



Research Article

Volume 7 Issue 5 - January 2025
DOI: 10.19080/APBIJ.2025.07.555723

Anatomy Physiol Biochem Int J

Copyright © All rights are reserved by Delimaris I

Investigation Of the Potential Positive Impact of Community-Centered Health Education Interventions for Weight Management on Obesity: A Mini Narrative Review



Delimaris I*

Faculty of Health Sciences, Metropolitan College, Greece

Submission: December 14, 2024; **Published:** January 24, 2025

***Corresponding author:** Delimaris I, Faculty of Health Sciences, Metropolitan College, Greece

Abstract

Introduction: Obesity remains a significant public health challenge globally, with increasing prevalence rates linked to various chronic diseases. Community-centered health education interventions have emerged as a promising approach to address weight management and promote healthier lifestyles.

Objective: The present study investigates the potential positive impact of community-centered health education interventions for weight management on obesity.

Design: Mini narrative review.

Materials and Methods: The material for this review was sourced exclusively from Internet-based databases. A comprehensive electronic literature search was conducted for studies published between 2014 and 2024 in PubMed and Google Scholar, spanning from 10 September 2024 to 10 November 2024.

Results and Discussion: The review of the literature revealed that community-centered health education interventions significantly contribute to weight loss and improvements in various health indicators. Notable outcomes included reductions in body mass index (BMI), waist circumference, and various metabolic risk factors such as cholesterol levels and blood pressure. Moreover, participants frequently reported enhanced dietary habits and increased physical activity levels, further supporting the efficacy of these interventions. The effectiveness of tailored programs, particularly those that foster self-management skills and community engagement, was consistently highlighted across studies.

Conclusions: The findings suggest that community-centered health education interventions are effective strategies for promoting weight management and reducing obesity rates. Further research is warranted to explore long-term sustainability, scalability, and the integration of these interventions into broader public health initiatives. Enhanced understanding of the mechanisms driving participant engagement and adherence may also inform future program development.

Keywords: Community; Health Education; Interventions; Body Weight; Obesity; Public Health Nutrition

Abbreviations: BMI: Body Mass Index; LDL: Low Density Lipoprotein; HDL: High Density Lipoprotein; CHW: Community Health Worker; HELP PD: Healthy Living Partnerships to Prevent Diabetes; RCT: Randomized Controlled Trial

Introduction

Obesity has emerged as a significant public health challenge, posing considerable risks to individual health and well-being, as well as straining healthcare systems worldwide. The global prevalence of obesity has reached alarming levels, with millions of individuals affected, leading to an increased incidence of chronic conditions such as type 2 diabetes, cardiovascular diseases, and certain cancers. The multifaceted nature of obesity necessitates comprehensive strategies that address its complex etiology, which

includes behavioral, genetic, environmental, and socio-economic factors. In this context, community-centered health education interventions have gained traction as a promising approach for weight management and obesity prevention [1-8].

Community-centered interventions focus on engaging individuals within their social and environmental contexts to promote healthier behaviors and lifestyles. These programs often leverage local resources and networks to foster a sense

of community ownership and support, which can enhance participation and sustainability. The involvement of community members in the design and implementation of health education initiatives can lead to more culturally relevant and acceptable strategies, thereby increasing effectiveness. Such interventions often encompass a range of activities, including nutrition education, physical activity promotion, and behavioral modification techniques, all tailored to meet the specific needs of the target population [6, 9-14].

Several studies have demonstrated the effectiveness of community-centered health education interventions in achieving weight loss and improving metabolic health outcomes [15-18]. The emphasis on self-management and empowerment within these interventions allows participants to develop the skills and knowledge necessary to make informed choices about their health. This is particularly crucial in the context of obesity, where long-term behavior change is essential for sustained weight management.

Understanding the potential positive impacts of these community-centered health education interventions is critical for addressing the obesity epidemic effectively. By examining the outcomes of various programs that have successfully implemented these strategies, insights can be gained into best practices and key components that contribute to their success. This will not only inform future intervention designs but also provide valuable guidance for policymakers and public health practitioners committed to combating obesity at the community level. Ultimately, fostering a collaborative and supportive environment through community-centered approaches can pave the way for sustainable health improvements and enhanced quality of life for individuals affected by obesity [9-10].

Objective

The objective of the present study is to investigate the potential positive impact of community-centered health education interventions for weight management on obesity. This study contributes to the field by synthesizing existing evidence on the effectiveness of various community-centric strategies aimed at reducing obesity rates. The significance of this study lies in its potential to inform public health initiatives and policy-making, providing insights into how community engagement can enhance health education and promote sustainable weight management practices. The originality and innovation of this study stem from its focus on community-centered interventions, which are often overlooked in the broader discourse on obesity management. By emphasizing the role of localized support systems and culturally relevant education, this study adds a unique perspective to existing literature. Furthermore, the added value of this research is its potential to guide future program development, highlighting best practices and effective methodologies that can be adapted across diverse populations and settings, ultimately fostering healthier communities.

It has to be mentioned that mini reviews offer several benefits compared to regular reviews. They are concise, making them easier for busy readers to digest, and they focus on specific topics for deeper analysis. Additionally, mini reviews are often written in more accessible language, appealing to a broader audience. Overall, they serve as a valuable resource for researchers and readers, providing quick and informative insights into current trends and developments in a specific field [19,20].

Materials and Methods

Search Strategy

A mini narrative review was performed based on a synthesis of previously published literature. The material of the present study was exclusively Internet-based. A comprehensive electronic literature search in the databases PubMed and Google Scholar was performed (from 10 September 2024 to 10 November 2024) using the following terms/key words: “community-centered health education interventions” OR “community-centered interventions” AND “weight management” AND “obesity”. In addition, a search in the reference lists was carried out.

Selection Criteria

Studies were selected based on inclusion and exclusion criteria, screening of studies, and data extraction and analysis presented in Figure 1.

Results

Flow of Included Studies

A literature search flow diagram is presented in Figure 2. In conducting our review, we initiated the process by identifying relevant literature through comprehensive searches in the databases PubMed and Google Scholar, which resulted in a total of 367 articles. Following this, exclusion criteria and deduplication processes reduced the number to 55 relevant studies. A thorough screening of full texts, abstracts, and titles further narrowed the selection, leading to the exclusion of 44 papers. Ultimately, the review incorporated 11 studies that met all inclusion criteria. This flow ensures a well-curated collection of research, and provides transparency and clarity in the study selection process.

General Characteristics of the Selected Studies

Denman et al. (2014) [15] evaluated the Meta Salud program in Hermosillo, Mexico, a community health intervention adapted from Pasos Adelante. In a 13-week pretest-posttest study, significant reductions were observed in body mass index (BMI), waist circumference, hip circumference, weight, triglycerides, and low-density lipoprotein (LDL) cholesterol ($p < 0.05$). At 3-month follow-up, reductions in BMI, waist circumference, weight, LDL cholesterol, and glucose, along with increased high-density lipoprotein cholesterol, were noted. Findings indicate Meta Salud is an effective, scalable intervention for similar regions.

Criteria for inclusion of studies

- Literature written in English
- Literature published from 2014 and 2024 (10 years)
- Studies that involved original research in volunteers
- Studies that had keywords in the title and/or abstract

Criteria for exclusion of studies

- Reviews
- Conference papers
- Book chapters
- Books
- Short surveys
- Articles and documents written in languages other than English

Screening of studies

All obtained references from the search were organized and duplicates were excluded. The titles and abstracts were screened for content and relevance to the topic with focus on the inclusion criteria. The integral text of selected titles was read and the reference list of selected articles was consulted in order to find out other relevant publications. Additionally, studies which failed to adequately describe the potential positive impact of community-centered health education interventions for weight management on obesity were excluded.

Data extraction and analysis

The essential data from each published study were extracted and synthesized. The results are presented in a brief narrative form.

Figure 1: Inclusion and exclusion criteria, screening of studies, and data extraction and analysis.

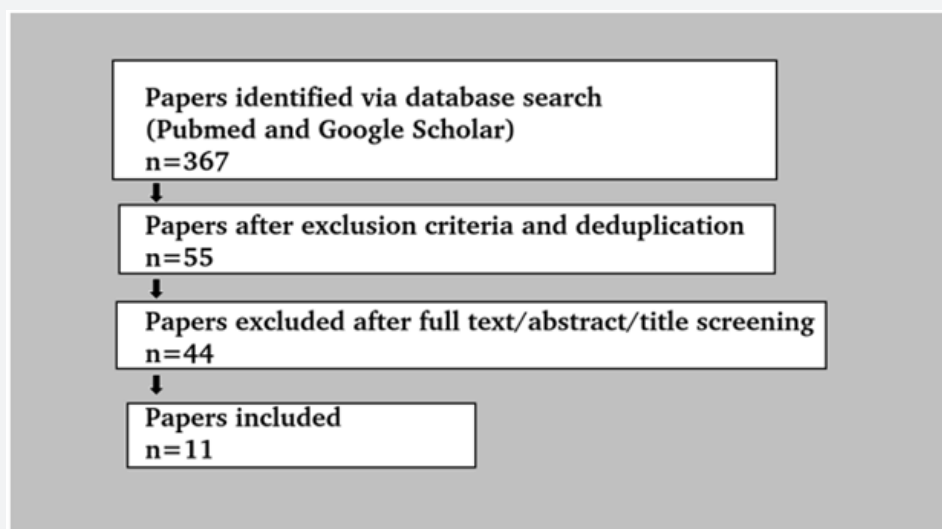


Figure 2: Flow diagram describing the literature review process.

Chang et al. (2016) [16] conducted a randomized controlled trial with 136 metabolically abnormal obese adults to assess a community-based exercise intervention's effectiveness. After six months, the intervention group showed significant improvements: high-density lipoprotein cholesterol increased by 2.34 mg/dl, while body weight decreased by 1.09 kg, waist circumference by 3.63 cm, systolic blood pressure by 10.52 mmHg, diastolic blood pressure by 5.21 mmHg, fasting blood glucose by 5.84 mg/dl, and body mass index by 0.74 kg/m². Significant differences were noted in waist circumference, blood pressure, and HDL cholesterol between groups.

Lombard et al. (2016) [17] conducted a 1-year cluster randomized controlled trial in 41 Australian towns, involving 649 women (mean age 39.6 years, BMI 28.8 kg/m²). The intervention group (n=21) received a low-intensity self-management lifestyle program (HeLP-her), while the control group (n=20) received general health information. The intervention group showed a mean weight change of -0.48 kg (95% CI -0.99 to 0.03) versus +0.44 kg (95% CI -0.09 to 0.97) in controls, with an unadjusted difference of -0.92 kg (95% CI -1.67 to -0.16). The program effectively improved diet quality and self-management behaviors.

Xu et al. (2017) [18] investigated the relationship between self-expansion and obesity treatment outcomes in a 12-week weight loss intervention involving 239 participants. Self-expansion was significantly associated with percent weight loss, clinically significant weight loss ($\geq 5\%$), minutes of physical activity, and treatment adherence (all p-values < 0.05). These associations remained significant after controlling for covariates. The study highlights self-expansion as a promising target for enhancing weight loss interventions and improving adherence and physical activity outcomes.

Lutes et al. (2017) [21] evaluated a community health worker (CHW) delivered lifestyle intervention for African American women with type 2 diabetes in a 12-month randomized trial. Among 200 participants (mean age 53, mean BMI 37.7), the intervention group showed no significant changes in HbA1c (-0.29 vs. +0.005; P=0.789) or BP (-1.01 vs. +0.66; P=0.100), but greater weight loss (-1.35 vs. -0.39 kg; P=0.046). Non-insulin users achieved significant reductions in HbA1c (P=0.000), diastolic BP (P=0.035), and weight (P=0.003).

In a randomized trial (n=818) conducted by Little et al. (2017) [22], the internet-based weight management program POWeR+ showed significant weight loss benefits compared to a control group. After 12 months, POWeR+F participants lost an additional 1.5 kg (p=0.001) and POWeR+R participants lost 1.3 kg (p=0.007). While mean weight loss was similar across groups, 32.4% of POWeR+R participants maintained a 5% weight reduction (p=0.004). POWeR+R demonstrated a high likelihood of cost-effectiveness (£18 for POWeR+F, -£25 for POWeR+R). No harms

were reported, and participants felt more empowered.

Yin et al. (2018) [23] conducted a randomized trial in Yuci, China, to evaluate a diabetes prevention program for women aged 25-65 with pre-diabetes. Participants were assigned to a 6-month lifestyle intervention (n=109) or comparison (n=75). Results showed significant improvements in weight (-0.91 kg, p<0.05) and body mass index (-0.39 kg/m², p<0.05) in the intervention group, with 31.6% achieving a 5% weight loss goal. While feasible, the intervention's effect sizes were small, with no significant differences at 12-month follow-up.

According to Pedley et al. (2018) [24], the Healthy Living Partnerships to Prevent Diabetes (HELP PD) trial examined the effects of a community-based lifestyle intervention on metabolic syndrome prevalence among 301 overweight individuals with prediabetes. After 12 and 24 months, significant improvements were observed in fasting blood glucose, waist circumference, HDL, triglycerides, and blood pressure in the intervention group versus enhanced usual care. These findings underscore the effectiveness of structured lifestyle changes in reducing metabolic syndrome occurrence and promoting metabolic health (p<0.05).

Bennett et al. (2018) [25] conducted a randomized controlled trial (RCT) assessing a 12-month digital weight-loss intervention in a community health center, involving 351 adults with obesity and chronic conditions. Participants received either usual care (n=175) or an intervention (n=176) featuring app-based self-monitoring, counseling, and a smart scale. The intervention led to significant weight loss at 6 months (-4.4 kg, p<0.001) and 12 months (-3.8 kg, p<0.001), with higher success rates for those engaged in self-monitoring and counseling. Results highlight the efficacy of digital obesity treatment in disadvantaged populations.

Cai et al. (2019) [26] conducted a randomized controlled trial involving 480 obese older adults in Nanjing, China, to evaluate community-based lifestyle interventions. The intervention group (n=242) experienced a significant mean weight loss of 3.22 ± 3.43 kg compared to 0.03 ± 2.51 kg in the control group (n=238, p<0.001). Additionally, 41.1% of the intervention participants achieved a 5% weight loss (p<0.001) and showed improved cardiometabolic risk factors. Barriers to weight loss included being female, living alone, and having more comorbidities.

The study by Fernández-Ruiz et al. (2020) [27] evaluated an interdisciplinary program for obese adults (n=74) focusing on healthy eating, exercise, cognitive-behavioral therapy, and health education over 12 and 24 months. Results showed significant improvements in nutritional habits (F2; 144=115.305; p<0.001), increased fruit and vegetable intake (F2; 144=39.604, p<0.001), and a BMI reduction of 2.6. At 24 months, no participants in the experimental group had inadequate nutritional habits versus 35.1% in the control group (p<0.001).

Discussion

Synthesis of the Studies

The studies reviewed collectively underscore the effectiveness of various community-based interventions aimed at reducing obesity and improving associated health outcomes. Denman et al. (2014) [15] demonstrated that the Meta Salud program in Mexico led to significant reductions in multiple health markers, including BMI and LDL cholesterol, highlighting its potential for scalability in similar regions. Chang et al. (2016) [16] echoed these findings in a randomized controlled trial, reporting significant improvements in metabolic health, particularly in high-density lipoprotein (HDL) cholesterol and blood pressure, among metabolically abnormal obese adults after a six-month community exercise intervention. Lombard et al. (2016) [17] added to the literature by showing that a low-intensity self-management lifestyle program effectively improved weight management and dietary behaviors in Australian women. Similarly, Xu et al. (2017) [18] identified self-expansion as a promising factor correlated with weight loss and treatment adherence, suggesting psychological components play a crucial role in the success of such interventions. Lutes et al. (2017) [21] focused on a community health worker-delivered lifestyle intervention for African American women with type 2 diabetes, finding that while some metabolic markers did not change significantly, there was notable weight loss, particularly among non-insulin users. This implies that targeted interventions can yield beneficial outcomes even in chronic conditions. Little et al. (2017) [22] further illustrated the promise of digital weight management programs, showing significant weight loss and high rates of sustained weight reduction among participants engaged in an internet-based intervention. In China, Yin et al. (2018) [23] and Cai et al. (2019) [26] assessed lifestyle interventions for individuals with pre-diabetes and older obese adults, respectively. Both studies reported modest improvements in weight and metabolic health markers, although the long-term effects were variable, indicating a need for sustained engagement and possibly more intensive interventions. Pedley et al. (2018) [24] reinforced the value of lifestyle modifications through their community-based intervention targeting metabolic syndrome, noting significant improvements in several health indicators over 12 and 24 months. Lastly, Fernández-Ruiz et al. (2020) [27] highlighted the effectiveness of a comprehensive interdisciplinary program in improving nutritional habits and achieving significant weight loss among obese adults.

Furthermore, the studies of the present review had several similarities. They provided focus on community-based interventions aimed at enhancing health outcomes related to obesity, metabolic health, and chronic disease management. They target populations that are overweight, obese, or suffering from metabolic abnormalities, specifically including women, older adults, and individuals with prediabetes or type 2 diabetes. Most interventions involve lifestyle changes encompassing dietary modifications, increased physical activity, self-management,

and health education, designed for scalability in real-world application. Health metrics evaluated include body weight, BMI, waist circumference, and various metabolic indicators like blood glucose and cholesterol levels [15-18, 21-27]. Many studies utilize randomized controlled trial designs or pretest-posttest methodologies, often with control groups, to assess intervention efficacy over periods of several months to a year, with follow-up assessments to determine sustained effects. Statistically significant findings ($p < 0.05$) demonstrate meaningful health improvements compared to control groups or baseline measures, highlighting the importance of self-management and treatment adherence. Some studies incorporate community health workers to enhance intervention effectiveness. Conducted in diverse geographical locations, these studies collectively aim to tackle obesity and health disparities, aligning with public health goals of promoting healthier lifestyles and improving health equity among underserved populations. This underscores the effectiveness of community-based lifestyle interventions [15-18, 21-27].

Overall, these studies advocate for the implementation of diverse, community-oriented interventions that address both behavioral and metabolic aspects of obesity, emphasizing the importance of accessibility and tailored approaches to improve health outcomes across different populations. The collective evidence supports the notion that structured lifestyle changes, whether through community programs, digital platforms, or psychological components, can foster significant health improvements and should be prioritized in public health strategies [15-18, 21-27] (Figure 3).

Strengths of the Studies

The studies collectively demonstrate robust strengths in evaluating diverse community-based interventions for obesity and related health outcomes. The use of randomized controlled trials across various populations, including different age groups and metabolic conditions, enhances the reliability of findings. Significant weight loss and improvements in cardiometabolic markers, such as blood pressure, cholesterol levels, and glucose, indicate the interventions' effectiveness in promoting metabolic health. Additionally, many studies highlight the scalability and feasibility of these programs, making them applicable to real-world settings. The incorporation of self-management strategies, digital tools, and interdisciplinary approaches further enriches the evidence base, suggesting that tailored interventions can empower participants and improve adherence. Follow-up evaluations in numerous studies illustrate sustained benefits over time, reinforcing the importance of long-term lifestyle changes. Moreover, the focus on vulnerable populations, such as African American women and older adults, emphasizes the necessity of addressing health disparities and providing accessible obesity management solutions. Together, these findings contribute valuable insights into effective strategies for reducing obesity prevalence and enhancing overall health [15-18, 21-27].

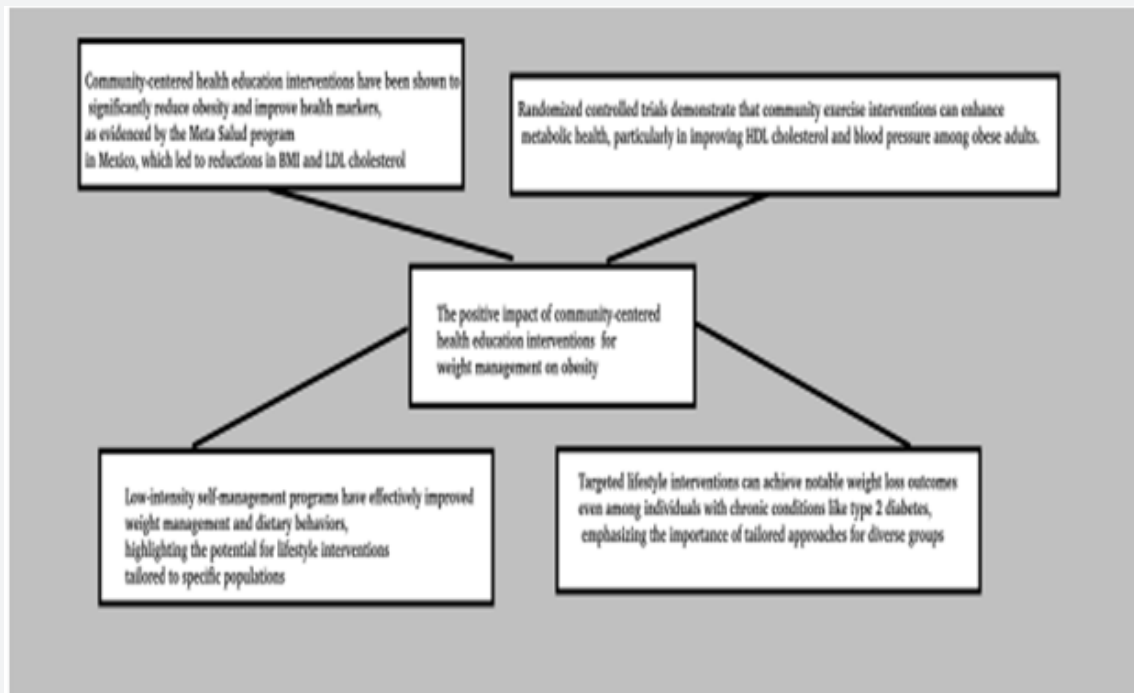


Figure 3: The positive impact of community-centered health education interventions for weight management on obesity [15-18, 21-27].

Limitations of the Studies

The studies reviewed exhibit several limitations that may impact the generalizability and robustness of their findings. First, many studies employed relatively small sample sizes or specific demographic groups, which could limit the applicability of results to broader populations. Additionally, variations in intervention duration, intensity, and assessment methods may influence outcomes, making direct comparisons challenging. Some studies relied on self-reported data, which can introduce bias and affect the accuracy of results. Follow-up periods varied, with some studies lacking long-term assessments to determine the sustainability of observed benefits. Moreover, potential confounding variables, such as socioeconomic status and pre-existing health conditions, were not consistently controlled across studies. While some interventions showed significant improvements, effect sizes were often modest, raising questions about their clinical relevance. Lastly, limited information on participant adherence to interventions and potential drop-out rates may further complicate the interpretation of efficacy. Collectively, these limitations suggest a need for more comprehensive, diverse, and rigorously designed studies to better evaluate the effectiveness of community-based health interventions for obesity and related conditions [15-18, 21-27].

Future Directions

Future research should focus on enhancing the scalability and sustainability of community-based interventions for obesity

and metabolic health, as evidenced by the positive outcomes across diverse populations. Investigating the long-term effects of programs like Meta Salud and PWeR+ is essential to validate their effectiveness beyond 12 months. Moreover, studies should explore the integration of self-expansion strategies into existing interventions to boost adherence and physical activity, as indicated by the findings on self-expansion and weight loss outcomes. The role of digital tools in promoting weight management, particularly in underserved populations, warrants further examination to assess engagement and sustained impact. Additionally, addressing barriers faced by specific demographics, such as older adults and women, will be crucial in tailoring interventions. Interdisciplinary approaches combining dietary, behavioral, and physical activity components should be expanded, focusing on holistic health improvements. Finally, a comparative analysis of various intervention modalities could provide valuable insights into optimizing program designs for diverse community settings, ensuring effective prevention and management of obesity and related chronic conditions [15-18, 21-27].

Conclusion

This mini narrative review highlights the promising outcomes of community-centered health education interventions for weight management and their potential to combat obesity. Multiple studies demonstrate significant reductions in weight, body mass index (BMI), waist circumference, and improvements in metabolic health indicators, such as cholesterol levels and blood

pressure. Interventions utilizing varied methodologies, including lifestyle changes, self-management programs, and digital tools, have proven effective across diverse populations, particularly in disadvantaged groups. Notably, engagement in self-monitoring and community support emerged as critical factors contributing to successful weight loss outcomes. Additionally, the integration of elements such as self-expansion and interdisciplinary approaches further enhances adherence and efficacy. Despite some interventions showing modest results over longer follow-up periods, the overall evidence underscores the effectiveness of structured, community-centered approaches in promoting healthier behaviors and achieving meaningful weight loss. Future research should focus on optimizing these interventions to maximize their impact and explore their applicability across different demographics. Ultimately, these findings advocate for the broader implementation of community health education strategies as vital components in addressing the obesity epidemic.

References

- Lingvay I, Cohen RV, Roux CWL, Sumithran P (2024) Obesity in adults. *Lancet* 404(10456): 972-987.
- Welsh A, Hammad M, Piña IL, Kulinski J (2024) Obesity and cardiovascular health. *Eur J Prev Cardiol* 31(8): 1026-1035.
- Chandrasekaran P, Weiskirchen R (2024) The role of obesity in type 2 diabetes mellitus-An overview. *Int J Mol Sci* 25(3): 1882.
- Engin AB, Engin A (2024) Next-Cell Hypothesis: Mechanism of Obesity-Associated Carcinogenesis. In: *Obesity and Lipotoxicity*. 2024: 727-766.
- Elia M, Ljungqvist O, Stratton RJ, New SAL (2012) *Clinical Nutrition*. (In: 2nd edn), Wiley-Blackwell, New Jersey, USA.
- Gibney MJ, Margetts BM, Kearney JM, Arab L (2013) *Public Health Nutrition*. John Wiley & Sons, New Jersey, USA.
- Mahan LK, Stump SE, Raymond JL (2012) *Krause's Food & the Nutrition Care Process*. Krause's Food & Nutrition Therapy. Saunders Elsevier.
- Gandy JW, Madden A, Holdsworth M (2020) *Oxford Handbook of Nutrition and Dietetics*. Oxford University Press, UK.
- Spezia N, Rosis SD, Nuti S (2024) Sense of community in the context of disease prevention and health promotion: a scoping review of the literature. *BMC Public Health* 24(1): 3090.
- Redvers N, Kolev AO, Cordero JP, Zerwas F, Zitoun NM, et al. (2024) Relational community engagement within health interventions at varied outcome scales. *PLOS Glob Public Health* 4(6): e0003193.
- Delimaris I (2021) Curricula and teaching methodology in the field of health education: what do we know so far? *J Interdiscip Med* 6(2): 126-129.
- Delimaris I (2021) Current state of knowledge on the value of information and communication technology in health education. *J Sch Univ Med* 8(2): 14-18.
- Delimaris I (2024) Investigating the positive impact of physical education and sports programs: a mini review on bullying prevention, social responsibility development, academic performance, and prosocial behavior in adolescent students. *J Sch Univ Med* 11(2): 12-20.
- Delimaris I (2024) Nutrition and exercise in schools: a health education approach. *Anat Physiol Biochem Int J* 7(3): 1-5.
- Denman CA, Rosales C, Cornejo E, Bell ML, Munguía D, et al. (2014) Evaluation of the community-based chronic disease prevention program Meta Salud in Northern Mexico, 2011-2012. *Prev Chronic Dis* 11: 1-9.
- Chang SH, Chen MC, Chien NH, Lin HF (2016) Effectiveness of community-based exercise intervention programme in obese adults with metabolic syndrome. *J Clin Nurs* 25(17-18): 2579-2589.
- Lombard C, Harrison C, Kozica S, Zoungas S, Ranasinha S, et al. (2016) Preventing weight gain in women in rural communities: a cluster randomised controlled trial. *PLoS Med* 13: 1-20.
- Xu X, Leahey TM, Boguszewski K, Krupel K, Mailloux KA, et al. (2017) Self-expansion is associated with better adherence and obesity treatment outcomes in adults. *Ann Behav Med* 51(1): 13-17.
- Ferrari R (2015) Writing narrative style literature reviews. *Med Writing* 24(4): 230-235.
- Elfar JC (2014) Introduction to mini-review. *Geriatr Orthop Surg Rehabil* 5(2): 36.
- Lutes LD, Cummings DM, Littlewood K, Dinatale E, Hambidge B (2017) A community health worker-delivered intervention in African American women with type 2 diabetes: A 12-month randomized trial. *Obesity* 25(8): 1329-1335.
- Little P, Stuart B, Hobbs FR, Kelly J, Smith ER, et al. (2017) Randomised controlled trial and economic analysis of an internet-based weight management programme: POWeR+ (Positive Online Weight Reduction). *Health Technol Assess* 21(4): 1-62.
- Yin Z, Perry J, Duan X, He M, Johnson R, et al. (2018) Cultural adaptation of an evidence-based lifestyle intervention for diabetes prevention in Chinese women at risk for diabetes: Results of a randomized trial. *Int Health* 10(5): 391-400.
- Pedley CF, Case LD, Blackwell CS, Katula JA, Vitolins MZ (2018) The 24-month metabolic benefits of the healthy living partnerships to prevent diabetes: A community-based translational study. *Diabetes Metab Syndr Clin Res Rev* 12(3): 215-220.
- Bennett GG, Steinberg D, Askew S, Levine E, Foley P, et al. (2018) Effectiveness of an app and provider counseling for obesity treatment in primary care. *Am J Prev Med* 55(6): 777-786.
- Cai R, Chao J, Li D, Zhang M, Kong L, et al. (2019) Effect of community-based lifestyle interventions on weight loss and cardiometabolic risk factors in obese elderly in China: A randomized controlled trial. *Exp Gerontol* 128: 110749.
- Ruiz VEF, Morcillo AJR, Agustí MS, Urbano JAP, Barranco DA (2020) Effectiveness of an interdisciplinary program performed on obese people regarding nutritional habits and metabolic comorbidity: A randomized controlled clinical trial. *Int J Environ Res Public Health* 17(1): 336.



This work is licensed under Creative Commons Attribution 4.0 License
DOI: [10.19080/APBIJ.2025.07.555723](https://doi.org/10.19080/APBIJ.2025.07.555723)

Your next submission with Juniper Publishers will reach you the below assets

- Quality Editorial service
- Swift Peer Review
- Reprints availability
- E-prints Service
- Manuscript Podcast for convenient understanding
- Global attainment for your research
- Manuscript accessibility in different formats
(Pdf, E-pub, Full TPxt, Audio)
- Unceasing customer service

Track the below URL for one-step submission

<https://juniperpublishers.com/online-submission.php>