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Editorial

NCD pandemic: Role of digital health technologies

Kapil Sharma[1]*, Sarit Sharma[2]

[1]*Dept. of Medicine, All India Institute of Medical Sciences, Bilaspur, Himachal Pradesh, India*
[2]*DMC & Hospital, Ludhiana, Punjab, India*

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In India, non-communicable diseases (NCDs) have emerged as a dominant health concern, significantly impacting the nation's health infrastructure and economic stability. Accounting for over 60% of all mortality, NCDs, including cardiovascular diseases, diabetes, chronic respiratory conditions, and cancers, pose a substantial challenge to healthcare delivery and disease management.[1] The epidemiological shift from infectious diseases to NCDs underscores the urgent need for innovative solutions to prevent, diagnose, and manage these conditions effectively.

The integration of digital medicine into the healthcare system offers a promising avenue to address the burgeoning NCD crisis in India. Digital medicine encompasses a range of technologies, including telemedicine, mobile health applications, wearable devices, and artificial intelligence (AI), aimed at enhancing healthcare delivery and patient outcomes. The National Digital Health Mission (NDHM) by the Government of India marks a significant step towards creating a comprehensive digital health ecosystem, aiming to support universal health coverage in an efficient, accessible, inclusive, affordable, timely, and safe manner.[2]

At the primary care level, digital tools can revolutionize preventive healthcare by facilitating lifestyle modifications and early disease detection. Mobile health applications empower individuals with knowledge and tracking capabilities, enabling proactive health management. For instance, the introduction of the Telemedicine Practice Guidelines by the Ministry of Health and Family Welfare in 2020 facilitates remote consultations, ensuring that specialist care reaches underserved areas, thereby addressing the disparities in healthcare access.[3]

Secondary care benefits from digital platforms through the bridging of gaps between rural and urban healthcare delivery. A meta-analysis done in 2022 indicated that Telehealth utilization decreased costs for both patients and healthcare providers, and was associated with increased satisfaction. It also revealed that Telehealth was an effective management strategy for diabetic patients, resulting in a 0.35% decrease in HbA1c levels when compared to conventional care.[4] Such models can be adapted to the Indian context to enhance the management of NCDs at the primary and secondary care level.

Tertiary care, involving specialized diagnostic and treatment services, can leverage advanced digital technologies to improve patient outcomes. The use of AI in radiology and pathology for disease diagnosis in developed countries like the United States has demonstrated significant improvements in the accuracy and speed of diagnosing NCDs.[5] India can adopt similar AI-driven diagnostic tools to enhance the efficiency of tertiary care services.

However, the integration of digital medicine in India faces challenges, including digital literacy, infrastructure readiness, and data privacy concerns. The Digital India

* *Corresponding author*.
E-mail address: drkapil.sharma81@gmail.com (K. Sharma).

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initiative, aiming to transform India into a digitally empowered society, addresses these challenges by improving online infrastructure and increasing internet connectivity.[6] Furthermore, the Ayushman Bharat Digital Mission (ABDM) represents a significant step towards creating a national digital health ecosystem that supports the seamless exchange of health information across the spectrum of care.[7]

In conclusion, leveraging digital technologies offers a promising path to combating NCDs in India. By learning from the successes of developed countries and tailoring these innovations to the Indian healthcare landscape, India can enhance healthcare delivery and outcomes across all levels of care. Continued investment in digital health infrastructure, alongside policies that support innovation while ensuring data security and privacy, will be key to realizing the full potential of digital medicine in the battle against NCDs.

Conflict of Interest

None.

References

1. Geneva: World Health Organization Noncommunicable Diseases Country Profiles. 2018;Available from: https://www.who.int/teams/noncommunicable-diseases/surveillance/data/profiles-ncd.
2. Ministry of Health and Family Welfare. National Digital Health Mission [Internet]. New Delhi: Ministry of Health and Family Welfare; 2020. Available from: https://www.ndhm.gov.in/.
3. Ministry of Health and Family Welfare. Telemedicine Practice Guidelines [Internet]. New Delhi: Ministry of Health and Family Welfare; 2020. Available from: https://www.mohfw.gov.in/pdf/Telemedicine.pdf.
4. Santos DS, Batistelli C, Lara MM. The effectiveness of the use of telehealth programs in the care of individuals with hypertension and, or diabetes mellitus: systematic review and meta-analysis. *Diab Metab Syndr*. 2022;14(1):76. doi:10.1186/s13098-022-00846-5.
5. Esteva A, Robicquet A, Ramsundar B, Kuleshov V, Depristo M, Chou K, et al. A guide to deep learning in healthcare. *Nat Med*. 2019;25(1):24–9.
6. Ministry of Electronics & Information Technology. Digital India Programme [Internet]. New Delhi: Ministry of Electronics & Information Technology; 2015. Available from: https://www.digitalindia.gov.in/.
7. Ministry of Health and Family Welfare. Ayushman Bharat Digital Mission [Internet]. New Delhi: Ministry of Health and Family Welfare; 2021. Available from: https://abdm.gov.in/.

Author biography

Kapil Sharma, -

Sarit Sharma, Professor https://orcid.org/0000-0001-8531-492X

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