

Prevention of Obesity in The Elderly Through Health Promotion

Interventions: Literature Review

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ARTICLE INFO	ABSTRACT
ORCHID ID Author 1: https://orcid.org/0009-0003-8448-7708 Author 2: https://orcid.org/0000-0001-9786-2456 Author 3: -	The incidence of obesity among the elderly is rising in many countries, including Indonesia. To address this issue, effective interventions are necessary to change lifestyle and dietary habits, such as through social marketing and health promotion initiatives for the elderly. Preventing obesity in this demographic through social marketing can involve educational campaigns, intervention programs, community empowerment, and collaboration with various stakeholders. This study aims to identify strategies to prevent obesity in the elderly through health promotion interventions. The study is a literature review following the PRISMA 2009 protocol. Articles were sourced from Google Scholar, ScienceDirect, and PubMed databases, focusing on those published in the last five years (2019 until 2024) and discussing obesity in the elderly. The search used keywords like "obesity," "elderly," "prevention," and "health promotion" with Boolean operators. Out of 98,447 articles found, only 8 met the inclusion criteria and were selected for further analysis. The review concluded that increasing awareness and preventing obesity in the elderly can be achieved through educational methods using various media, including print and audiovisual aids (AVA), health education, and regular check-ups.
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1. Introduction

A growing global health concern is obesity among the elderly. According to WHO data, over 650 million people globally are living with obesity, making them vulnerable to other degenerative diseases (Pérez Martínez et al., 2023). The prevalence of obesity in the elderly is increasing across many countries, including Indonesia, negatively affecting their health and quality of life. In Indonesia, the prevalence of central obesity among the elderly is 18.8% in the 55-64 age group, 23.1% in the 65-74 age group, and 15.8% in those over 75 years old (Arfini & Wahyuningsih, 2022). Elderly individuals with obesity face a high risk of metabolic diseases. Key risk factors for obesity in this population include metabolic changes, reduced physical activity, and unhealthy eating habits (da Silva et al., 2021).

Obesity is a significant health problem for seniors, increasing their risk of diabetes, heart disease, and stroke (Martiningsih & Haris, 2019). Effective interventions are needed to change living habits and eating patterns. One promising approach is Social Marketing, which aims to improve individuals' and groups' unhealthy lifestyle habits (Hung et al., 2023; Moeini et al., 2024). Social Marketing to prevent obesity in the elderly can involve educational campaigns, intervention programs, community empowerment, and collaboration with various stakeholders (Fergus et al., 2023; Hung et al., 2023). These efforts aim to enhance individuals'

and groups' knowledge, attitudes, and behaviors regarding health, including diet and physical activity. Effective health promotion interventions can help older adults understand the risks of obesity, adopt a balanced and nutritious diet, and increase regular physical activity (Idang et al., 2022; Llauradó et al., 2024).

One of the health promotion interventions implemented by the Ministry of Health of the Republic of Indonesia to control and prevent health problems among the elderly is the establishment of Posyandu (also known as '*Pos Pelayanan Terpadu*' in Bahasa, meaning 'Integrated Service Post,') for the Elderly and the Integrated Development Post for Non-Communicable Diseases (Bahasa: *Pos Binaan Terpadu Penyakit Tidak Menular*, Posbindu PTM), as outlined in the Regulation of the Minister of Health No. 71 of 2015 on Non-Communicable Disease Management (Sutriyawan et al., 2022). However, these programs are ineffective without being complemented by additional health promotion interventions (Lubis, 2021). Research by Fenty et al. (2023) indicates that health promotion interventions significantly enhance older adults' knowledge about health, particularly in relation to obesity. Emphasizing preventive measures through health promotion is therefore essential for achieving optimal health outcomes among the elderly. Several factors hinder their success, including insufficient knowledge about Posyandu for the Elderly, distance from home to the Posyandu location, inadequate facilities and infrastructure, economic and income issues, lack of family support, and negative attitudes and behaviors toward the elderly (Zulhairani & Gurning, 2022). Health promotion interventions for the elderly are often not fully effective because many older adults still lack understanding and awareness of the importance of their health (Astriani et al., 2022). Consequently, it is crucial to develop strategies that increase awareness about the importance of maintaining a healthy lifestyle among the elderly population (Anisa et al., 2023).

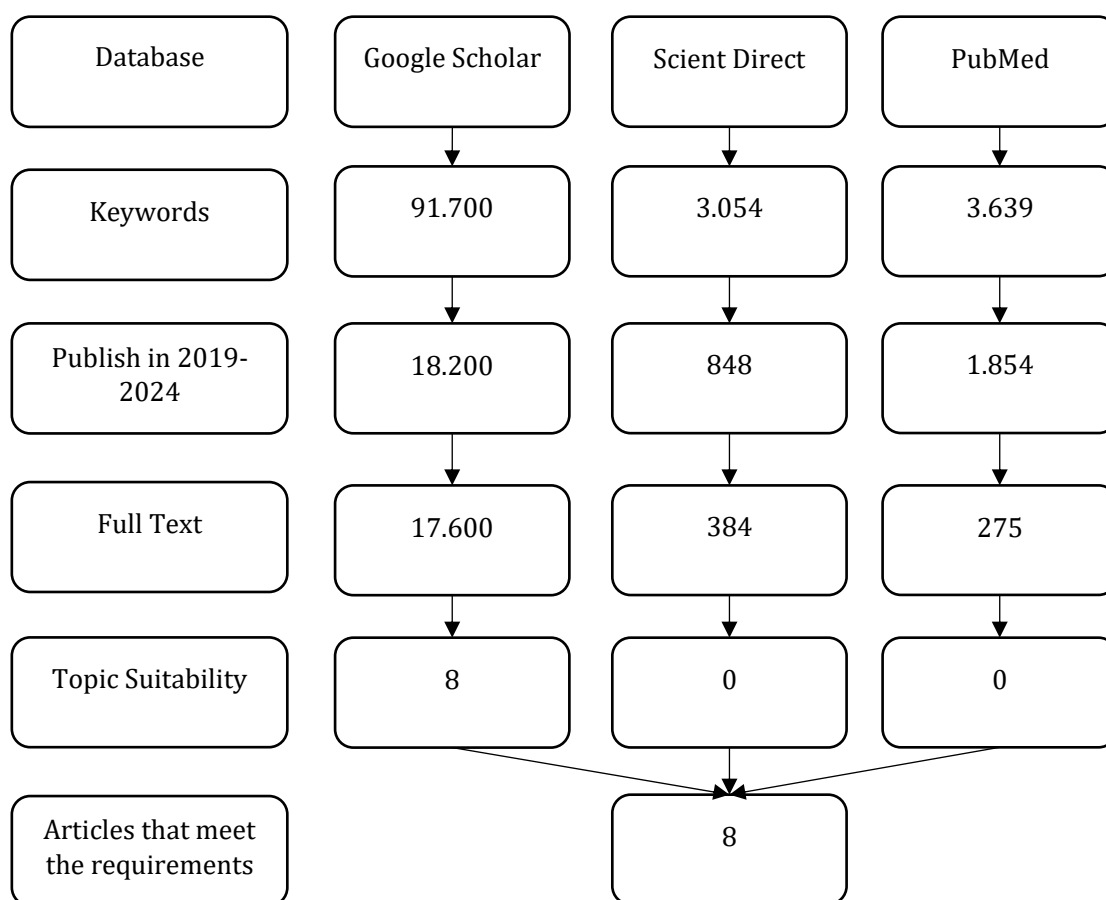
This literature review aims to identify strategies to prevent obesity in the elderly through a health promotion approach. This review will outline the factors contributing to obesity, identify the complications that can arise from obesity in the elderly, describe the efforts made to prevent obesity in this demographic, and examine effective health promotion strategies. Additionally, this review will discuss the challenges and opportunities associated with implementing health promotion interventions.

2. Method

This study was conducted as a literature review. A systematic review of health articles was undertaken to identify obesity as a cause of cardiovascular disease complications and to explore strategies for reducing its prevalence. The article searches were conducted using electronic databases such as Google Scholar, ScienceDirect, and PubMed Central, over one week from May 5, 2024, to May 11, 2024. The keywords used in the search were "obesity" AND "elderly" AND "prevention" AND "health promotion," employing Boolean operators. In these three databases, researchers searched and filtered articles sequentially based on keyword relevance, publication dates between 2019 and 2024, availability of full text, and alignment with the research topic.

The discussion was based on articles published between 2019 and 2024. Duplicate articles from different databases were removed. The remaining articles were then sorted according to the PRISMA protocol and flowcharts from the PRISMA 2009 checklist, and those not meeting the inclusion criteria were excluded.

These articles were selected based on specific inclusion and exclusion criteria. The inclusion criteria required articles to discuss obesity in the elderly, its associated complications, and health promotion strategies for preventing obesity in this demographic. Exclusion criteria ruled out articles that did not focus on health interventions, were unavailable in full text, were published more than five years ago, or were irrelevant to the research topic. Initially, a total of 20,902 articles published between 2019 and 2024 were identified. After excluding those without full text, 18,259 articles remained for screening. Based on topic suitability, this number was further narrowed down to 8 articles. Following a detailed full-text review, these 8 articles were confirmed as eligible studies. The selection process is illustrated in Figure 1.



Source: Primary Data, 2024

Figure 1. Diagram of Literature Search Results

3. Result and Discussion

The search across the three electronic databases yielded eight articles that met the predetermined inclusion criteria. These articles were identified as relevant to interventions aimed at preventing obesity in the elderly, as detailed in Table 1.

Table 1. Article Review Results

Authors	Objectives of the Study	Location	Sample	Research Method	Results
(Tursinawati & Nasrullah, 2023)	To reduce morbidity and mortality rates among the elderly, it is crucial to address and prevent various nutritional issues they face.	Panti Wreda Pengayoman, Semarang City.	16 Respondents	The pre-experiment used a One Group Pretest post-test design	Participants' knowledge improved before and after the lecture, aided by educational posters. The nursing home management and the Geriatric Community members were very pleased and requested that similar events be held regularly.
(Yunieswati et al., 2023)	Educating the elderly about balanced nutrition and conducting health and nutritional status checks will enhance their knowledge of proper nutrition and reduce the risk of non-communicable diseases like obesity and hypertension.	Pamulang WoodBall Club Community (PWbC), South Tangerang City	23 Respondents	The pre-experiment used a One Group Pretest Post-test design	Following health campaigns using leaflets and conducting health checks, the elderly's knowledge about balanced nutrition has significantly improved. Health examination results indicate that proper food and lifestyle management helps control high blood pressure (hypertension) in the elderly. Regular health check-ups, both

Authors	Objectives of the Study	Location	Sample	Research Method	Results
(Kosasih et al., 2023)	Raising public awareness about hyperlipidemia can significantly reduce the overall burden on the healthcare system if effectively implemented.	Santa Anna Home for the Elderly, North Jakarta	50 Respondents	Pre-experiment	individually and in groups, are essential for older adults to reduce the risk of non-communicable diseases like hypertension. Utilizing posters in health promotion can encourage the elderly to adopt healthier lifestyles and enhance their overall well-being.
(Nurhidayu et al., 2022)	To assess the impact of obesity health education delivered through Audio Visual Aid (AVA) on the behavior of obese patients at the Melayu Community Health Center in Piring City.	Melayu Community Health Center in Piring City, Tanjung Pinang	20 Respondents	The pre-experiment used a One Group Pretest Post-test design	Utilizing Audio Visual Aid (AVA), particularly in obesity-related health education, holds promise in enhancing students' comprehension of the issue. This method facilitates swift understanding while fostering lasting impact through engagement and motivation, encouraging individuals to enact substantial changes in their

Authors	Objectives of the Study	Location	Sample	Research Method	Results
(Birawa, 2024)	Enhancing the elderly's understanding of the significance of protein consumption is crucial to help them prevent and manage nutritional issues and enable them to adopt appropriate eating habits and styles.	Posyandu Kenanga, Genjeng Weru Village, Sukoharjo Regency	20 Respondents	The pre-experiment used a One Group Pretest Post-test design	attitudes and behaviors toward adopting a healthier lifestyle. Anthropometric measurements and health education activities can help older adults understand their protein intake and identify protein-rich foods they can consume. These activities also enable the elderly to assess their nutritional status and manage their dietary habits more effectively.
(Noviyanti et al., 2022)	To enhance the elderly's nutritional knowledge and assess their nutritional status.	Karangasem Village, Sukoharjo Regency	29 Participants	The pre-experiment used a One Group Pretest Post-test design	By using media such as leaflets and PowerPoint presentations, along with conducting nutritional status assessments, elderly individuals can learn about proper types and patterns of nutritional intake. This nutrition education helps them understand

Authors	Objectives of the Study	Location	Sample	Research Method	Results
					how to consume healthy, balanced foods and increases their knowledge of which foods promote their health.
(Masfiah et al., 2023)	To enhance public awareness of physical activity through initiatives like healthy walking campaigns and health training programs.	Dasa Wisma Flamboyan 2, Tlogosari Kulon Village, Pedurungan District	Elderly and pre-elderly women in the Dasa Wisma group	Pre-experiment	Public awareness of physical activity is heightened by engaging in healthy walking activities and distributing health promotion leaflets.
(Arfini & Wahyuningsih, 2022)	To reduce the prevalence of obesity by raising awareness among pre-elderly and elderly individuals about the importance of physical activity.	Cinere Community Health Center, Regional Technical Implementation Unit.	30 Respondents	The pre-experiment used a One Group Pretest Post-test design	Booklets can effectively promote health and enhance knowledge about physical activity among pre-elderly and elderly individuals. These materials are valuable and practical, providing information that can be easily incorporated into their daily lives.

Source: Secondary Data, 2024

Based on the table, eight articles have been analyzed, resulting in three published in 2022, four in 2023, and one in 2024. These articles explore the effectiveness of various health promotion interventions aimed at preventing obesity among the elderly. The interventions

described include lecture methods delivered through print media, Audio Visual Aids (AVA), and health examination programs. All studies involved samples aged over 50 years, categorizing them as elderly. The research was conducted exclusively in Indonesia. Each article demonstrates the positive impact of health promotion on raising awareness, enhancing knowledge, and improving attitudes toward preventing obesity in the elderly.

This literature review identified eight articles that met the inclusion criteria. Most of the research utilized pre-experimental methods and a one-group pre-test post-test design. The participants in these studies were individuals aged 50 and above. Obesity is a prevalent issue among the elderly population, influenced by various factors such as physical and psychological aspects. In the elderly, the body's metabolism slows down, and physical activity levels decline, leading to calorie accumulation due to reduced mobility (Llauradó et al., 2024; Pérez Martínez et al., 2023). Additionally, hormonal changes and medication usage play a role in obesity, as the decline in growth hormone and testosterone levels, along with the side effects of certain medications, contribute to weight gain (Pérez Martínez et al., 2023). Various health promotion interventions, including:

3.1 Educational Program Utilizing Lectures and Print Media

Several articles indicate that conventional methods, such as lectures and educational materials like posters and leaflets, effectively increase older adults' awareness of the importance of avoiding obesity and the associated risks. Educational activities conducted through print media have been shown to significantly impact the knowledge and health behaviors of those who receive these interventions. This statement is supported by research conducted by Wasludin (2019), which found a significant difference in knowledge scores before and after health education using print media. In addition to using posters and leaflets, other research suggests that card-type print media can also be an effective alternative for health promotion, particularly among the elderly. This is evidenced by significant improvements in knowledge scores following educational programs that incorporated print media (Wahyudi & Octamelia, 2023).

3.2 Educational Program Using Audio Visual Aid (AVA)

Audio Visual Aid (AVA) is a medium that enhances communication by simultaneously stimulating hearing and vision through sound and images (Gunawan & Ritonga, 2020). AVA typically includes interactive videos, graphics, and animations, which help convey information in an engaging and easily understandable way. AVA can also boost participant engagement and attention, making educational content more effective (Amareta et al., 2024). In research conducted by Lestari et al. (2023), it was found that there were significant differences in scores, indicating an increase in respondents' knowledge about health when education was delivered using audio-visual media. This highlights the positive impact of using audio-visual media in health education activities. Similarly, a study by Wasludin (2019) revealed that the average knowledge score of respondents who received education through electronic media was higher than that of those who received education through print media. These findings underscore the effectiveness of electronic and audio-visual media in enhancing health education outcomes.

3.3 Health Education Program

A structured and comprehensive health education program can equip individuals with the knowledge and skills necessary to adopt healthier lifestyles (Crane et al., 2024). Such programs can address many topics, including promoting healthy eating habits, increasing physical activity, and preventing diseases. The success of health education programs relies heavily on support from various sectors to ensure they are implemented and sustained effectively. However, several challenges can hinder these programs, such as limited funding and insufficient support from the community and relevant policy stakeholders (Crane et al., 2024). Research has shown that health education programs play a crucial role in disease prevention. This is evidenced by the significant improvement in knowledge scores among respondents after participating in such programs, compared to their scores before receiving the education. These findings underscore the importance of health education in enhancing people's understanding and ability to take proactive measures against diseases (Ibitoye & Thupayegale-Tshwenegae, 2021).

3.4 Health Screening Program

Regular health screening initiatives are crucial in early disease detection and intervention. By implementing such programs, there is an expectation of heightened health awareness among individuals, leading to increased willingness to undergo health check-ups. This proactive approach can aid in preventing sudden complications and ultimately enhance people's quality of life (Erika & Fitri, 2022). Conducting a health examination program for the elderly is crucial in helping them understand their health status. By participating in these programs, they can take preventive measures or seek medical attention if any health issues arise. This proactive approach can aid in preventing conditions such as obesity, ensuring better overall health outcomes (Widiany, 2019).

3.5 Research Implications and Limitations

The implications and limitations of this research stem from the fact that the reviewer reported only statistically significant results relevant to the discussed topic. This selective reporting may lead to unfair or misleading interpretations of the evidence, potentially impacting the overall conclusions and outcomes of this article.

4. Conclusion

This literature review reveals various strategies to enhance elderly individuals' understanding of the importance of physical activity for their age group. The aim is to mitigate obesity and related degenerative diseases prevalent among older adults. Several programs, including health promotion interventions, are identified to bolster knowledge and prevent obesity in the elderly. These include: (1) disseminating education through printed materials like posters, leaflets, and booklets, (2) utilizing Audio Visual Aid (AVA) media such as interactive videos, images, and animations, (3) implementing health education initiatives focusing on increasing physical activity and disease prevention, and (4) conducting routine health screening programs. Periodic health checks can include assessments of nutritional status and anthropometric measurements.

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