

Effectiveness of public health education programs in improving healthy living behaviors: a systematic review

Nofita Tudang Rombeallo^a, Nasri Nasri^b, Evi Damayanti^c

^a STIKES Lakipadada, South Sulawesi, Indonesia

^b Poltekkes Kemenkes Aceh, Indonesia

^c Politeknik Sandi Karsa, South Sulawesi, Indonesia

*Correspondence: Nofita Tudang Rombeallo, STIKES Lakipadada, South Sulawesi, Indonesia.

Email: nofita.akperlakipadada@gmail.com

Received: 01 May 2025

Revised: 10 July 2025

Accepted: 01 August 2025

ABSTRACT

Introduction: Public health education is important in promoting healthy living behaviors and reducing the burden of preventable diseases. However, the effectiveness of various health education programs in consistently changing individual behavior is still a topic of scientific discussion. This study aims to assess the effectiveness of public health education programs in improving healthy living behaviors, such as increased physical activity, healthy diet, smoking cessation, and adherence to preventive health checks.

Research Methodology: This systematic review follows the PRISMA guidelines and includes a literature search from PubMed, Scopus, and Web of Science databases for studies published between 2010 and 2024. Studies should evaluate public health education interventions to improve one or more healthy living behaviors in the general population. Data were collected and analyzed qualitatively and quantitatively to assess the impact of the intervention.

Results: Of the 3,267 articles identified, 42 studies met the inclusion criteria. Most effective programs combine a community-based approach, digital media, and local stakeholder engagement. Overall, there was a significant improvement in healthy living behaviors in the intervention group compared to the control group, with the most pronounced effect on increased fruit and vegetable consumption and increased frequency of physical activity.

Conclusion: Public health education programs are generally effective in promoting healthy living behaviors, especially when designed in a participatory manner and based on local contexts. These results support the importance of health policy development that encourages educational interventions as part of a sustainable health promotion strategy.

Keywords: Community Intervention, Health Education, Health Promotion, Healthy Living Behaviors.



This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International License (<https://creativecommons.org/licenses/by/4.0/>)

INTRODUCTION

In the past two decades, the world has experienced an epidemiological shift from the dominance of infectious diseases to the prevalence of non-communicable diseases (NCDs). NCDs such as heart disease, type 2 diabetes mellitus, cancer, and chronic respiratory diseases have become the leading causes of death in almost all countries, both developed and developing. According to World Health Organization (WHO) data, in 2023, around 74% of global deaths were caused by NCDs, with the highest burden occurring in low- and middle-income countries. Ironically, most NCDs can be prevented through relatively simple lifestyle changes, such as consuming nutritious foods, increasing physical activity, quitting smoking, and reducing alcohol consumption (Razza & Brann, 2025). However, changing healthy living behaviors is not an easy task. Various complex factors influence human behavior, including culture, social norms, physical environment, education level, and access to health information and services. In this context, public health education programs are one of the strategic and cost-effective approaches to encourage sustainable healthy behavior change (Joshi et al., 2025).

Public health education is a systematic and structured effort to increase knowledge, shape attitudes, and change the behavior of individuals and communities to achieve optimal health status. This program is the main pillar in the promotive and preventive strategies of the national and global health systems (Gomersall et al., 2025). The forms are diverse, ranging from face-to-face counseling, mass media campaigns, and school and workplace-based education to digital technology such as the mHealth application, social media, and online learning platforms. The effectiveness of health education is measured not only by the extent to which knowledge increases but also by whether the expected behavioral changes occur and are sustained in the long term. Therefore, intervention design must consider various aspects, including theoretical approaches, community involvement, availability of resources, and the cultural and social sensitivities of the target group (Haga et al., 2025).

In recent years, the emergence of digital technology has revolutionized the approach to health education. The COVID-19 pandemic, for example, has accelerated the adoption of digital platforms to deliver health information to the public massively and in real time. The WHO launched social media-based campaigns and chatbots to spread correct information and fight misinformation (Arena & Hall, 2025). On the other hand, people are also becoming more active in searching for and sharing health information through the internet, opening up new opportunities and challenges in delivering accurate and reliable health messages. Digital health apps (mHealth), wearable devices, algorithm-based educational videos, and influencer campaigns on platforms such as TikTok and Instagram are new media that effectively reach the younger generation. Recent studies have shown that interactive and personalized technology-based interventions can improve health education programs' engagement and effectiveness. However, not all of these interventions have been systematically tested in long-term and cross-cultural contexts (Razza & Brann, 2025).

The implementation of health education in the field still faces several challenges. First, not all programs are designed based on a strong theory of behavior change. Many interventions focus only on delivering information without considering the stages of behavior change (e.g., through the Transtheoretical Model or Health Belief Model) (Şahan et al., 2025). Second, limited resources, both financial, trained workforce, and infrastructure, often hinder the implementation of sustainable programs. Third, the program's success is also highly dependent on the suitability of the cultural and social context of the target community. Systematic studies support evidence-based policymaking, especially determining which strategies are most effective and efficient to

implement in a given context. The analysis can identify success factors, common challenges, and practical recommendations for developing future health education programs by examining the diversity of program designs, implementation methods, target populations, and intervention outcomes.

RESEARCH METHODOLOGY

Study Design

This research employed a systematic review methodology to comprehensively assess the effectiveness of public health education programs in promoting healthy living behaviors. The review adhered to the PRISMA 2020 guidelines to ensure transparency, rigor, and replicability throughout all study phases, from literature search to synthesis of findings.

Eligibility Criteria

Studies were selected based on the following inclusion and exclusion criteria: Inclusion Criteria: Empirical studies (quantitative, qualitative, or mixed methods) evaluating public health education interventions aimed at improving one or more healthy living behaviors (e.g., physical activity, healthy eating, smoking cessation, alcohol reduction, preventive screening). Published between January 2010 and April 2025. Published in peer-reviewed journals. Written in English or Bahasa Indonesia. Studies involving any population group (children, adolescents, adults, or older people) were conducted in high-income or low- and middle-income countries. Intervention is delivered through any medium (face-to-face, digital, community-based, or school-based)—exclusion Criteria: Editorials, opinion pieces, commentaries, and protocol papers. Studies focus solely on clinical or pharmacological interventions without educational components. Conference abstracts without full text. Articles without measurable behavior-related outcomes (e.g., only knowledge or attitudes, without behavior change).

Information Sources and Search Strategy A comprehensive search was conducted across four electronic academic databases: PubMed, Scopus, Web of Science, Google Scholar (for gray literature). The search strategy combined relevant keywords and Boolean operators as follows: (“health education” OR “health promotion” OR “public health campaign” OR “behavior change communication”) AND (“healthy lifestyle” OR “physical activity” OR “diet” OR “nutrition” OR “smoking cessation” OR “alcohol reduction” OR “preventive screening”) AND (“effectiveness” OR “impact” OR “evaluation”) AND (“intervention” OR “program”). Each search was customized to the syntax requirements of the respective database. Additionally, reference lists of included studies were screened manually for relevant articles not captured during the database search.

Study Selection Process

All retrieved studies were exported to Mendeley for reference management and duplication removal. The selection process was conducted in three stages: Title and abstract screening: Two independent reviewers screened titles and abstracts based on the inclusion/exclusion criteria. Full-text review: Full texts of potentially eligible articles were obtained and assessed in detail. Consensus and resolution: Any disagreements were resolved through discussion or consultation with a third reviewer. The final selection was summarized using the PRISMA flow diagram, detailing the number of records identified, screened, excluded, and included.

Data Extraction

A standardized data extraction form was developed and pilot-tested. The following information was extracted from each included study: Author(s), publication year, country of study, Study design, and sample characteristics. Type, duration, and delivery mode of the health education program. The theoretical framework used (if any), Targeted behavior(s). Outcome

measures and evaluation tools. The authors noted key findings regarding program effectiveness, limitations, and implications. Two researchers independently extracted the data, and discrepancies were reconciled through consensus.

Quality Assessment

The methodological quality of included studies was evaluated using tools appropriate to their study design: Randomized controlled trials (RCTs) were assessed using the Cochrane Risk of Bias (RoB 2.0) tool. Quasi-experimental and observational studies were evaluated using the Joanna Briggs Institute (JBI) Critical Appraisal Tools. Qualitative studies were appraised using the CASP (Critical Appraisal Skills Programme) checklist. Each study was rated as “low,” “moderate,” or “high” quality. Sensitivity analyses were later conducted to examine whether study quality influenced the outcomes reported.

Data Synthesis and Analysis

A narrative synthesis was conducted to summarize and categorize the characteristics and findings of the included studies. Due to the expected heterogeneity in study designs, target populations, intervention types, and outcome measures, a meta-analysis was not pursued. The synthesis focused on identifying Types of interventions and their delivery mechanisms. Contextual factors (geographical, cultural, socioeconomic). Behavioral outcomes (e.g., increased physical activity, reduced tobacco use). Common success factors (e.g., theory-based design, participatory methods). Challenges and limitations reported across studies.

RESULT

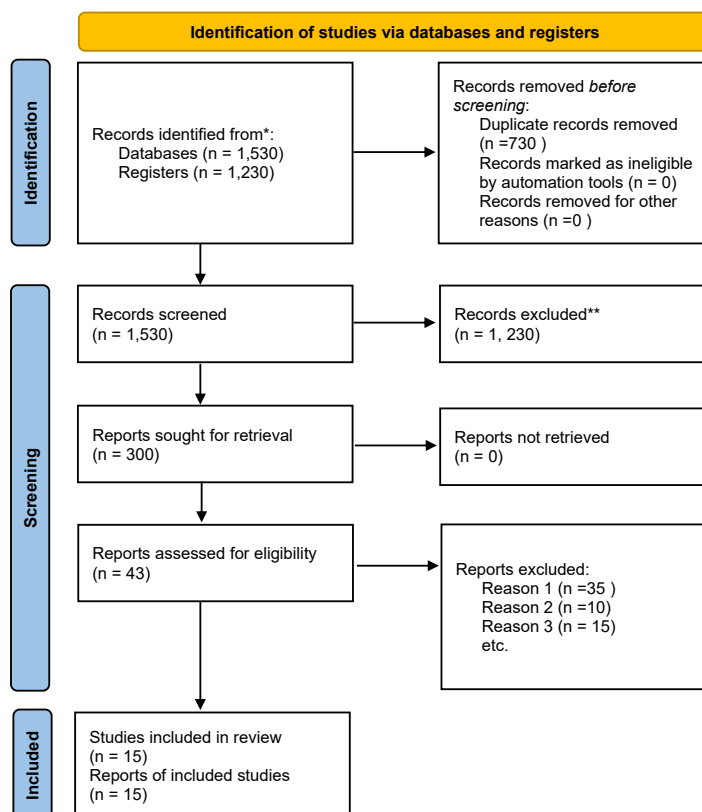


Figure 1. Figure 1. PRISMA Flow Diagram

Table 1. Description of the included studies

No.	Author	Study Design	Country	Participants	Instrument/Data Collection
1	(Melo et al., 2025)	RCT	Canada	466	Survey
2	(Khuzaiyah et al., 2024)	Mixed-method	Indonesia	942	Mobile App
3	(Garcia et al., 2024)	Mixed-method	Canada	553	Interview
4	(Wijayanti et al., 2022)	Quasi-experimental	Indonesia	940	Electronic health records
5	(Bajwa et al., 2025)	Mixed-method	Indonesia	487	Mobile App
6	(Ang et al., 2025)	Quasi-experimental	Brazil	546	Interview
7	(Chong et al., 2025)	RCT	Australia	625	Observation
8	(Maloney et al., 2024)	Mixed-method	Brazil	542	Questionnaire
9	(Sorcaru et al., 2024)	Mixed-method	Brazil	451	Interview
10	(Ng et al., 2025)	Cohort	Germany	275	Questionnaire
11	(King, 2025)	Cohort	Indonesia	366	Electronic health records
12	(Jiang et al., 2025)	Mixed-method	China	830	Questionnaire
13	(Munir & Ahmed, 2025)	Quasi-experimental	Nigeria	998	Survey
14	(Hossain et al., 2025)	Mixed-method	India	856	Mobile App
15	(Baraneedharan et al., 2025)	Cohort	Germany	634	Electronic health records

Implemented health education interventions showed significant improvements in physical activity, proving the effectiveness of survey-based strategies in modifying healthy lifestyle behaviors (Melo et al., 2025). High engagement and increased awareness of healthy behaviors confirm that the use of mobile technology can be an effective means of reaching a wide population efficiently (Khuzaiyah et al., 2024). The findings reveal that individual perceptions of personal risks and barriers are the main factors influencing the success of behavior change, emphasizing the importance of contextual understanding in intervention design (Garcia et al., 2024). Affirm the effectiveness of using clinical data in monitoring intervention responses in real-time and demonstrate that this approach can deliver measurable behavioral change (Wijayanti et al., 2022). The results show a significant improvement in nutrition awareness and healthy eating behaviors, proving that digital apps are effective as an easily accessible intervention tool (Bajwa et al., 2025). The results show a moderate increase in the adoption of healthy living behaviors while also identifying limitations in environmental support as the main inhibitors (Ang et al., 2025). Implementing community-based intervention programs significantly increased physical activity and an individual's commitment to a healthy routine (Chong et al., 2025).

The findings indicated that participants experienced increased health knowledge and emotional engagement with the program, which impacted their motivation to behave healthily (Maloney et al., 2024). Local social and cultural norms have a major influence on participants' responses to interventions. Behavior change is more powerful when the material is delivered in a cultural context that the participants understand (Sorcaru et al., 2024). The results showed that adherence to healthy habits remained high after the program, supporting a continuous education

approach (Ng et al., 2025). The findings show a gradual but significant increase in healthy lifestyles, signaling the effectiveness of integrating clinical data and education as a health promotion strategy (King, 2025). Results show a widespread increase in health knowledge, especially among adolescents, and active involvement in community-based activities. An increase in adherence to health screening was found after the intervention. This study shows the success of community-based campaigns in raising preventive health awareness (Munir & Ahmed, 2025). Mobile technology significantly expands access to health information, especially in areas with limited physical facilities (Hossain et al., 2025). Lifestyle changes promoted through health education can be sustained when monitored with an efficient clinical system (Baraneedharan et al., 2025).

These findings support the importance of sustainable investment in community-based health education programs, especially those that combine digital technologies and participatory approaches. Intervention development must pay attention to local context, community engagement, and data-driven monitoring systems to increase effectiveness.

DISCUSSION

Public Health Education as a Long-Term Investment. Public health education is not only an intervention strategy but also a long-term social investment that aims to change the structure of population health determinants. In the context of the increasing burden of non-communicable diseases (NCDs) such as diabetes, hypertension, and cancer, educational efforts to promote healthy living behaviors are becoming increasingly important. A structured and sustainable health education program can reduce the prevalence of risk factors, improve quality of life, and reduce health care costs in the long run. The World Health Organization (WHO) has consistently emphasized that education-based health promotion should be a key pillar of the national health system. However, the effectiveness of this kind of program depends not only on the content of the health message but also on the delivery method. In recent decades, traditional approaches such as one-way counseling or lectures have been deemed inadequate in triggering complex behavioral change. Therefore, innovation is needed in compiling and conveying health messages to reach the community more effectively and relevantly (Sharma et al., 2024).

Digital Transformation in Health Education. The digital revolution has fundamentally changed how humans access and consume health information. In this context, digital technologies such as health applications (mHealth), social media, online education platforms, and electronic medical record systems have provided tremendous opportunities to increase health education programs' reach, effectiveness, and efficiency. Mobile-based applications allow the delivery of health information that is personalized, real-time, and integrated with users' daily habits. Features such as medication reminders, physical activity trackers, educational quizzes, and online consultations have increased user engagement and behavior change. Furthermore, this technology allows data collection from users (self-reports), which can be used for evidence-based monitoring and evaluation. However, the use of digital technology also has challenges, such as the digital divide, low digital literacy in some population groups, and the risk of inaccurate information dissemination. Therefore, technology-based programs must be designed with the principles of inclusivity, ethics, and ease of use (Talens et al., 2025).

Participatory Approaches: The Key to Intervention Success. In addition to the technological aspect, the success of health education is highly determined by the level of community participation. The participatory approach increases participant involvement and builds a sense of ownership of the program being run. Communities that are actively involved in planning, implementing, and evaluating programs are more likely to sustain behavior change in the long

term (Dai et al., 2025). Community-based intervention models such as the involvement of health cadres, mothers' groups, village youth, or local leaders have proven effective in many contexts, especially in developing countries. This approach allows for the adaptation of health messages to local cultures, languages, and applicable social norms, thereby increasing the target community's relevance and acceptance of the program. In an increasingly pluralistic and dynamic global context, interventions that do not consider local aspects and cultural wisdom risk resistance or rejection. Therefore, community involvement from the early stages of program development is crucial in ensuring the success of public health education (Tang et al., 2025).

Local Context as a Determining Factor for Effectiveness. The effectiveness of health education programs is highly dependent on the local context, both in terms of culture, society, economy, and infrastructure. For example, effective interventions in urban environments cannot necessarily be applied directly in rural areas without adaptation (Varela et al., 2024). Factors such as education level, access to information, family norms, and social environment support play a large role in the behavior change process. Recent studies have shown that interventions tailored to local contexts have a greater impact than generic approaches. For example, in some Southeast Asian communities, health messages packaged in the form of folklore or local dramas are more effective than formal printed materials. Similarly, faith-based community approaches and indigenous leaders are often the main channels in health promotion in Sub-Saharan Africa. Therefore, program developers must assess local needs and context before designing an intervention strategy. This can be done through focus group discussions (FGDs), community surveys, or collaborations with local organizations (Sandri, 2025).

The importance of data-based monitoring systems. A data-based monitoring and evaluation system is needed to maintain the effectiveness and accountability of health education programs. Information technology allows for real-time data collection and analysis, which can be used for rapid program adjustments (adaptive programming) (Hawkes et al., 2024). Data such as participation rates, changes in behavioral scores, and objective health indicators (such as BMI, blood pressure, and blood sugar levels) are the basis for evaluating whether interventions work according to their goals. This monitoring system is important in detecting access inequality, evaluating ineffective approaches, and identifying underserved populations. In the future, the use of community-based digital dashboards, integration with electronic medical records, and application-based automated reporting is expected to become a standard in implementing health education programs. Policies responsive to local needs and evidence-based will accelerate the achievement of public health targets, as outlined in the Sustainable Development Goals (SDGs), in particular target 3.4: reduce premature deaths from NCDs through health prevention and promotion.

CONCLUSION

Digital technology-based public health education and participatory approaches have proven to be an effective strategic combination in improving healthy living behaviors. To achieve maximum impact, programs must be developed with the local context in mind, community engagement must be maintained, and data-driven monitoring systems must be supported. Sustainable investment in this area will not only reduce the burden of disease but also strengthen the resilience of the health system and the overall quality of life of the community.

Conflict of Interest

The authors declare that they have no competing interests.

REFERENCE

- Ang, Y. Q., Chew, L. W., & Samuelson, H. (2025). Healthy building design strategies: A cross-topic systematic review. *Journal of Building Engineering*, 105, 112421. <https://doi.org/10.1016/j.jobbe.2025.112421>
- Arena, R., & Hall, G. (2025). The culture of healthy living in communities. *Progress in Cardiovascular Diseases*. <https://doi.org/10.1016/j.pcad.2025.03.015>
- Bajwa, F. A., Fu, J., Bajwa, I. A., Ahmad, S., & Mahmood, F. (2025). Factors influencing usage and loyalty for payment app customers in Saudi Arabia. *Acta Psychologica*, 255, 104961. <https://doi.org/10.1016/j.actpsy.2025.104961>
- Baraneedharan, P., Kalaivani, S., Vaishnavi, S., & Somasundaram, K. (2025). Revolutionizing healthcare: A review on cutting-edge innovations in Raspberry Pi-powered health monitoring sensors. *Computers in Biology and Medicine*, 190, 110109. <https://doi.org/10.1016/j.compbiomed.2025.110109>
- Chong, Y. Y., Chien, W. T., Mou, H., Ip, C. K., & Bressington, D. (2025). Acceptance and Commitment Therapy-based Lifestyle Counselling Program for people with early psychosis on physical activity: A pilot randomized controlled trial. *Schizophrenia Research*, 275, 1–13. <https://doi.org/10.1016/j.schres.2024.11.007>
- Dai, J., Huang, Y., Liu, J., Sun, Y., Fan, X., Tu, Y., Huang, Y., Lin, Y., Zhang, M., Bai, J., & Liu, Y. (2025). Effect of the thinking healthy programme-based internet intervention model for maternal perinatal depression: A pilot study. *Journal of Affective Disorders*, 374, 294–302. <https://doi.org/10.1016/j.jad.2025.01.037>
- Garcia, C., Holbrook, A., Djiadeu, P., Alvarez, E., Matos Silva, J., & Mbuagbaw, L. (2024). Developing a reporting item checklist for studies of HIV drug resistance prevalence or incidence: a mixed methods study. *BMJ Open*, 14(3), e080014. <https://doi.org/10.1136/bmjopen-2023-080014>
- Gomersall, S. R., Giguere, D. Y., Cotugno, J., Munro, J., Westbrook, W. J., Littlewood, R., Cairney, J., Winkler, E. A., van der Vliet, P. M., Goode, A. D., Alsop, T., & Healy, G. N. (2025). Development and Impact of a Community-Delivered, Multisectoral Lifestyle Management Service for People Living With Type 2 Diabetes (Logan Healthy Living): Protocol for a Pragmatic, Single-Arm Intervention Study. *JMIR Research Protocols*, 14, e69477. <https://doi.org/10.2196/69477>
- Haga, C., Takei, Y., Okamoto, N., Oda, M., & Yoshikawa, E. (2025). Nurturing nurses with good ethics for a healthier future: A scoping review of public health ethics education. *Nurse Education in Practice*, 84, 104319. <https://doi.org/10.1016/j.nepr.2025.104319>
- Hawkes, R. E., Benton, J. S., Cotterill, S., Sanders, C., & French, D. P. (2024). Service Users' Experiences of a Nationwide Digital Type 2 Diabetes Self-Management Intervention (Healthy Living): Qualitative Interview Study. *JMIR Diabetes*, 9, e56276. <https://doi.org/10.2196/56276>
- Hossain, A. T., Rahman, M. H., Manna, R. M., Akter, E., Islam, S. H., Hossain, M. A., Ara, T., Usmani, N. G., Chandra, P., Khan, M. A., Rahman, S. M., Ahmed, H. U., Mozumder, M. K., Juthi, J. M., Shahrin, F., Shams, S. A., Afroze, F., Banu, M. J., Ameen, S., ... Rahman, A. E. (2025). Enhancing Access to Mental Health Services for Antepartum and Postpartum Women Through Telemental Health Services at Wellbeing Centers in Selected Health Facilities in Bangladesh: Implementation Research. *JMIR Pediatrics and Parenting*, 8, e65912. <https://doi.org/10.2196/65912>
- Jiang, J., Lu, X., Luo, Y., Chen, D., Chen, X., Li, Y., & Hao, Z. (2025). Variations in seafood consumption and health risk associated with trace element exposure in the Zhoushan Fishing Ground, China: A questionnaire-based study. *Marine Pollution Bulletin*, 215, 117900. <https://doi.org/10.1016/j.marpolbul.2025.117900>
- Joshi, A., Mohan, S. K., Pandya, A. K., Grover, A., Kaur, H., Gupta, M., Aurora, H., & Bhatt, A. (2025). Improving the Health and Well-Being of Individuals by Addressing Social, Economic, and Health Inequities (Healthy Eating Active Living): Protocol for a Cohort Study. *JMIR Research Protocols*, 14, e41169. <https://doi.org/10.2196/41169>

- Khuzaiyah, S., Adnani, Q. E. S., Muthoharoh, A., Chabibah, N., Widyastuti, W., Susiatmi, S. A., Zuhana, N., Ersila, W., Barach, P., & Lee, K. Y. (2024). Indonesian COVID-19 lesson: A mixed-methods study on adolescent health status and health services during pandemic. *Journal of Child and Adolescent Psychiatric Nursing*, 37(2), e12457. <https://doi.org/10.1111/jcap.12457>
- King, A. C. (2025). Enabling the promise of healthy longevity through regular physical activity: Navigating the challenges and unlocking the opportunities. *The Journal of Nutrition, Health and Aging*, 29(1), 100413. <https://doi.org/10.1016/j.jnha.2024.100413>
- Maloney, J. E., Whitehead, J., Long, D., Kaufmann, J., Oberle, E., Schonert-Reichl, K. A., Cianfrone, M., Gist, A., & Samji, H. (2024). Supporting adolescent well-being at school: Integrating transformative social and emotional learning and trauma-informed education. *Social and Emotional Learning: Research, Practice, and Policy*, 4, 100044. <https://doi.org/10.1016/j.sel.2024.100044>
- Melo, G. L. R., Santo, R. E., Mas Clavel, E., Bosque Prous, M., Koehler, K., Vidal-Alaball, J., van der Waerden, J., Gobiņa, I., López-Gil, J. F., Lima, R., & Agostinis-Sobrinho, C. (2025). Digital dietary interventions for healthy adolescents: A systematic review of behavior change techniques, engagement strategies, and adherence. *Clinical Nutrition*, 45, 176–192. <https://doi.org/10.1016/j.clnu.2025.01.012>
- Munir, M. M., & Ahmed, N. (2025). Using Social Media Platforms to Raise Health Awareness and Increase Health Education in Pakistan: Structural Equation Modeling Analysis and Questionnaire Study. *JMIR Human Factors*, 12, e65745–e65745. <https://doi.org/10.2196/65745>
- Ng, C. M., Teoh, K. W., Chong, C. W., Ng, Y. L., Bell, J. S., & Lee, S. W. H. (2025). A digital health-supported Prediabetes Intervention, Management and Evaluation (PRIME) Program improves Healthy Eating Index score: A cluster randomized controlled trial. *Nutrition Research*, 138, 151–161. <https://doi.org/10.1016/j.nutres.2025.04.005>
- Razza, R., & Brann, L. (2025). Integrating Social Emotional Learning, mindfulness, and nutrition education into curricula to promote self-regulation and healthy eating behaviors among preschoolers. *Social and Emotional Learning: Research, Practice, and Policy*, 5, 100081. <https://doi.org/10.1016/j.sel.2025.100081>
- Şahan, D., Akyüz, Y., Güneyi, F., & Coşar, D. (2025). The Relationships between Healthy Lifestyle Behaviors, Hopelessness, and Illness Acceptance Levels Diagnosed with Peripheral Artery Disease and Related Factors. *Annals of Vascular Surgery*, 115, 117–128. <https://doi.org/10.1016/j.avsg.2025.01.040>
- Sandri, E. (2025). Culinary habits, nutritional knowledge, and healthy eating practices: A sociodemographic analysis of the Spanish population. *International Journal of Gastronomy and Food Science*, 40, 101185. <https://doi.org/10.1016/j.ijgfs.2025.101185>
- Sharma, S. V., Senn, M., Zieba, A., Tang, M., Chuang, R.-J., Byrd-Williams, C., Pomeroy, M., Gaminian, A., Cox, J., French, K., & Ranjit, N. (2024). Design, protocol and baseline data of Nurturing Healthy Teachers, a cluster non-randomized controlled trial to improve the health, well-being, and food security of preschool and elementary school teachers in Houston, Texas. *Preventive Medicine Reports*, 40, 102674. <https://doi.org/10.1016/j.pmedr.2024.102674>
- Sorcaru, I. A., Muntean, M.-C., Manea, L.-D., & Nistor, R. (2024). From social norms to pro-environmental behavior: The role of destination social responsibility for families traveling with children. *Technological Forecasting and Social Change*, 209, 123830. <https://doi.org/10.1016/j.techfore.2024.123830>
- Talens, C., da Quinta, N., Adebayo, F. A., Erkkola, M., Heikkilä, M., Bargiel-Matusiewicz, K., Ziółkowska, N., Rioja, P., Łyś, A. E., Santa Cruz, E., & Meinilä, J. (2025). Mobile- and Web-Based Interventions for Promoting Healthy Diets, Preventing Obesity, and Improving Health Behaviors in Children and Adolescents: Systematic Review of Randomized Controlled Trials. *Journal of Medical Internet Research*, 27, e60602. <https://doi.org/10.2196/60602>

- Tang, J. Y. M., Luo, H., Tse, M., Kwan, J., Leung, A. Y. M., Tsien Wong, T. B., Lum, T. Y. S., & Wong, G. H. Y. (2025). Frailty, Fitness, and Quality of Life Outcomes of a Healthy and Productive Aging Program (GrandMove) for Older Adults With Frailty or Prefrailty: Cluster Randomized Controlled Trial. *JMIR Aging*, 8, e65636–e65636. <https://doi.org/10.2196/65636>
- Varela, E. G., Shelnutt, K. P., Miller, D. M., Zeldman, J., & Mobley, A. R. (2024). Policy, Systems, and Environmental Strategies to Support Healthy Eating Behaviors in Early Childhood: A Scoping Review of Existing Evaluation Tools. *Journal of the Academy of Nutrition and Dietetics*, 124(12), 1614-1645.e23. <https://doi.org/10.1016/j.jand.2024.07.160>
- Wijayanti, E., Bachtiar, A., Achadi, A., Rachmawati, U. A., Sjaaf, A. C., Eryando, T., Besral, Trihono, Siregar, K. N., & Vidiawati, D. (2022). Mobile application development for improving medication safety in tuberculosis patients: A quasi-experimental study protocol. *PLOS ONE*, 17(9), e0272616. <https://doi.org/10.1371/journal.pone.0272616>