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## Digital Health and Health Promotion: A Scoping Review of Systematic Reviews

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**Abstract.** Introduction and Methodology: Health Promotion is moving into a new technological era, that of Digital Health Promotion (DHP). The aim was to collect systematic reviews of digital health promotion interventions. Results and Discussion: 147 articles met the criteria and were included in the present study. A diverse range of digital health promotion topics was identified, with certain topics garnering significant attention. While this scoping review provides valuable insights into the field of digital health promotion interventions, a more detailed analysis of their alignment with health prevention stages will serve as a critical next step.

**Keywords.** Digital health promotion, interventions, scoping review

## 1. Introduction and Methodology

Digital health utilizes the information and communication technologies (ICTs) to ensure and enhance peoples' overall well-being and to manage any health condition [1,2]. It is now a common practice to use the internet as a platform for the dissemination of information, for the implementation of interventions using digital methods and for research purposes [3-5]. Health Promotion is "the process that enables people to increase control of their health and improve it, while moving beyond the individual behaviour, to a wide range of social and environmental interventions" [6]. Health Promotion interventions are based on the basic principles of community participation, empowerment, and equality [7,8]. Health Promotion is also moving into a new technological era, that of Digital Health Promotion (DHP). DHP holds numerous potentials, as it can contribute to the implementation of interventions using digital methods, the dissemination of information and research [9]. The aim of this review is to collect systematic reviews of digital health promotion interventions.

The scoping review was conducted during the period of November 2021 - August 2023 in the scientific database PubMed, based on the PRISMA guidelines for scoping reviews [10] with the eligibility criteria being (a) finding systematic review articles, with or without meta-analysis, (b) date of publication (2012-2022), and (c) articles published in English. Results, Discussion and Conclusions

313 articles were identified and 87 of them were removed as duplicates. By assessing the remaining 226 articles, 75 were excluded after reading the titles and abstracts, and 4 were

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excluded because they were out of this review's scope since they did not include digital health promotion interventions. 147 articles met the criteria and were included in the present study. The included articles dealt with different, broader, as well as specific health promotion scientific fields and issues (Figure 1).

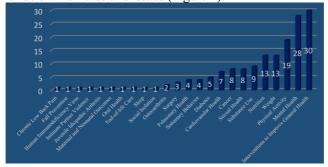


Figure 1. Special Topics of Digital Health Promotion Interventions (number of articles per category)

The topics that were identified in this scoping review align with several key areas of the Healthy People 2020 Agenda [11], including mental health, physical activity, nutrition and weight regulation and disease prevention. This scoping review provides an insight into the diverse range of health promotion and prevention topics that have been addressed in the literature, highlighting both areas of strength and potential areas for further research and intervention development. In conclusion, while this scoping review provides valuable insights into the field of digital health promotion interventions, a more detailed analysis of their alignment with health prevention stages will serve as a critical next step. This endeavor will contribute to a more systematic and strategic approach to designing, implementing and evaluating digital interventions that effectively address the diverse health needs of populations across various health stages.

## References

- [1] Kreps GL. Evaluating new health information technologies: expanding the frontiers of health care delivery and health promotion. InFuture of Health Technology 2002 (pp. 205-212). IOS Press.
- [2] Ronquillo Y, Meyers A, Korvek SJ. Digital Health. 2023 May 1. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2023 Jan–2023 May. PMID: 29262125.
- [3] Executive Board. mHealth: use of appropriate digital technologies for public health: report by the Director-General. World Health Organization; 2017 5 p. Report No: 142
- [4] Stark AL, et al. Digital Health Promotion and Prevention in Settings: Scoping Review. J Med Internet Res. 2022 Jan 28;24(1):e21063. doi: 10.2196/21063. PMID: 35089140; PMCID: PMC8838600.
- [5] Bennett GG, Glasgow RE. The Delivery of Public Health Interventions via the Internet: Actualizing Their Potential. Annual Review of Public Health. 2009 Apr;30(1):273–92.
- [6] World Health Organization. Health promotion glossary of terms 2021. Geneva: World Health Organization; 2021. License: CC BY-NC-SA 3.0 IGO
- [7] Kumar S, Preetha G. Health promotion: an effective tool for global health. Indian J Community Med. 2012 Jan;37(1):5-12. doi: 10.4103/0970-0218.94009. PMID: 22529532; PMCID: PMC3326808.
- [8] World Health Organization. Regional strategy for health promotion for South-East Asia. India: WHO Regional Office for South-East Asia; 2008. https://apps.who.int/iris/handle/10665/205837
- [9] Koh A, et al. Digital health promotion: promise and peril. Health Promot Int. 2021 Dec 13;36(Supplement\_1):i70-i80. doi: 10.1093/heapro/daab134. PMID: 34897444; PMCID: PMC8667545.
- [10] Tricco AC, et al. PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation. Ann Intern Med. 2018 Oct 2;169(7):467-473. doi: 10.7326/M18-0850. Epub 2018 Sep 4.
- [11] Healthy people HP2020 topic areas [Internet]. Cdc.gov. 2023 [cited 2023 Aug 30]. Available from: https://www.cdc.gov/nchs/healthy\_people/hp2020/hp2020\_topic\_areas.htm