

INFORMATION AND COMMUNICATION TECHNOLOGIES IN SERVICE OF IMPROVING AND MAINTAINING MENTAL HEALTH IN AGEING SOCIETY

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Background

It is estimated that more than 20% of the population will be aged 60 or more by 2050. Burdens of ageing such as chronic diseases, cognitive and social problems may result in mental health deterioration. Information and Communication Technologies (ICT) are progressively becoming more user-friendly and they might offer a solution for this challenge. This review consolidates information about utilization of various ICT concepts in healthcare management and everyday life of the elderly and how it may influence their mental health.

Material & Methods

PubMed database was used to assess the literature reporting ICT impact on mental health of the elderly. Official websites of World Health Organization (WHO), European Union (EU) and World Bank were consulted on this topic as well. Following keywords were used: Information and Communication Technologies, telemedicine, Internet of Things (IoT), Augmented Reality (AR), Artificial Intelligence (AI), elderly, depression and mental health.

Results

ICT modalities such as Ambient Assistive Living Technology (AALT) based on AI help elderly to be autonomous and live a safe, physically and socially active life. By preventing the social isolation the risk of depression in elderly may be reduced. Several of the top 25 most influential EU-Funded ICT projects for Active and Healthy Ageing are developing cloud based easy-to-use cognitive training tools, fall monitoring and prevention solutions, continuous care platforms and robotic systems that have shown great potential in form of smart home assistance, bathing tasks and as a part of social care for people with dementia through loneliness and isolation prevention. Insomnia is an important factor for mental health issues of the elderly. ICTs such as internet-based cognitive behavioral therapy (CBTi) programs and sleep technologies for remote monitoring of CPAP machines are able to rehabilitate elderly with insomnia and improve their mental health outcomes.



Initial phases of Agile Co-Creation for Robots and Ageing (ACCRA) project designed to be tested in mobility, daily life and socialization support recorder a good overall attitude towards robotic technology and a great interest by the elderly participant to be actively involved in the development of tools based on their needs. Furthermore, different modalities of assistive technology, telecare and telemedicine have shown to be beneficial for patients with Alzheimer disease and their caregivers in form of avoiding stress and depression. However, there are articles that emphasize a concern about consumer health information technologies (HIT) regarding patients with multiple chronic illnesses, since data they track (diet, activity time, glucose levels, etc.) could be emotionally charged and it may lead to low adoption of ICTs such as consumer HIT.

Conclusion

Enthusiasm for adoption of new technologies is increasing and there are different ICT channels that have shown to be beneficial for mental health outcomes of the elderly. Although there are concerns about adoption of some types of ICTs, future improvements might help ICT utilization in service of healthy ageing.