

Digital Reminiscence Therapy Using Vr In Dementia Care: Nurse Facilitator Perspectives

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ABSTRACT

Dementia is a progressive neurodegenerative disorder characterized by a decline in cognitive and social functioning, posing significant challenges for individuals and caregivers alike. With the growing prevalence of dementia in India, there is an urgent need for effective, non-pharmacological interventions that enhance quality of life and emotional well-being. Reminiscence Therapy (RT), a multi-sensory approach that uses sensory cues such as sight, sound, touch, taste, and smell to evoke meaningful past experiences, has been shown to foster identity and social connection among persons with dementia (PWD). The integration of digital technologies—particularly Virtual Reality (VR)—has advanced RT into the realm of Digital Reminiscence Therapy (DRT), enabling immersive and interactive experiences that replicate familiar environments and stimulate positive emotions. In conclusion, Digital Reminiscence Therapy using VR represents a promising innovation in dementia care. It enhances emotional well-being, cognitive engagement, and social interaction among PWD while supporting caregivers through meaningful, technology-assisted connections. Continued research and nurse-led implementation are essential to fully realize VR's potential in person-centered dementia therapy.

KEYWORDS: Dementia, Virtual Reality, Reminiscence Therapy, Digital Reminiscence Therapy, Nurse Perspectives, Patient with Dementia, Non-Pharmacological Interventions, Cognitive Stimulation.

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INTRODUCTION

Dementia is a degenerative neurological condition that impairs social and cognitive functioning; Age is the strongest and best-known risk factor for dementia, India faces an alarming potential increase in the number of people with dementia. It presents difficulties for both individuals and those who care for them. It draws attention to the drawbacks of conventional drugs, which frequently have negative side effects and stresses the necessity of non-pharmacological alternatives like Reminiscence Therapy[1].

Reminiscence Therapy (RT), a multi-sensory treatment designed to assist persons with dementia (PWD) in recalling memories from their past. Reminiscence Therapy (RT), a multi-sensory treatment designed to assist persons with dementia (PWD) in recalling memories from their past. RT utilizes a combination of sensory prompts, including sight, touch, taste, smell, and sound, to facilitate discussions about past activities, events, and experiences. As cognitive abilities decline, PWD often lose recent memories while retaining cherished memories from their past, making RT a valuable tool for enhancing their personal identity. [2].

As additional resources for RT, digital technologies like Smartphone apps and immersive programs like virtual and augmented reality have become popular[3]. Virtual Reality is emerging as a promising tool in dementia care by providing immersive experiences that can stimulate memory, improve emotional well-being, and help alleviate behavioral and psychological symptoms related to dementia [4].

Engaged and positive reminiscence experiences were supported by three types of objects: Environmental Objects, which prompt memories tied to specific settings like school, childhood home, or old shops; Event Objects, which trigger memories related to particular occasions or activities such as holidays, dances, sports, or hobbies; and Meaningful Objects, which hold personal significance for individuals, like a first bike, record player, or telegram. Digital environments rich in these objects were considered more effective for supporting VR reminiscence than interactions with single items, which tend to work better in face-to-face sessions [5]. An autonomous artificial companion presented in virtual reality (VR) is feasible, and may benefit persons with dementia who are at risk of social isolation. Virtual reality (VR) is an emerging technology in long-term care (LTC) that uses head-mounted devices to deliver immersive experiences. Research has shown that VR can positively impact the well-being of residents living with dementia. However, staff play a crucial role in the successful implementation and ongoing use of this

technology. Despite this, there is currently limited attention given to including and understanding the direct perspectives of LTC staff regarding VR implementation [3].

BODY OF CONTENT

DEMENTIA

Dementia is a chronic progressive neurodegenerative syndrome, Memory loss and deficiencies in cognitive abilities, emotional regulation, and social behaviour are hallmarks of dementia. It includes a range of illnesses, with classifications changing over the last 40 years as a result of improvements in neuropathology and imaging. Dementia is a brain disorder that includes memory loss, cognitive deficits (thinking, planning, and organising abilities), a decline in emotional control or motivation, and changes in social behaviour (such as increased irritation, apathy, or problems interacting with other people). The word dementia is derived from the Latin words *de* ("out of") and *mens* ("the mind") [6].

With the global population aging continuously, the prevalence of dementia is also rising rapidly. Furthermore, dementia is recognized as one of the leading causes of disability in later life. It represents 11.9% of the years lived with disability attributable to non-communicable diseases among individuals aged 60 and above. Therefore, the repercussions on the financial, social, and psychological well-being of both patients and their caregivers are significant, and it is imperative to discover innovative approaches to address these health challenges in contemporary society [7].

REMINISCENCE THERAPIES

In order to support mental and emotional health, Reminiscence therapy [RT] is a psychological intervention that entails remembering, considering and discussing past experiences. Many elderly persons use it, especially those who are depressed have dementia or are socially isolated. In order to improve self-awareness, identity and life happiness, the therapy encourages patients to reflect on important life events, both positive and negative [8]. Reminiscence therapy is typically carried out using both basic and advanced methods, all aimed at bringing past memories into present awareness. Simple approaches may involve conversations that prompt recollection, while more advanced techniques use various media—such as photographs, videos, music, or cherished items—to help individuals recall and connect with their personal histories [9].

REMINISCENCE THERAPY FOR DEMENTIA

Traditional medications often have adverse effects, emphasizing the need for non-pharmacological options like Reminiscence Therapy [10]. Reminiscence therapy serves as a non-pharmacological alternative in long-term care, particularly for individuals with dementia. Although its effectiveness in dementia care remains uncertain, it is recognized as a multi-sensory approach that engages sight, touch, taste, smell, and sound to help persons with dementia (PWD) recall people, places, and events from their past. The therapy typically involves discussing past experiences, activities, and events—either one-on-one or in groups—using tangible prompts such as photographs, familiar household objects, music, and archival recordings. While PWD often lose recent memories first and experience a decline in cognitive functions that can erode their sense of identity, they may still retain vivid and meaningful memories from earlier in life [9].

VIRTUAL REALITY FOR DEMENTIA ON REMINISCENCE THERAPY

Virtual Reality (VR) has emerged as a promising innovation in reminiscence therapy for individuals with dementia. It provides immersive and interactive environments that replicate familiar locations, experiences, and events from a person's past. By engaging multiple senses—such as vision, hearing, and movement—VR can elicit personal memories more effectively than traditional reminiscence methods. This immersive approach enables persons with dementia (PWD) to virtually revisit significant places or relive meaningful life moments, thereby fostering emotional well-being, social engagement, and communication. Furthermore, VR-based reminiscence therapy can be customized to align with each individual's life history, helping preserve self-identity and continuity despite progressive cognitive decline. Although research on its long-term outcomes remains limited, emerging studies indicate that VR enhances conventional reminiscence therapy by offering a more vivid, realistic, and emotionally engaging experience [11].

TYPES OF VIRTUAL REALITY

FULLY IMMERSIVE VIRTUAL REALITY ON REMINISCENCE INTERVENTIONS:

Fully immersive virtual reality (FIVR) may be a valuable tool for reminiscence interventions, as it creates realistic virtual environments connected to a person's meaningful past experiences. FIVR-based reminiscence has been shown to enhance engagement and reduce fatigue. It also has potential positive effects on anxiety, apathy, depression, cognitive function, and caregiver burden, though these outcomes have been reported inconsistently. Additionally, FIVR demonstrates overall usability and acceptability among older adults with various health conditions, with side effects that are generally manageable during reminiscence sessions. However, the role of FIVR in reminiscence interventions is still emerging, with limited research available on its impact. Current FIVR reminiscence interventions address aspects such as virtual reality content, device selection, types of interventions, and the roles and responsibilities of facilitators [12].

NON-IMMERSIVE VIRTUAL REALITY ON REMINISCENCE INTERVENTIONS:

Reminiscence therapy helps support alleviation of dementia symptoms through memory recollection. However, the therapy relies on traditional printed media, including pictures shown to the patients that lack immersion [13]. RT relies on in-person sessions where albums, memorabilia, and media such as pictures and music are brought by the caregivers. However, such sessions have been negatively impacted by physical distancing and restricted access to institutionalized facilities with the goal of reducing exposure and potential outbreaks. Due to such restrictions, digital technologies such as mobile applications and immersive

solutions including virtual and augmented reality, have started gaining momentum as supplementary tools for RT [12]. Non-Immersive VR refers to a computer-generated simulation presented on a standard screen—such as a TV, computer, or tablet—that allows users to interact with digital environments without the need for head-mounted displays. It offers a window into virtual settings while maintaining awareness of the physical surroundings.

This makes it particularly suitable for older adults and individuals with cognitive impairments, as it minimizes discomfort, dizziness, or disorientation associated with immersive systems

VIRTUAL REALITY AT HOME PROTOCOL:

Virtual reality (VR) technology is increasingly being utilized by researchers and healthcare professionals as a therapeutic tool to enhance the quality of life for persons living with dementia (PLwD). However, most VR interventions so far have focused primarily on long-term care or community settings, with fewer studies conducted in home environments. This distinction is important because the majority of PLwD lives at home and receives care from family members. Communication barriers between PLwD and their care partners often contribute to social isolation and reduced quality of life for both [14].

VIRTUAL REALITY IS THE FUTURE: PERSPECTIVES OF HEALTHCARE PROFESSIONALS ON VIRTUAL REALITY AS A DIAGNOSTIC TOOL FOR DEMENTIA STATUS IN PRIMARY CARE

Healthcare professionals (HPs) offer important insights into the barriers and facilitators involved in implementing virtual reality (VR) tools for dementia diagnosis in clinical settings. VR is viewed as an innovative approach, offering greater ecological validity compared to traditional cognitive assessments. However, key challenges include concerns about time requirements, financial costs, and the validity of this emerging technology. Overall, adopting a new diagnostic tool like VR is recognized as a complex process. To support the integration of VR platforms in general practice and nursing clinics, primary healthcare organizations need increased funding and additional time resources to create an environment conducive to the effective use of VR tools [15].

N

URSES PERSPECTIVES

Nurses play an important role as facilitators of VR reminiscence therapy in dementia care. Their perspectives often highlight both the therapeutic benefits and practical challenges associated with digital interventions.

1. Challenges Identified

- **Technical barriers:** Few nurses express their concerns about equipment setup, maintenance and the need for training in digital tools.
- **Individual suitability:** VR may not be appropriate for all patients, some may experience dizziness, confusion, or sensory overload.
- **Time and staffing constraints:** Conducting individualized VR sessions requires time and dedicated staff, which may be difficult in their busy clinical settings.

2. Facilitator Role

- Nurses act as **mediators** between technology and patients, ensuring safety, comfort and meaningful engagement.
- They tailor VR content to individual patient histories and preferences, making therapy more personalized and emotionally relevant.
- Nurses also evaluate responses, monitor for adverse effects, and document therapeutic outcomes, contributing valuable insights for evidence-based dementia care [16].

Integrating VR in disability services may enhance support for neurodivergent individuals by fostering skill training, social inclusion and personalized care. Addressing adoption barriers could potentially support the development of innovative and accessible service delivery. Originality VR adoption in disability services by capturing insights from diverse staff roles across multiple countries. It provides an understanding of the barriers and facilitators to VR integration from both clinical and non-clinical perspectives. The five proposed recommendations—strengthening evidence, addressing resource constraints, building implementation capacity, establishing safety and ethical frameworks, and fostering sustainable adoption—address the specific barriers identified. These recommendations are aimed at guiding efforts to enhance support for neurodivergent individuals through VR applications [17].

CONCLUSION

Reminiscence therapy (RT) is a multi-sensory treatment that uses a combination of sight, touch, taste, smell, and sound to help persons with dementia (PWD) remember events, people, and places from their past lives. Currently, RT relies on in-person sessions where albums, memorabilia, and media such as pictures and music are brought by the caregivers.

Digital reminiscence therapy (DRT) utilizing virtual reality (VR) technology represents a promising advancement in dementia care, offering immersive and meaningful experiences that help evoke positive memories, enhance emotional well-being, and promote social interaction among individuals with dementia. The integration of VR into reminiscence interventions has the potential to overcome the limitations of traditional approaches by providing personalized, engaging, and multisensory stimulation.

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