Chapter

Quality of Life in People Living with Dementia: Personalized Early Diagnosis, Individual Empowerment, and Community Inclusion

Francesca Morganti

Abstract

The quality of life for individuals living with dementia appears to be a significant challenge. To date, the determinants that play a key role in maximizing their daily life have not been highlighted, remaining a widely neglected area of scientific study and intervention. This contribution focuses on elements that are most likely to lead people who are on the verge of aging toward quality aging despite dementia, considering that individuals are capable of shaping, influencing, or regulating their own trajectory throughout their lifespan. A fundamental premise of this proposal is the notion that an individual's capacity to regulate their own growth and development over the course of their life determines their overall well-being, and that trajectories of dementia can be classified as "successful" or "unsuccessful" based on this regulatory process. The proposal outlines specific actions aimed at fostering well-being throughout the dementia process, including the early diagnosis of dementia, the empowerment of individuals during their lifespan, and the creation of a dementia-friendly community that ensures full participation in everyday activities. These actions are intended to enhance and maximize dementia pathways. The implementation of these strategies necessitates a cultural transformation concerning the perception of dementia. Illustrative examples of this cultural shift will be drawn from the recent research conducted in the Bergamo region.

Keywords: aging with dementia, quality of life, empowerment, early diagnosis, dementia-friendly, ageism

1. Introduction

While it is not asserted that dementia is an inherent aspect of the aging process, it is noteworthy that the prevalence of dementia is notably high among the elderly

population. In numerous instances, dementia has been observed to contribute to a decline in the quality of life and autonomy of individuals affected by the condition. It is, therefore, imperative to recognize that while the third age is characterized as the period of life in which individuals are predisposed to developing pathologies that lead to states of frailty and dependency, aging can still be seen as a period in the life cycle, in which the potential of the individual can be used to ensure that this stage is characterized by "quality" in itself. This assertion is substantiated by the observation that the older population experiencing frailty is disproportionately susceptible to cognitive diseases, such as dementia, compared to their non-frail counterparts [1]. Therefore, it is imperative to closely examine frailty and its potential impact on the deterioration of cognitive function, especially in the context of its role in increasing the risk of developing dementia [2].

Recently, Wallace et al. identified a role for frailty in the association between Alzheimer's disease and related dementias [3]. Although in any case it is still unclear whether the association between frailty and Alzheimer's disease pathophysiology is due to direct mechanisms (e.g., amyloid pathology causes frailty) or indirect mechanisms (e.g., amyloid pathology and frailty are linked in that they are both age-related), this study asks us to consider how frailty may represent a potentially modifiable focus for early cognitive impairment. This underscores its capacity for early and "tailored" clinical intervention. The assessment of frailty in clinical practice has become a useful tool for healthcare professionals, such as psychologists, educators, and geriatricians. By utilizing this assessment, professionals can personalize interventions to support individuals in maintaining a healthy state of frailty or to provide therapeutic interventions in cases of pathological decline. Indeed, the identification of frailty should prompt professionals to undertake a more precise investigation of the determinants that contribute to an individual's increased vulnerability and that may lead to the development of dementia, given its prevalence in the elderly population. This approach enables the adoption of a person-centered treatment strategy aimed at mitigating potential adverse outcomes and disrupting the prevailing paradigm of aging as synonymous with the accrual of diseases.

As a result, in contemporary discourse, the construct of frailty is increasingly used as a measure of an individual's risk profile, thus it plays a significant role in determining an individual's biological aging profile. This is predicated on the premise that chronological age may not always correspond to biological progression. Consequently, it provides a framework for understanding aging as having infinite trajectories, potentially following different profiles of frailty or eventual pathology.

The aforementioned perspective redefines the aged population as extremely heterogeneous. Consequently, a comprehensive evaluation of specific aging individuals, with the objective of early detection of potential pathological profiles, can only be achieved by integrating the construct of frailty with another crucial concept: the biological and cognitive reserve accumulated throughout the lifespan [4]. In particular, the potential countermeasures available to date to mitigate dementia include the personalization of empowerment strategies to support the aging individual in their future life trajectory. This approach acknowledges the wealth of experiences, skills, and relationships accumulated throughout one's life and seeks to foster a fulfilling relationship with the context in which the individual lives, including the trajectory of dementia [5]. This approach is essential to ensure a meaningful experience for the person and to maximize their quality of life, and to ensure a fruitful relationship with the context in which the person operates in any trajectory, including that of dementia pathology.

2. Reconsidering the neural and cognitive reserve in frailty and dementia

Considering lifespan trajectories, among the theories that highlight neural and cognitive reserve as critical determinants of successful aging, the neural maintenance theory posits that older individuals with a well-preserved nervous system are also those who demonstrate optimized cognitive functioning as they age [6]. While neural maintenance may appear to be an advantageous mechanism, it is important to acknowledge that the majority of the elderly population inevitably experiences age-related brain atrophy [7]. Nevertheless, it is well established that some individuals can successfully perform cognitive tasks by engaging in what are referred to as compensatory processes [8].

Emphasizing the complexity of aging, it is crucial to recognize that individuals may not only exhibit varying degrees of brain atrophy but also differ in their ability to deploy compensatory strategies of varying effectiveness. These strategies are shaped by cognitive reserve, which in turn is influenced by an individual's unique life history and experiences.

To theoretically delineate the interplay between frailty, neural reserve, and cognitive reserve, we can argue that even when two older adults exhibit identical neural changes, one may demonstrate lower levels of frailty in daily life due to a greater cognitive reserve and more effective compensatory mechanisms. Conversely, from a speculative standpoint, marked age-related brain atrophy, when coupled with a weak compensatory capacity, may be indicative of a trajectory toward pathological cognitive decline [9]. Examples of such conditions include mild cognitive impairment (MCI) or mild neurocognitive disorder [10], as well as more severe neurodegenerative conditions, now classified as major neurocognitive disorders [11].

As in all developmental and learning trajectories, aging involves a synergistic interplay between biological factors (e.g., genetic predisposition) and environmental influences (e.g., lifestyle). Both factors are presumed to shape cognitive performance in aging by influencing the extent of age-related neural changes (such as the maintenance or atrophy of the nervous system) and the ability to employ compensatory strategies. For instance, being a carrier of a genetic variation, such as the APOE ε4 allele, has been linked to an increased risk of hippocampal atrophy in aging [12]. At the same time, a low level of education has been associated with reduced cognitive reserve and diminished compensatory capacity [13, 14].

There is considerable heterogeneity in the structure and function of the nervous system among older adults, which contributes to distinct trajectories of cognitive decline, frailty, and successful aging. Neuroimaging studies have highlighted significant interindividual differences in structural aging, evident in white matter hyperintensities, interhemispheric connectivity, and cortical and subcortical volume changes. Such findings have led to the conceptualization of "Δ brain age"—the discrepancy between an individual's chronological age and their brain age [15]. A positive Δ suggests accelerated brain aging, whereas a negative Δ indicates a well-preserved nervous system [16].

Given this complexity, frailty is now understood not only as a biological construct but also as the outcome of interactions between an individual's physical and cognitive abilities and their environmental context [17]. Thus, interventions aimed at optimizing functional ability in aging, including in pathological conditions, should focus on enhancing reserves and mitigating frailty. This necessitates comprehensive assessments that extend beyond the individual to their living environment, where challenges to frailty or dementia-related conditions may arise.

A lifespan perspective underscores the need for a dynamic and adaptive approach to aging, accommodating diverse trajectories ranging from healthy aging to frailty and dementia. Tracking an individual's life course allows for targeted interventions and the implementation of educational programs that foster inclusion within their community. Such efforts can support developmental trajectories, either before or during the onset of dementia-related symptoms.

As individuals age, their abilities fluctuate, making their interaction with the environment increasingly complex. Therefore, person-centered interventions should move beyond a compensatory and assistive framework toward empowering older adults, particularly those with dementia. Rather than solely mitigating cognitive decline, the goal should be to support their independence and enable them to continue engaging in personal interests and social roles. This approach not only fosters active participation in society but also contributes to reversing frailty trajectories over the lifespan. By accumulating cognitive and neural reserves, individuals may not necessarily prevent dementia onset but can better cope with its progression, maintaining an optimal quality of life.

From a clinical perspective, diagnosis and treatment of dementia should prioritize proactive strategies that encourage individuals to take early responsibility for their psychophysical well-being across the lifespan. Early identification of cognitive decline and dementia risk enables the development of personalized care plans tailored to an individual's values and priorities [18]. The objective is not merely to slow excessive cognitive decline but, more importantly, to ensure the highest possible quality of life for aging individuals.

3. Counteracting ageism and on the road toward an early diagnosis: The entitlement to quality of life in dementia

The conceptualization of dementia outlined above often encounters significant barriers to its practical implementation. One of the foremost challenges lies in confronting culturally ingrained perceptions of aging, commonly referred to as ageism [19]. This widespread stereotype predominantly portrays older individuals as retreating from productive life, experiencing progressive declines in autonomy, and requiring increasing levels of support. Such a perspective not only marginalizes older adults—especially those who are frail or living with pathological aging—but also profoundly impacts their capacity for self-determination and empowerment, thereby diminishing their overall quality of life.

A closer examination of older individuals reveals how meanings attributed to aging are deeply shaped by cultural contexts, influencing how older people perceive themselves. Empirical research consistently demonstrates that individuals, often unconsciously, internalize these negative stereotypes. As a result, older adults tend to adopt more sedentary lifestyles, underestimate their cognitive abilities, and become entangled in a cycle of physical and mental decline. These factors collectively contribute to a reduced lifespan [20]. The public health consequences of ageism are profound, leading to an increased prevalence of cardiovascular diseases, chronic respiratory conditions, and diabetes mellitus, with significant economic burdens on healthcare systems [21].

The impact of ageism becomes even more pronounced in the context of dementia. Ageism serves as a powerful and detrimental force, as individuals may simultaneously be both perpetrators and victims of ageist behaviors. On the one hand, older adults

with dementia often face social exclusion, distrust, or patronizing treatment (e.g., being perceived as incompetent, forgetful, or burdensome). On the other hand, they may internalize these attitudes, accepting a diminished role in society, even when their lived experiences contradict such narratives. Statements like "*It's time for me to step aside now*" or "*I can no longer do things as I used to*" reflect a resignation that reinforces the belief in the inevitability of personal decline. Such self-perceptions not only affect the individual but also shape broader societal attitudes, perpetuating the notion that aging equates to an irreversible loss of personhood.

Ageist attitudes—whether experienced or enacted—lead to poorer quality of life, reduced access to preventive healthcare, and inadequate medical treatment. Older individuals may be subjected to dismissive medical practices, including the denial of treatment or exclusion from clinical interventions deemed unnecessary due to their age. Furthermore, ageist misconceptions often overshadow positive attributes of individuals with dementia, reinforcing discriminatory practices, sometimes even without full awareness [22]. One striking example is therapeutic nihilism—the belief that there is little to no benefit in treating aging individuals, particularly those diagnosed with dementia. This perspective exacerbates systemic ageist stigma within healthcare and social services, severely limiting access to appropriate care. When aging is synonymous with frailty and chronic illness, healthcare professionals and caregivers may inadvertently adopt a pessimistic outlook that permeates geriatric facilities, particularly those serving individuals with dementia. Consequently, older adults with dementia continue to experience profound inequalities in receiving adequate support for daily activities compared to younger individuals with similar conditions.

Compounding this issue is the persistent violation of human rights that aged individuals—particularly those with dementia—often endure across various levels of interaction, from family dynamics to institutional policies. Following a dementia diagnosis, individuals are frequently excluded from decision-making processes, resulting in their specific needs being overlooked or dismissed. A particularly concerning consequence of this marginalization is the reduction of the person to their disease [23]. In such cases, the "demented" label supersedes their personal history, identity, and lived experiences. As a result, care systems focus primarily on managing the symptoms of dementia rather than addressing the holistic needs of the individual, leading to the misinterpretation of behaviors and the administration of inadequate interventions.

One of the gravest consequences of ageist stigma is its role in delaying dementia diagnosis. The widespread misconception that cognitive decline and loss of autonomy are inherent aspects of aging contributes to the significant underdiagnosis of dementia. Estimates suggest that approximately two-thirds of individuals with dementia receive a diagnosis only in the later stages of the disease, and as many as half remain undiagnosed entirely [24]. The lack of early detection poses a major challenge, particularly given that an early diagnosis offers substantial benefits—not only in terms of quality of life but also in economic and social dimensions, as well as in reducing caregiver burden.

Several factors contribute to delays in dementia diagnosis [25–27]. Among the primary reasons is a lack of awareness regarding the distinction between normal aging and pathological cognitive decline. Additionally, many individuals experiencing early symptoms categorically refuse to acknowledge their condition, avoid discussing concerns with family members, or hesitate to seek specialist consultations due to fear, stigma, or denial. The reluctance to pursue a diagnosis is often exacerbated by the prevailing societal belief that cognitive and behavioral changes do not constitute

a legitimate medical issue. Moreover, doubts about the effectiveness of medical interventions and concerns about the social consequences of being diagnosed with dementia further discourage individuals from seeking professional evaluation.

While an early diagnosis of dementia does not prevent disease progression, it plays a fundamental role in improving an individual's quality of life. Early detection allows for the establishment of supportive environments that foster autonomy, self-determination, and dignity throughout the disease trajectory. For individuals with dementia, receiving a timely diagnosis means having the opportunity to understand and make sense of their condition, engage in advance care planning, and explore potential pharmacological and non-pharmacological interventions that may slow cognitive decline.

Addressing the complexities of dementia diagnosis requires a comprehensive approach that considers individual, interpersonal, and cultural factors. Only by recognizing these multifaceted challenges can we mitigate the risk of further alienating individuals with dementia and ensure that they receive the care and support necessary to maintain their dignity and well-being.

4. Toward a health-oriented approach to dementia

Luckily, there is growing evidence of a segment of the population that does not exhibit significant signs of resignation. Instead, they increasingly reaffirm self-determination, even after receiving a dementia diagnosis. The approach proposed here seeks to move beyond the meanings perpetuated by ageism and its derivatives, advocating for the fundamental "right to age." This right emphasizes the active participation of individuals in shaping personal and societal transformations through reciprocal relationships and shared commitments. The goal is to foster an inclusive environment where everyone, including individuals with dementia, can find the necessary conditions to realize their full potential.

A critical aspect of this perspective involves careful attention to the physical, cultural, and social contexts in which aging unfolds. Equally important is recognizing the opportunities available to each individual, shaped by their unique life history, in order to support the fullest expression of their personal identity. The aging process comprises a complex interplay between well-being, frailty, and pathology, which cannot be reduced to predetermined standards.

Thus, it is crucial to assess from the outset not only the cognitive reserve that a given individual possesses but also the environmental and social contexts in which they are embedded. This understanding is fundamental for designing psychological and educational interventions that promote well-being, facilitate life trajectories, and empower the surrounding community. Key elements of this transformative approach include, beyond the necessity of early diagnosis, the right to age in place, the opportunity for individual empowerment, and the presence of caregivers equipped with empathetic competencies to ensure meaningful cohabitation and support.

4.1 The exigency of "aging in place" and of a dementia-friendly community development

In recent years, the concept of aging in place has gained widespread recognition. It refers to the ability to remain in one's own home, despite an increasing need for support due to significant age-related changes that lead to greater frailty [28]. In this

context, one strand of urban planning and design that promotes sustainable and participatory citizenship focuses on conceptualizing and developing urban infrastructure and services that are increasingly accessible and inclusive for individuals with dementia (see Dementia-Friendly Communities [29]).

Dementia-Friendly Communities are designed to ensure active participation in society by fostering the inclusion of individuals with dementia through tailored educational and training initiatives that engage all community members. These communities go beyond the mere provision of care services; instead, they adopt a holistic and proactive approach that sustains meaningful social engagement and empowerment for individuals with dementia. By doing so, they create a network of support that enables individuals to remain active contributors to their communities, despite cognitive decline.

This shift represents a significant advancement in dementia care, and many countries are now investing in the development of Dementia-Friendly Communities. However, these initiatives risk being insufficient if they remain predominantly confined to assistive care models and fail to incorporate a fundamental rethinking of dementia itself. Genuine community empowerment—and, consequently, the true inclusion of individuals with dementia—requires the implementation of educational programs targeted at citizens of all ages. This means not only engaging older adults but also integrating science-based dementia education into school curricula and public awareness campaigns.

A truly Dementia-Friendly approach must prioritize widespread knowledge dissemination to differentiate between dementia and non-pathological aging, thereby fostering a more informed and inclusive society.

4.2 The benefits of early and differential diagnosis

For decades, scientific research has emphasized the importance of distinguishing aging from disease, highlighting how the irreversible changes associated with advancing age are not necessarily disabling. Nevertheless, despite growing awareness, many individuals continue to conflate cognitive decline with aging, failing to differentiate between dementia—certain forms of which result in cognitive impairment—and the natural, non-pathological changes in cognitive functioning that occur in later life. This misconception, which aligns with the broader issue of ageism, reflects persistent societal stigma surrounding aging and cognitive health.

From a biological perspective, the transition from cognitive normality to full-blown dementia is not demarcated by a clear threshold (see, for example, the challenges in defining Mild Cognitive Impairment [MCI]). This underscores the need for scientifically grounded public education on the complex interplay between aging and dementia. Widespread dissemination of accurate information—through educational initiatives in public spaces—can foster a shared understanding, serving as the foundation for more inclusive and Dementia-Friendly Communities.

Only in recent decades, due to advances in clinical research and neurodiagnostic techniques, has it become possible to delineate how the aging nervous system undergoes structural and functional modifications, ultimately contributing to various forms of dementia. Today, the term dementia has taken on a clinically precise meaning, referring to a syndrome characterized by a progressive decline in cognitive functions severe enough to interfere with social and occupational activities. This deterioration may also affect personality, emotions, and behavior, leading to a gradual loss of autonomy [30]. Older adults diagnosed with a form of dementia typically exhibit

significantly impaired cognitive and functional abilities, affecting not only their own lives but also those of their primary caregivers, whose routines and responsibilities undergo profound transformations.

Individuals experiencing significant alterations in cognitive function must be able to recognize whether these changes are part of normal aging or indicative of a neurodegenerative condition. Consequently, seeking specialized medical consultation becomes essential in determining whether cognitive changes are within expected age-related variability or are suggestive of an emerging dementia-related pathology. An early neuropsychological assessment plays a pivotal role in identifying the initial clinical manifestations of cognitive impairment and facilitating differential diagnosis, allowing for the distinction between various neurodegenerative disorders. Furthermore, clarifying the differences between aging-related cognitive changes and dementia syndromes is critical for implementing effective interventions aimed at slowing disease progression, alleviating symptoms, and ultimately enhancing the quality of life for both individuals with dementia and their caregivers.

For all these reasons, it is imperative that society supports individuals in seeking a diagnosis free from stigma, ensuring that early detection becomes a pathway to timely intervention and comprehensive care.

4.3 Quality of life and individual empowerment

Ensuring that individuals, even those diagnosed with dementia, experience a high-quality aging process requires the promotion of both knowledge and proactive actions that empower individuals to take control of their own health trajectories [31, 32]. This necessitates overcoming ageist stereotypes, which often assume that people with dementia are incapable of self-determination. However, just like any other individual, a person living with dementia should be encouraged—and supported in learning—on how to take responsibility for their own aging journey. They should also have the agency to make informed decisions that help them manage their condition more effectively [33]. In this regard, individuals must have the opportunity to develop a comprehensive understanding of dementia, including its characteristics and implications for their future [34]. Thus, they should be able to play an active role in selecting the most appropriate treatment options [35] and choosing among the care services available in their local community [36].

Beyond dementia, research on successful aging suggests that individuals who maintain a high quality of life are those who actively empower themselves by adopting self-respecting lifestyles. This approach is referred to as empowering aging, which emphasizes that individuals, regardless of their health status, should be encouraged to seek personal growth, meaningful experiences, and fulfilling relationships, thereby exercising self-determination over their aging process. Similarly, when prioritizing quality of life despite dementia, the concept of empowerment requires a shift from a task-oriented care model, which focuses primarily on disease management, toward person-centered care, which places the individual at the core of all interventions. Such an approach enables individuals to maintain greater control over their health-related decisions and actions [37].

Of course, it is essential to recognize that empowerment in dementia differs from that of individuals experiencing typical aging. Cognitive, emotional, and behavioral changes associated with dementia inevitably affect decision-making abilities and motivations for self-determination. However, this does not diminish the fundamental importance of empowerment in supporting individuals with dementia

to continue playing an active role in their own lives. Unfortunately, the role of first-person involvement in healthcare decisions is often overlooked in dementia care. Yet, research highlights that enabling individuals with dementia to participate in decision-making regarding their treatment and care pathways not only helps them preserve their sense of autonomy and competence but also serves as a motivational factor in maintaining engagement with life [38, 39]. Even when the risk of suboptimal decision-making is high and external support is required, fostering opportunities for empowerment can still lead to meaningful shared experiences between individuals with dementia and their caregivers [40].

In this context, understanding a person's life history, beliefs, values, preferences, and needs becomes crucial in shaping an empowerment-oriented approach. Such an approach aligns with the principles of Dementia-Friendly Communities, which emphasize inclusivity and social engagement. Creating opportunities for participation helps combat the social isolation and stigma often associated with dementia. Moreover, promoting equal partnerships in decision-making [41] encourages individuals with dementia to remain socially active and maintain a shared identity with others who also value empowerment, despite their condition [42]. The ability to make autonomous life choices, even when relying on external support, remains a cornerstone of empowerment in dementia care. This approach ensures that individuals can maximize their life potential while maintaining a sense of dignity and control.

Recent studies have demonstrated that empowerment in dementia leads to positive changes in quality of life and well-being, fostering greater self-confidence, self-esteem, and dignity throughout the progression of the disease [43, 44]. The ability to feel respected, valued, and included in decisions regarding one's care reinforces a sense of self [45, 46] and helps individuals maintain their social identity, despite cognitive decline [38].

While there may be debate about whether improved quality of life is a direct outcome of empowerment, or whether quality of life itself contributes to greater autonomy and self-determination, empowerment in aging must remain a central objective in dementia care. Ultimately, empowerment is a dynamic process, shaped by the interaction between the individual and their environment. Thus, the broader social context must acknowledge its role in facilitating true empowerment. This can only be achieved through a comprehensive understanding of the real needs of individuals with dementia and the development of services and policies that promote self-determination, rather than simply offering passive assistance. The principles of Dementia-Friendly Communities serve as a powerful framework for fostering empowerment, reducing stigma, and transforming societal perceptions of dementia.

4.4 Well-being and empathetic caregiving

The caregiving relationship—whether established through professional figures (e.g., healthcare professionals), family caregivers, or the broader social context (e.g., the community)—plays a crucial role in influencing the empowerment process of individuals living with dementia. In this context, reference is often made to widely recognized approaches such as the Gentlecare model [47] and the Validation method [48], which provide caregivers with strategies to allocate adequate time for relational engagement, offer continuous positive feedback to the needs of individuals with dementia, and, ultimately, establish an empathetic connection [49].

More specifically, the ability to adopt another person's perspective and achieve emotional attunement with the care recipient are key components of empowerment.

Perspective-taking is broadly defined as the cognitive process through which caregivers gain insight into how individuals with dementia might perceive and experience the world. This form of perspective-taking is often an imaginative exercise, wherein caregivers symbolically or metaphorically "step into the shoes" of the person with dementia to develop a multidimensional understanding of their thoughts and emotions. This competency, known as *social perspective-taking* (or *role-playing*), is typically acquired during late adolescence and has been associated with altruistic behaviors, increased likelihood of providing assistance, and reduced stress levels in observers witnessing another person's suffering.

If the primary objective of a caregiver is to ensure a high quality of life for the person being cared for, their efforts can only be deemed effective if they can accurately assess whether the individual has truly achieved a satisfactory level of well-being. Since caregivers do not personally experience the cognitive changes associated with dementia, they must actively engage in an "other-than-self" perspective when evaluating the well-being of those they assist. However, this task is inherently challenging, as it is difficult for caregivers to fully grasp what is essential for individuals with dementia to experience a sense of fulfillment.

Notably, research indicates that family caregivers often underestimate the quality of life of their relatives with dementia compared to self-assessments provided by the individuals themselves. Moreover, informal caregivers who are significantly younger than their care recipients tend to exhibit greater discrepancies in their evaluations of well-being compared to older caregivers. In contrast, older informal caregivers tend to provide more favorable assessments of the quality of life of the person with dementia [50]. One possible explanation for this variation is the differing perspectives on well-being held by individuals at different stages of life. It is important to note, however, that when caregivers are asked to evaluate the quality of life of individuals with dementia based on objective experiences and observable health-related symptoms—rather than on subjective thoughts or perceptions—their assessments tend to align more closely with those of the individuals receiving care. This finding supports the notion that perceptions of quality of life are inherently subjective.

Perspective-taking is particularly critical in dementia caregiving because, while cognitive decline may reduce situational awareness for the person with dementia, the caregiver's goal remains to provide the highest possible quality of life. However, when there is a discrepancy between the perspectives of the caregiver and the care recipient, this misalignment may lead to persistent frustration for the caregiver or a lack of recognition by the person with dementia that their support needs are being met. If caregiving efforts focus primarily (or exclusively) on actions that do not align with the individual's subjective sense of well-being, the person receiving care may not experience meaningful improvements in their quality of life.

Thus, for a caregiving relationship in the context of dementia to be truly characterized as "high-quality," an optimal level of empathy must be achieved. Only through this empathetic attunement can the quality of care be enhanced while simultaneously promoting the well-being of both caregivers and care recipients [51].

5. From theory to action: Some ongoing projects to improve caring for people with dementia

The purpose of this section is to present as an example some of the most significant projects that, through applied research, seek to translate the theoretical

framework outlined thus far into practical implementation. Most of these initiatives are ongoing and involve scholars and early career researchers affiliated with the CHL—Centre for Healthy Longevity at the University of Bergamo. The majority of the presented projects interpolate more than one of the dimensions described above, but they are described here grouped according to the dimension considered to be their primary focus.

5.1 Fostering communities to be dementia friendly

As previously discussed, enhancing the quality of life for individuals living with dementia requires the presence of an urban community that is well educated in the principles of inclusion. Such a community should actively foster a "friendly" environment around individuals with dementia, ensuring not only that they are not isolated but also that they are fully accepted and able to continue expressing their individuality, despite their condition. The foundational vision behind the development of these communities' centers on the person with dementia as an individual recognized for their competencies and capabilities rather than being solely defined by their pathology.

A Dementia-Friendly Community (DFC) [52] is an urban environment in which every member, in both personal and professional capacities, learns to recognize what is expected of them and how they can contribute to supporting individuals who, while experiencing cognitive decline, should not be excluded from community life. A DFC is not exclusively composed of healthcare professionals and family members of individuals with cognitive frailty; rather, it is a community where all members play a role in facilitating meaningful life experiences for people with dementia—whether they are clients, neighbors, or acquaintances. In such a community, sales personnel are trained to assist individuals who may struggle with decision-making while shopping, financial and legal advisors take into account the challenges their clients may face in evaluating risks, and public transportation operators develop an increased awareness of and patience for those who may become spatially or temporally disoriented. More broadly, every community member who interacts with a person with dementia does not merely perceive them as a "forgetful, non-autonomous individual" but rather as a person to be understood and embraced in their entirety.

Thus, a DFC is an urban community that is informed about dementia, unafraid of it, and fully aware of how to actively contribute to enabling people with dementia to continue leading fulfilling lives. This approach requires a fundamental shift—from a welfare-based model to one that places the individual at the center, recognizing and valuing their agency. However, this transition is contingent upon one essential factor: the ability of the environment, the community, and the broader social context to undergo a profound cultural shift.

To facilitate this cultural transformation, the Dementia Friendly Italia project was launched in 2016 at the University of Bergamo and has since continued as a Public Engagement initiative within the CHL—Centre for Healthy Longevity. The project seeks to educate urban communities and foster a shared commitment between citizens and individuals with dementia in creating inclusive environments that respect and accommodate diverse needs. One of its primary objectives is to raise public awareness about dementia, dispelling the misconception that it is an inevitable component of aging or that it is exclusively linked to Alzheimer's disease. Furthermore, the project aims to provide the general public with deeper insight into the lived experiences of individuals with dementia.

To this end, educational initiatives have been organized in schools, municipalities, religious institutions, and professional associations (e.g., retailers, restaurant and bar operators, office employees, etc.). These activities equip various sectors of society with the necessary knowledge and tools to initiate a cultural transition, reframing cognitive frailty and dementia as conditions that require adaptation and support rather than exclusion.

In the projects implemented across Bergamo and surrounding areas, particular emphasis has been placed on creating meaning through participation, which is considered the cornerstone of building a community that is not only efficient but, above all, effective in fostering genuine inclusivity. Instead of merely developing "dementia-friendly" facilities, the initiative has aimed to cultivate what philosopher Margaret Gilbert [53] describes as a collective subject—a community that acts not as a collection of individuals but rather as a unified entity.

Thus, the educational sessions have sought to create a shared commitment, fostering a "collective we" rather than enforcing top-down directives. The goal is not to impose change through institutional training but rather to facilitate and encourage a grassroots transformation, enabling communities to develop authentic and sustainable ways of integrating people with dementia into everyday life.

The small Dementia-Friendly Communities that have emerged within schools (from preschool to secondary education) and various urban areas have gradually become recognized social spaces, where the implications and responsibilities of inclusivity are both acknowledged and acted upon. These communities are now perceived as part of a shared social mission, redefining the way dementia is understood within the collective mindset.

Moreover, each of these communities has faced the challenge of mobilizing and sustaining participation among all members—including people with dementia—who are empowered to exercise agency in decision-making processes. The project has thus facilitated the development of genuinely inclusive Dementia-Friendly Communities, capable of ensuring autonomy in life trajectories and safeguarding the rights of individuals living with dementia. In doing so, these communities contribute to breaking down social stigma while simultaneously reinforcing a sense of personal self-efficacy among individuals with dementia.

5.2 Identifying frailty to facilitate early dementia diagnosis: Bergamo and the "aged of the future"

To assess the aging potential of Bergamo's population—currently within the old-adult (55–65 years) or early old (65–75 years) age segments—a survey has been initiated to detect early psycho-cognitive frailty in these groups. The primary objective is to direct individuals, where necessary, toward early diagnosis programs, as well as to initiate the pre-frail population to psycho-education projects. These interventions are informed by recent evidence [54] and aim to promote protective lifestyle modifications that may reduce future dementia risk. Collectively, these population-based strategies are designed to guide participants toward a trajectory of quality aging. Beyond addressing care needs, the study identifies the resources and potential of the soon-to-age population through standardized questionnaires (assessing cognitive, emotional, and relational dimensions) alongside semi-structured interviews exploring subjective perspectives on aging and coping strategies for the transition into old age.

The project's innovative approach lies in its lifespan-centered assessment of individual potential and limitations, moving beyond a narrow focus on old age. This broader perspective helps discern how these factors may constrain or facilitate successful aging while enabling early dementia detection. By monitoring developmental trajectories in adulthood, the intervention supports activities that foster successful aging. Recognizing the complexity of lifespan development—where certain trajectories may predispose individuals to future frailty—the project implements psycho-promotional measures to encourage health-supportive behaviors before clinical manifestations emerge.

The intervention's objectives and methodologies are grounded not only in general aging dimensions derived from literature but are also tailored to critical or high-potential areas identified through local cultural and needs analyses. The methodology combines community-based work, alternating between individual and group interventions. Techniques include psychological empowerment, cognitive training, physical activity, socialization initiatives, and reinforcement of socio-health networks, all selected based on questionnaire and interview analyses.

The project delineates four prospective aging trajectories for enrolled participants [55]: (1) Future seniors who can maintain optimal psychophysical functioning, full autonomy, and maximized quality of life; (2) Future seniors who can grow old with psychophysical health, minor compensable limitations, and good quality of life; (3) Future seniors at risk of psychophysical frailty, experiencing substantial limitations in daily autonomy and quality of life; (4) Future seniors susceptible to age-related psychophysical illnesses (e.g., chronic or neurodegenerative diseases, depression), significantly impairing autonomy and quality of life.

Ongoing psycho-educational interventions are customized to each group's needs. The 12-month psycho-promotional program employs hybrid (online/in-person) individual and group sessions, informational materials (including multimedia), and experiential methods (e.g., role-playing, immersive virtual reality), following Bartholomew's implementation model [56]. Interventions aim to preserve optimal aging through healthy longevity strategies; enhance aging trajectories by improving autonomy; equip frail individuals with protective and compensatory strategies; and support them in pursuing early clinical/diagnostic measures to improve quality of life, despite dementia.

By envisioning Bergamo's aging future, this project seeks to identify individual-environment dynamics that either foster successful aging or optimize early dementia diagnosis through psycho-education—enabling residual function preservation before frailty becomes disabling. It advances healthy aging by framing old age as a continuum shaped by earlier life stages. The dual-purpose interventions aim to enhance well-being while educating participants on necessary adjustments for healthier aging. In addition, the project intends to empower people in adulthood to become the main actors in the design of quality aging (even in dementia), counteracting the stereotypical idea that aging is only and exclusively an age of loss, on which improvement interventions cannot be implemented.

5.3 Empowerment by the sea: The sailing experience of people living with dementia on Nave Italia

Aligned with the principle of centering individuals with dementia and empowering them in their lived experiences with the disease, the project "Psychological

Well-being for Elderly People with Dementia through Cruise Therapy" was conducted aboard Nave Italia, the world's largest brigantine. This initiative brought together people with dementia, educators and psychologists from the University of Bergamo, and the Italian Navy crew, facilitated by the foundation Tender to Nave Italia (TTNI, https://www.naveitalia.org/). For years, TTNI has combated prejudice against disability and social marginalization by promoting empowerment projects for vulnerable populations. Annually, it enables diverse groups to embark on weeklong voyages along the Mediterranean, living collectively as crew members—sharing cabins, performing navigation tasks, maintaining the deck, and managing meals—thus reinforcing agency in daily life, even within an exceptional context. This approach underscores the need to empower people in their everyday life (albeit in an exceptional context) in every trajectory of their growing old, including that of growing old with dementia.

During our onboarding as crew of University scholars and aged individuals, 24 people (70–90 years old) with moderate cognitive impairment resulting from neurodegenerative pathology were involved. The main objective of the cruise was to integrate the experience of sailing with moments of non-pharmacological interventions aimed at enhancing emotional well-being, social engagement, and psychomotor abilities. Additionally, a mixed-methods (quantitative-qualitative) design assessed whether the cruise experience improved psycho-emotional well-being and quality of life (QoL), informing future interventions that combine sailing with empowerment through travel [57].

To this end, the weeklong journey on Nave Italia necessitated a planning that covered the entire calendar year. In the pre-shipment phase (January–August), the methodology and all research materials were predisposed, as well as the quantitative-qualitative statistical designs for evaluating the effectiveness of the proposed treatments were defined. A training was also provided to educators for the administration of non-pharmacological interventions and Nave Italia method during the boarding phase. Not least, a recruitment and support action were carried out to accompany elderly persons with dementia and caregivers to the ship travel experience. In the post-boarding phase (September–December), data on psychophysical, emotional, autonomy, and quality-of-life status, collected before and during the boarding phase, were processed and evaluated in relation to the psycho-emotional well-being and quality-of-life status assessed immediately after the cruise experience and with a 3-month follow-up. These data were also compared with the same evaluations carried out with a control group of similar age and socioeconomic status that did not board the brigantine.

About the results achieved by comparing the pre- and post-boarding questionnaires given to our "sailors" versus a control group, we observed a slight improvement in cognitive level (assessed by the Mini Mental State Examination scale), an improvement in symptoms of depression (assessed by the Geriatric Depression Scale), and a substantial improvement in perceived quality of life (assessed by the World Health Organization WHOQOL scale). However, the small, heterogeneous sample (varying in age, gender, education, and diagnosis) necessitates cautious interpretation. Despite this, observed emotional gains, partially restored autonomy, and heightened self-determination suggest that the project holds promise as an empowerment strategy for people with dementia. Future iterations with larger experimental and control groups are planned to further validate these outcomes.

5.4 Virtual reality based first-person perspective on living with dementia

To foster a deeper understanding of the lived experiences of individuals with dementia and promote empathic attunement among caregivers, an innovative

educational-experiential intervention was developed using immersive virtual reality (VR) technology. The ViveDe project (www.vivede.it) employs 360° videos, accessible via VR headsets, to simulate first-person perspectives of common daily challenges faced by people with dementia—such as shopping, cooking, dining out, or visiting a doctor. These videos, available on YouTube with full 360° explorability (x/y axis), allow users, including those unfamiliar with dementia, to virtually embody the cognitive and sensory disruptions associated with the condition.

Beyond enhancing caregiver comprehension of their care recipients' behaviors, the project aims to engage a broader audience—including those typically disinterested in dementia-related issues—in critical reflection on the motivations behind behaviors often perceived as challenging (e.g., wandering, hoarding, or food refusal). To evaluate the efficacy of this immersive experience in cultivating empathy, participants were interviewed before and after the VR session regarding their perceptions of dementia-related needs and their willingness to adopt a collaborative caregiving role. Data indicate that ViveDe significantly influences how both caregivers and non-professionals perceive dementia and its symptomatic manifestations [58].

In this way, the project seems to succeed in minimizing the idea that assistance should be delegated to welfare professionals (such as hospitals or nursing homes). At the same time, it also seems to succeed not only to make family members understand how to better accommodate their caregiver's demands, but also to people not directly involved (e.g., neighbors, shopkeepers, etc.) on how to include people with dementia more effectively within a Dementia Friendly Community. People who benefit from the ViveDe experience, in fact, become more aware of how an everyday activity (like buying bread and fruit in a neighborhood shop) can be a simple or very complicated challenge for a person with dementia strictly depending on the empathetic or not empathetic attitude of the others around them (e.g., the shop manager or the other customers). It is this shift that enables people with dementia to feel empowered to live a part of their lives independently, thereby counteracting part of their cognitive and motor decline.

The novelty of ViveDe lies in its integration of transformative VR technology with a psychological framework prioritizing quality of life in dementia care. It expands conventional educational paradigms by redefining autonomy and emphasizing the collective effort required for inclusive urban support systems. Crucially, the project underscores that the needs of individuals with dementia extend beyond basic physiological and safety requirements to encompass higher-order needs—social belonging, esteem, and self-actualization. By facilitating first-person experiential learning, ViveDe advocates for a paradigm shift from a narrow "care-as-custodial" model to one that actively upholds the self-determination and dignity of individuals with dementia.

Building on these findings, ViveDe is being adapted into a psycho-educational program for family caregivers of newly diagnosed individuals [59]. Through weekly VR-assisted training and discussion sessions, caregivers develop cognitive empathy by virtually assuming the perspective of the person with dementia. This approach aims to enhance caregivers' role awareness while concurrently improving the quality of life for both caregivers and care recipients.

Author details

Francesca Morganti
Department of Human and Social Sciences, CHL—Centre for Healthy Longevity, University of Bergamo, Bergamo, Italy

*Address all correspondence to: francesca.morganti@unibg.it

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References

[1] Borges MK et al. Frailty as a predictor of cognitive disorders: A systematic review and meta-analysis. Frontiers in Medicine. 2019;**6**:26. DOI: 10.3389/fmed.2019.00026

[2] Godin J et al. Dynamics of frailty and cognition after age 50 why it matters that cognitive decline is mostly seen in old age. Journal of Alzheimer's Disease. 2017;**58**:231-242

[3] Wallace L et al. Investigation of frailty as a moderator of the relationship between neuropathology and dementia in Alzheimer's disease: A cross-sectional analysis of data from the rush memory and aging project. The Lancet Neurology. 2019;**18**:177-184

[4] Satz P. Brain reserve capacity on symptom onset after brain injury: A formulation and review of evidence for threshold theory. Neuropsychology. 1993;**7**:273-295

[5] Morganti F, Negri I. How cognitive reserve could protect from dementia? An analysis of everyday activities and social behaviors during lifespan. Brain Sciences. 2025;**5**. DOI: 10.3390/brainsci15060652

[6] Nyberg L et al. Memory aging and brain maintenance. Trends in Cognitive Sciences. 2012;**16**:292-305

[7] Fjell AM et al. Brain changes in older adults at very low risk for Alzheimer's disease. Journal of Neuroscience. 2013;**33**:8237-8242

[8] Park DC, Reuter-Lorenz P. The adaptive brain: Aging and neurocognitive scaffolding. Annual Review of Psychology. 2009;**60**:173-196

[9] Nyberg L, Pudas S. Successful memory aging. Annual Review of Psychology. 2019;**70**:219-243

[10] Sachdev PS et al. Classifying neurocognitive disorders: The DSM-5 approach. Nature Reviews Neurology. 2014;**10**:634-642

[11] American Psychiatric Association. DSM-5. Manuale Diagnostico e Statistico dei Disturbi Mentali. Milano: Raffaello Cortina; 2013

[12] Cacciaglia R et al. Effects of apoe-ε4 allele load on brain morphology in a cohort of middle-aged healthy individuals with enriched genetic risk for Alzheimer's disease. Alzheimer's & Dementia. 2018;**14**:902-912

[13] Stern Y. Cognitive reserve. Neuropsychologia. 2009;**47**:2015-2028

[14] Stern Y et al. A task-invariant cognitive reserve network. NeuroImage. 2018;**178**:36-45

[15] Franke K et al. Estimating the age of healthy subjects from T1-weighted MRI scans using kernel methods: Exploring the influence of various parameters. NeuroImage. 2010;**50**:883-892

[16] Nyberg L, Wåhlin A. The many facets of brain aging. eLife. 2020;**9**. DOI: 10.7554/eLife.56640

[17] World Health Organization. World Report on Ageing and Health. 2015. Available from: https://apps.who.int/iris/handle/10665/186463

[18] Woo J. Frailty, successful aging, resilience, and intrinsic capacity: A cross-disciplinary discourse of the aging process. Current Geriatrics Reports. 2019;**8**:67-71

[19] Butler RN. Ageism: Another form of bigotry. The Gerontologist. 1969;**9**:243-246

[20] Lamont RA, Swift HJ, Abrams D. A review and meta-analysis of age-based stereotype threat: Negative stereotypes, not facts, do the damage. Psychology and Aging. 2015;**30**:180-193

[21] Levy BR et al. Ageism amplifies cost and prevalence of health conditions. The Gerontologist. 2018;**60**(1):174-181

[22] Nelson TD. Ageism: Prejudice against our feared future self. Journal of Social Issues. 2005;**61**:207-221

[23] Kitwood T. Dementia Reconsidered: The Person Comes First. London: Open University Press; 1997

[24] Gauthier S et al. World Alzheimer Report 2021: Journey through the Diagnosis of Dementia. London: Alzheimer's Disease International; 2021

[25] Perry-Young L et al. How people come to recognise a problem and seek medical help for a person showing early signs of dementia: A systematic review and meta-ethnography. Dementia. 2018;**17**:34-60

[26] Mendez MF. Early-onset alzheimer disease and its variants. Continuum (Minneapolis, Minn). 2019;**25**:34-51

[27] Wei H, Masurkar A, Razavian N. On gaps of clinical diagnosis of dementia subtypes: A study of Alzheimer's disease and Lewy body disease. Frontiers in Aging Neuroscience. 2021;**15**:1149036. DOI: 10.1101/2021.05.05.21256720

[28] Greenfield EA. Using ecological frameworks to advance a field of research, practice, and policy on aging-in-place initiatives. The Gerontologist. 2012;**52**:1-12

[29] Hung L et al. Creating dementia-friendly communities for social inclusion: A scoping review. Gerontology and Geriatric Medicine. 2021;**7**:23337214211013596

[30] McKhann GM et al. The diagnosis of dementia due to Alzheimer's disease: Recommendations from the National Institute on Aging-Alzheimer's Association workgroups on diagnostic guidelines for Alzheimer's disease. Alzheimer's & Dementia. 2011;**7**:263-269. DOI: 10.1016/j.jalz.2011.03.005

[31] Morganti F. Psicologia Dell'invecchiamento e Qualità della vita. Salute, Fragilità e Demenza. Roma: Carocci Editore; 2022

[32] Morganti F. Longevity as a responsibility: Constructing healthy aging by enacting within contexts over the entire lifespan. Geriatrics. 2024;**9**(4):93. DOI: 10.3390/geriatrics9040093

[33] Read ST, Toye C, Wynaden D. Experiences and expectations of living with dementia: A qualitative study. Collegian. 2017;**24**:427-432

[34] Shelton EG, Orsulic-Jeras S, Whitlatch CJ, Szabo SM. Does it matter if we disagree? The impact of incongruent care preferences on persons with dementia and their care partners. The Gerontologist. 2018;**58**:556-566. DOI: 10.1093/geront/gnw202

[35] Watt JA, Goodarzi Z, Veroniki AA, Nincic V, Khan PA, Ghassemi M, et al. Comparative efficacy of interventions for aggressive and agitated behaviors in dementia: A systematic review and network meta-analysis. Annals of Internal Medicine. 2019;**171**:633-642. DOI: 10.7326/M19-0993

[36] Di Fiandra T, Canevelli M, Di Pucchio A, Vanacore N, Italian Dementia National Plan Working Group. The Italian dementia national

plan. Commentary. Annali dell'Istituto Superiore di Sanità. 2015;**51**:261-264. DOI: 10.4415/ANN_15_04_02

[37] World Health Organization. Programme on Mental Health: WHOQOL User Manual, 2012 Revision. 1998. Available from: https://apps.who.int/iris/handle/10665/77932

[38] McConnell T, Best P, Sturm T, Stevenson M, Donnelly M, Taylor BJ, et al. A translational case study of empowerment into practice: A realist evaluation of a member-led dementia empowerment service. Dementia. 2020;**19**:1974-1996

[39] Maki Y, Takao M, Hattori H, Suzuki T. Promoting dementia-friendly communities to improve the well-being of individuals with and without dementia. Geriatrics and Gerontology International. 2020;**20**:511-519. DOI: 10.1111/ggi.13896

[40] Alsawy S, Tai S, McEvoy P, Mansell W. 'It's nice to think somebody's listening to me instead of saying "oh shut up"'. People with dementia reflect on what makes communication good and meaningful. Journal of Psychiatric and Mental Health Nursing. 2019;**27**:151-161

[41] Hicks B, Innes A, Nyman S. Exploring the 'active mechanisms' for engaging rural-dwelling older men with dementia in a community technological initiative. Ageing and Society. 2020;**40**:1906-1938. DOI: 10.1017/S0144686X19000357

[42] Mmako NJ, Courtney-Pratt H, Marsh P. Green spaces, dementia and a meaningful life in the community: A mixed studies review. Health & Place. 2020;**63**:102344. DOI: 10.1016/j.healthplace.2020.102344

[43] Hebert CA, Scales K. Dementia friendly initiatives: A state of the science review. Dementia. 2017;**18**:1858-1895

[44] Whelan S, Teahan Á, Casey D. Fostering the resilience of people with dementia: A narrative literature review. Frontiers in Medicine. 2020;**25**(7):45. DOI: 10.3389/fmed.2020.00045

[45] Swall A, Ebbeskog B, Lundh Hagelin C, Fagerberg I. Stepping out of the shadows of Alzheimer's disease: A phenomenological hermeneutic study of older people with Alzheimer's disease caring for a therapy dog. International Journal of Qualitative Studies on Health and Well-Being. 2017;**12**:1. DOI: 10.1080/17482631.2017.1347013

[46] Phillipson L et al. Involvement of people with dementia in raising awareness and changing attitudes in a dementia friendly community pilot project. Dementia. 2018;**18**:2679-2694

[47] Jones M. Gentlecare: Changing the Experience of Alzheimer's Disease in a Positive Way. New Westminster, BC: Moyra Jones Resources, Hartley & Marks Publishers; 1999

[48] Feil N. Validation therapy. Geriatric Nursing. 1992;**13**:129-133

[49] Smith R, Ooms A, Greenwood N. Supporting people with young onset dementia and their families: An evaluation of a training course for care workers. Nurse Education in Practice. 2017;**27**:7-12. DOI: 10.1016/j.nepr.2017.08.007

[50] Arons AM et al. Quality of life in dementia: A study on proxy bias. BMC Medical Research Methodology. 2013;**13**:110. DOI: 10.1186/1471-2288-13-110

[51] Wijma AJ et al. Patient-centeredness in physiotherapy: What does it entail? A systematic review of qualitative studies. Physiotherapy Theory and Practice. 2017;**33**:825-840

[52] Morganti F. Le comunità Dementia Friendly. Verso L'inclusione delle Persone con Fragilità Cognitiva. Milano: FrancoAngeli; 2018

[53] Gilbert M. On Social Facts. Princeton: Princeton University Press; 1989

[54] Livingston G et al. Dementia prevention, intervention, and care: 2020 report of the lancet commission. The Lancet. 2020;**396**:413-446

[55] Gattuso M, Butti S, Benincá I, Greco A, Di Trani M, Morganti F. A structural equation model for understanding the relationship between cognitive reserve, autonomy, depression and quality of life in aging. International Journal of Environmental Research and Public Health. 2024;**21**:9. DOI: 10.3390/ijerph21091117

[56] Bartholomew LK, Parcel GS, Kok G, Gottlieb N. Planning Health Promotion Programs: An Intervention Mapping Approach. 2nd ed. San Francisco: Jossey-Bass; 2006

[57] Morganti F, Brignoli P, Gagliani M, Cornaglia FP. Rivedere la rotta nella demenza: Nave Italia per le persone anziane con fragilità cognitive. In: Atti del 23° Congresso Nazionale AIP-Associazione Italiana Psicogeriatria; Firenze; 13-15 Aprile 2023. Firenze: Congresso Nazionale AIPAssociazione Italiana Psicogeriatria; 2023

[58] Morganti F et al. Take the first-person perspective to become dementia friendly: The use of 360° video for experiencing everyday-life challenges with cognitive decline. Frontiers in Psychology. 2020;**11**:117. DOI: 10.3389/fpsyg.2020.01117

[59] Morganti F, Gattuso M, Singh Solorzano C, Bonomini C, Rosini S, Ferrari C, et al. Virtual reality-based psychoeducation for dementia caregivers: The link between caregivers' characteristics and their sense of presence. Brain Sciences. 2024;**14**:852