EFFECT OF COGNITIVE THERAPY ON MILD DEMENTIA. MINI REVIEW

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ABSTRACT

Aging over 60 years is associated with some progressive decline in cognitive domains, such as processing speed and executive function. A significant decline in cognitive function, particularly memory, which is an early symptom of dementia, can lead to mild cognitive impairment (MCI). Currently, it is estimated that 50 million are living with dementia worldwide and nearly 10 million new cases occur every year, representing a serious public health problem. As such, the WHO has suggested that preventing cognitive decline and dementia is a global mental health priority. In addition to impacting the patient, dementia also has a significant impact on the family and society in general. Age is the biggest risk factor for the development of dementia, and aging is associated with a decline in cognitive function. Non-pharmacological interventions such as physical exercise and cognitive interventions may offer an alternative to pharmacological intervention in delaying dementia-related functional decline. Over the last decade, the accessibility and use of computers, smartphones, and mobile internet have quickly expanded

Cognitive technology therapies, including interactive video gaming, computer software wares, and mobile technology, have been used to implement cognitive training and rehabilitation programs. Potential advantages to using technology-based interventions include enhanced accessibility and cost-effectiveness, providing a user experience to be a good communicator, immersive and comprehensive.

Cognitive rehabilitation is the collective label for a wide range of therapeutic interventions, Their purpose is to reduce the adverse effects that cognitive impairments have on every aspect of a person's life. RehaCom cognitive rehabilitation software is a creative activities program used with people with cognitive deficits due to the aging process and acquired central nervous system disorder.

Over the last decade, the accessibility and use of smartphones and mobile internet have quickly expanded around the globe. In parallel to this rapid growth, the industry of smartphone applications is exploding. Health-related applications make up an important part of this market, and numerous applications have been developed to 'train' cognition and challenge the brain.

Keywords: *Cognitive technology, Mild dementia, Cognitive function, cognitive rehabilitation, Rehacom cognitive software, and smartphone applications.*

INTRODUCTION

Dementia is a neurodegenerative progressive disease closely linked to aging and characterized by the impairment of two or more cognitive domains, which causes difficulties maintaining social, occupational, and self-care activities[1]. Dementia can be diagnosed if there are cognitive and behavioral symptoms which should include at least two of the following aspects: Worsened reasoning and judgments, Worsened visuospatial skills, Worsened language, and Behavioral changes[2]. Cognitive functioning refers to multiple mental abilities, including learning, thinking, reasoning, remembering, memory, perception, problem-solving, language skills, decision making and attention[3]. Mild cognitive impairment (MCI) is an intermediate state between normal aging and dementia this state can progress to dementia, mostly in the form of Alzheimer's disease[4]. Early intervention at the mild dementia stage is important because it helps the patient maintain and improve their cognitive function[5]. To enhance cognition, there are a variety of non-pharmacological cognitive therapies to choose from. Cognitive computer software and smartphone apps for game-based brain training could enhance processing speed, selective attention, and short-term memory in older persons, contributing to cognitive health maintenance[6].

Using smartphone apps for cognitive health is a relatively new and intriguing area of study. When it comes to telecognitive rehabilitation and other forms of cost-effective mental healthcare intervention, mobile devices like smartphones and tablets may be a lifesaver. Sensors, internet connectivity, geolocation data, alerts, and clinical applications are just a few of the features available on these devices. Plus, with the help of smartphones and tablets, you may get the same level of assistance as with specialized medical gadgets, without the shame of Using gamification, visually appealing interfaces, point systems, social contests, avatars, game awards, plot goals, and user engagement, smartphone applications have the potential to enhance patients' health via increased physical, social, and cognitive activity [7].

DISCUSSION

Aging is often associated with specific changes in cognitive functions, including a decline in attention processes, memory, and visuospatial and executive abilities. In particular, some studies found that in older people with cognitive declines, such as mild cognitive impairment (MCI), impairment in measures of acquisition, delayed recall, associative memory, face-name pairings, naming, visuospatial memory tasks, and attention deficits strongly predicted conversion to Alzheimer's disease (AD). cognitive functions, in particular in elderly subjects with cognitive decline, such as MCI and dementia[8]. Cognitive training with specific domain could improve cognitive performance in the trained domains which were reasoning, executive function/attention/ processing speed, and memory [9]. Cognitive rehabilitation is the collective label for a wide range of therapeutic interventions. Their purpose is to reduce the adverse effects that cognitive impairments have on every aspect of a person's life[9]. Cognitive training is considered an effective nonpharmacological intervention for many reasons. This therapy has commonly been used in recent years because it has less risk and contraindication than pharmacological strategies and it is preferred by elderly people[10]. Cognitive training aims to maintain or improve a particular aspect of cognitive functioning (e.g., memory or attention) through structured and guided practice carried out

individually or in a group[11]. With advances in technology, traditional interventions using paper and pencil are gradually changing to digital interventions using information and communication technology for patients with mild cognitive impairment and mild dementia[12]. Computerized cognitive training is a safe and cost-effective intervention that uses theoretically supported and structured activities to target multiple cognitive domains. Computerized cognitive training provides real-time performance feedback and adaptive adjustment, enhancing motivation and adherence in older adults compared with traditional cognitive training. It has significant and positive effects in enhancing cognitive functions among older adults, in people with cognitive impairment. The mechanisms of computerized cognitive training are complex and include an improvement of functional brain activation patterns that, contribute to an improvement of cognitive performance[13]. Cognitive rehabilitation is the collective label for a wide range of therapeutic interventions. Their purpose is to reduce the adverse effects that cognitive impairments have on every aspect of a person's life. RehaCom cognitive rehabilitation software is a creative activities program used with people with cognitive deficits due to the aging process and acquired central nervous system disorder[14]. Mobile applications (apps) are convenient because the apps do not require specialized space or equipment, and users can easily upload personal materials to stimulate their specific memories. Regarding convenience, users can adjust the screen size for mobile devices such as phones and tablets, which can increase users' attention and ease of use [15].

Conclusion

Non-pharmacological activities such as technology based on cognitive training, stimulate cognitive functions and delay the cognitive decline .Computer software programs and Smartphone applications seem to be a good support tool for cognitive training in aging.

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