

Artificial Intelligence in Home-based Geriatric Care: The Newer Approach

Dear Editor,

As per World Health Organization (WHO) report, by the end of 2030, nearly one in six people will be over 60 years and it would double from 1 billion to 2 billion by the year 2050. The United Nations General Assembly declared 2021–2030 as a decade of healthy aging and proposed WHO to lead the path for its implementation.^[1] The growth in elderly population necessitates an upgradation of health requirement. It has always been a challenge in managing dependent aging population at household level and is high time that newer approaches like artificial intelligence are given priority.

Artificial intelligence is a kind of machine learning, that is, the simulation of human intelligence processes by machines, especially computer systems.^[2] AI tools are used in the field of cancer, neurology, and cardiology for early diagnosis, treatment, and prognosis evaluation. It is used as both virtual and physical part; virtual is electronic record systems and physical part being use of robotics in surgeries, intelligent prosthesis for handicapped and elderly.^[3]

Asian and European countries are home for world's largest elderly population, Japan is at the top 28% followed by Italy 23% and Finland, Portugal, and Greece occupy the top five positions with less than 22% of population.^[4] The beneficiaries for home-based elderly care were predominantly women and those with chronic comorbid conditions like stroke, end-stage renal diseases, advanced cancer stage, severe arthritis, Alzheimer's disease, Parkinson's disease, and acute conditions like accidental injuries. Services provided under home-based care were predominantly medical/skilled nursing services, personal care, counseling, and therapeutic services.^[5]

Recent advances in healthcare technology have proven to be effective under various modalities, role of artificial intelligence aims in providing a quality health care to all sections of population. Its use in geriatric care is growing day by day and some of the newer approaches in home-based care geriatric care are listed in Table 1.

Major interventions in the form of artificial intelligence are the need of the hour. To conclude, artificial intelligence in health care services would provide an overall efficient system in managing elderly population and improve their quality of life, provided there should be a balance between the utilization of manpower and machine. Careful consideration of ethical issues must be done to avoid dominance of machines over men.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

**Kalaivani Annadurai, Hanitha Rajasekar,
D. C. Vidya**

*Department of Community Medicine,
Bhaarath Medical College and Hospital, Bharath Institute of Higher
Education and Research,
Selaiyur, Tamil Nadu, India*

Address for correspondence:

*Dr. Hanitha Rajasekar,
Department of Community Medicine, Bhaarath Medical College
and Hospital, Bharath Institute of Higher Education and Research,
Selaiyur - 600 126, Tamil Nadu, India.
E-mail: haniravi794@yahoo.com*

Received: 15 Nov 21 **Accepted:** 29 Nov 21

Published: 27 Jul 23

Table 1: Newer artificial intelligence approaches in home-based elderly care^[5]

Newer approaches	Process
Computer vision analytics	Classifies activities like standing or walking and proposes the expected level of activity with regards to that particular age group
Biometric remote monitoring solutions	To improve its remote patient monitoring platform
Wireless sensory networks	Smart sole is a shoe-mounted device which identifies location at home and behavioral suggestions are sent via forward messages to caregivers
Microsoft Kinect	Vision device with depth sensing and is used in detecting falls, and prolonged unresponsiveness.
Dispenser systems	To reduce noncompliance of drugs, detects number of pills remaining and alerts the user and caregiver
Robotic helpers	Robotic companion to keep elderly active and connect them with family

References

1. Ageing and health [Internet]. Who.int. 2021. Available from: <https://www.who.int/news-room/fact-sheets/detail/ageing-and-health>. [Last accessed on 2021 Nov 10].
2. Albert S, Brody E. When elder care is viewed as child care: Significance of elders' cognitive impairment and caregiver burden. *Am J Geriatr Psychiatry* 1996;4:121-30.
3. Amisha, Malik P, Pathania M, Rathaur VK. Overview of artificial intelligence in medicine. *J Family Med Prim Care* 2019;8:2328-31.
4. Countries with the Oldest Populations in the World. PRB. 2021. Available from: <https://www.prb.org/resources/countries-with-the-oldest-populations-in-the-world>. [Last accessed on 2021 Oct 13].
5. Noone M. Artificial Intelligence in Geriatrics. Babymhospital.org. 2021. Available from: https://www.babymhospital.org/BMH_MJ/index.php/BMHMJ/article/view/231. [Last accessed on 2021 Oct 13].

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

Access this article online	
Quick Response Code: 	Website: www.ijpvmjournal.net/www.ijpm.ir
	DOI: 10.4103/ijpvm.ijpvm_480_21

How to cite this article: Annadurai K, Rajasekar H, Vidya DC. Artificial intelligence in home-based geriatric care: The newer approach. *Int J Prev Med* 2023;14:100.

© 2023 International Journal of Preventive Medicine | Published by Wolters Kluwer - Medknow