their experiences in a non- judgmental environment where they can share the difficulties they face and review the techniques that they already using (Bernabéu-Álvarez et al., 2022; Carter et al., 2020). Online peer support also facilitates flexibility and accessibility, which can be particularly helpful to caregivers who may have time, geographic, or caregiving constraints (Yin et al., 2023). In enabling mutual learning and emotional validation among peers, peer reflection groups actualize the vision of peer support—"help from those who know" and are effective and efficaciously powerful in promoting caregivers' well-being and reflective practice.

How it works: Meetings must be weekly or every other week for 45–60 minutes, moderated by a trained facilitator or held informally peer-to-peer. Meetings typically include: (1) a brief check-in round, (2) shared discussion of the previous week's challenges, and (3) examination of what worked or what was learned. Online meetings can take advantage of secure platforms (e.g., Zoom) to make accessibility easier.

Mentoring

Mentoring has been an effective reflective practice for carers, and more so when combined with formal advice and peer-to-peer support options. It has been found through research that mentoring interventions not only provide tangible solutions but also a setting in which carers can reflect on their practice, share challenges, and learn from other carers who have the same lived circumstances. In their research, Su et al. (2021), demonstrated how a 12-week dementia care training program that used online mentoring and digital support helped caregivers to improve their competences and attitudes, as well as improve their practices. Fleisher et al. (2022), in a study of caregivers of older adults with severe Parkinson's disease, found that structured peer mentoring abated caregiver well-being declines, maintained caregiver strain stability, and reduced anxiety, reinforcing the emotional worth of reflective dialogue with experienced peers. Taken together, these findings emphasize that mentoring is reflective as well as instructive, enabling caregivers to close the loop on experience, enhance resilience, and adapt their practice to address evolving needs in long-term care.

How it works: Schedule in person on online a 30-60 minutes one on one meeting. The mentor can be a senior caregiver. The meeting can start with a check in and discussion on the challenges that the caregiver is facing. Then the mentor can reflect on these challenges by giving suggestions and some exercises for the caregiver to take home.

Continuous Improvement of Techniques

Care for dementia requires ongoing improvement in order to have interventions become long-term effective, meaningful, and person-centered. Reflective practice is called upon here. Through questioning in a systematic way about what and why, caregivers are able to make small but significant changes—converting daily care issues into learning and development opportunities. For instance, measuring the effect of a music session on a resident's mood day to day enables adjustment of the genre, duration, or timing so the activity never tires but rather incites.

Information from diverse sources triggers this ongoing cycle. Patient responses—verbal or nonverbal—offer immediate feedback regarding what resonates or startles. Families can ask that the significance of an odor or sound that provokes a memory be reinforced, resulting in its inclusion.

At the organizational level, structured feedback mechanism such as audit and feedback cycles cane be beneficial. These cycles can include the collection of data on care activity which will be the audit and then compare the results with the staff, ad a form of reflection and open discussion, this part will be the feedback. Arsenault-Lapierre et al. (2022) demonstrated that such cycles in interprofessional dementia care teams facilitated greater identification of practice gaps and facilitated collaborative problem-solving across sites.

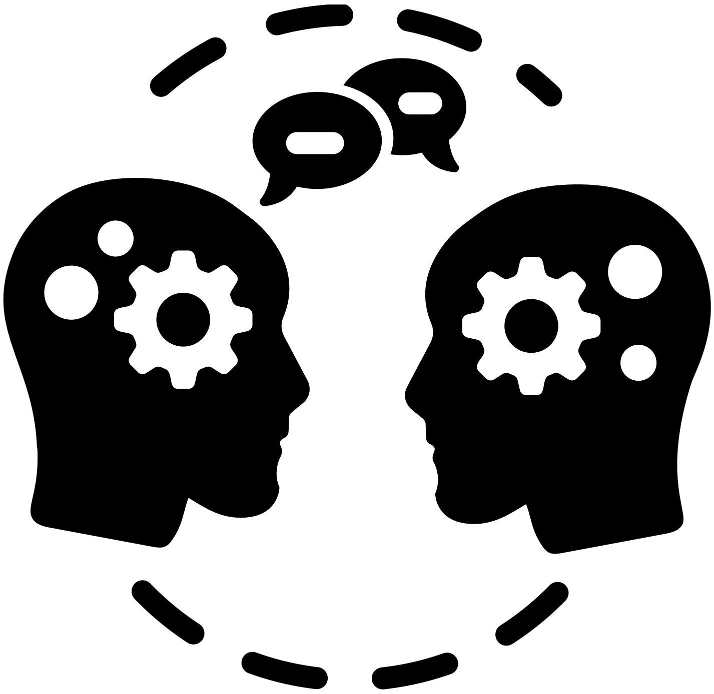
Dementia Care Mapping (DCM) is another structured tool, which was developed at University of Bradford. DCM uses an observational framework where the quality of the care is evaluated from the point of view of people with dementia (Brooker & Surr, 2006). This tool is used by trained called “mappers” who keep track on how individuals feel and how they are doing and participating in the activities. Then the mappers give feedback, based on what they noted, to the caregivers. Schaap et al. (2020) demonstrated that the implementation of DCM within long-term care settings helped caregivers to be more aware of patients’ behaviours, using a person-centred approach. As DCM is a cyclical process—observation, feedback, adjustment—it naturally incorporates reflection and continuous improvement into dementia practice.

Adaptive Interaction (AI) is another approach to enhancing technique through reflection. AI addresses enhancing communication with individuals who no longer employ verbal communication by recognizing and responding to their nonverbal cues such as facial expressions, gestures, breathing, and vocalizations. Astell (2022) showed how training caregivers in Adaptive Interaction, and subsequently in reflective practice, improved noticing and responding to subtle nonverbal cues, and increased rapport and emotional connection.

Examples of small changes in the techniques that can improve the caregiving services:

- Auditory: Recognising that a patient responds better to a music that is slow and recognise.
- Kinesthetic: Recognising that a patient may get tired therefore the duration of the movement session can be shorten from 20 to 10 minutes.
- Tactile: Limiting diversity of texture (e.g., fewer fabrics) helps remove confusion and provides ease of access.
- Environmental: Lowering lights or ambient noise during the narration enhances focus and relaxation.

Through this spiral, ongoing improvement is no longer product tweaks per se—it's an ongoing spiral of observing, thinking, adapting, and disseminating. This adaptive design makes SENSE methods fresh, relevant, and deeply human-centered long after they're first presented.



Organizational and Policy-Level Reflection

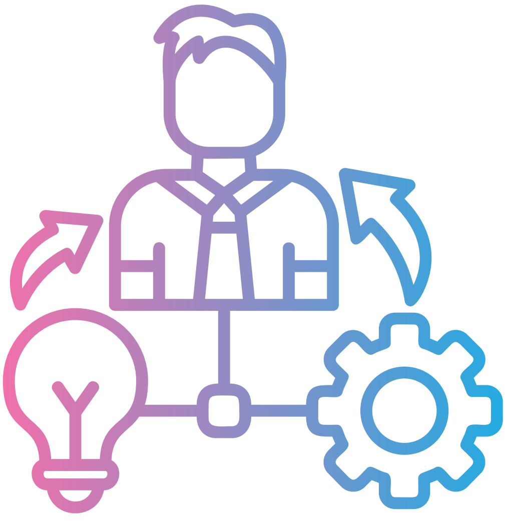
Reflection is not just a personal process—it's a cultural and structural need. Embedding reflective practices into organizational systems and policy frameworks ensures dementia care is responsive, of high quality, and enduring.

Reflection at the Organizational Level

Care organizations may develop reflection through cycles of assessment such as audit-and-feedback, Dementia Care Mapping (DCM), and reflective supervision. Audit-and-feedback cycles involve quantitative assessment of care quality indicators, reporting them to staff, and supported reflection within structured sessions to co-design for change. For example, research in Canada found that regular feedback reports and supported discussion enabled primary care teams to identify gaps in diagnosis and monitoring of dementia, with quantifiable improvement in services (Arsenault-Lapierre et al., 2022).

The second effective intervention is Dementia Care Mapping (DCM), an observational systematic intervention originally set up at the University of Bradford. Care interactions are written down in practice by "mappers" trained in the approach, residents' involvement and mood are documented, and staff receive outcome feedback. Schaap et al. (2020) also mentioned that DCM cycles allowed long-term care staff to recognize overlooked patient needs and change day-to-day routines, i.e., changing mealtimes or providing more individualized activities.

Another way for organisations to foster reflection is by incorporating peer learning forums and communities of practice. Findings from Giebel et al. (2025) research showcase that learning forums that brought together people with dementia, informal and formal caregivers, gave them the opportunity for networking, exchange knowledge and capacity building. Similarly Dedzoe et al. (2023) showed that virtual community of practice scoping reviews is a technique that has potential for improving knowledge- exchange and collective reflection through informal learning.



Reflection at the Policy Level

Reflection can also be facilitated through policies. For instance, U.S. GUIDE Model (Guiding an Improved Dementia Experience), is a document that includes education for caregivers, reflective training, and feedback mechanisms as important parts of national policy regarding dementia care (CMS, 2024). This demonstrates how policy systems can embed reflection into everyday practice within health care systems.

Funding is also one of the pillars. Reflective care can be supported by policymakers by providing funding to training programs that incorporate reflective aspects (e.g., journal keeping, peer groups), or investing in electronic platforms for caregiver feedback and reflective logging. WHO's Global Action Plan on the Public Health Response to Dementia (2017–2025) recommends workforce training and systems facilitating self-reflection and continuous improvement of quality (WHO, 2017).

Finally, cross-sector collaboration is important. Governments can sponsor collaborations between research institutions, health providers, and NGOs to create reflective dementia care networks. For instance, the European Joint Programme on Neurodegenerative Disease Research (JPND) provides a cross-country reflective framework where learning from pilots of dementia care in one country enables other countries to adapt, creating a cycle of mutual learning and policy-driven reflection (JPND, 2019).

Conclusion

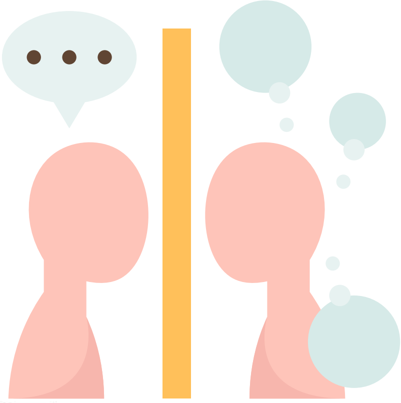
Through this section, we analyse how reflection can become a learning path of adaptation and growth. For caregivers, it becomes a source of resilience, a means of avoiding burnout, and a depthener of professional skill. For the person with dementia, it means that care can remain responsive, person-centered, and sensitive to changing needs.

The available tools provided—journals, peer reflection groups, and mentoring—demonstrate that reflection is easy. Consistent small habits construct substantive insights over time, allowing caregivers to keep patterns in check, share experiences, and create more empathetic and effective practices. These tools not only allow caregivers to manage emotional challenges but also facilitate the overall quality of care.

Equally important, reflection also drives continued improvement by encouraging caregivers and organizations to really listen back from patients, families, and staff. Simple adjustments, such as reducing the length of an activity or tailoring music playlists, can have dramatic effects on patient engagement and wellbeing. Organationally, processes such as Dementia Care Mapping and audit-and-feedback loops enable the conversion of reflection into measurable quality improvements, and peer learning forums embed a culture of shared accountability.

At the policy level, embedding reflection in dementia policy, models of funding, and professional development guarantees sustainability. Policymakers who support reflective practice—funding, training, and intersector partnership—establish frameworks within which care is being shaped and reformulated to respond to new demands continuously.

In short, reflection and continuous improvement are the pillars of the SENSE Program. They make sensory-informed practice up-to-date, usable, and applicable to diverse care environments. By integrating reflection within everyday practice, organisational systems, and policy frameworks, the SENSE approach fosters sustainable dementia care that attends not only to cognitive and affective capacity but also to dignity and personhood of all.



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