

# Transforming Self-Care and Quality of Life in Adults with Obesity Through Audiovisual Media: A Mixed-Method Study

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## Abstract

**Background:** Obesity represents a major global health concern, significantly affecting individuals' quality of life. Transforming self-care practices among individuals with obesity necessitates innovative strategies to overcome challenges related to weight management and lifestyle modifications. **Aims:** This research seeks to assess the effectiveness of audiovisual media as an intervention for enhancing self-care, improving quality of life, and reducing body mass index (BMI) among individuals with obesity. **Methods:** This research employs a mixed-method approach with a quasi-experimental design to quantitatively examine changes in self-care behavior and a qualitative phenomenological approach to explore participants' experiences. The study sample consisted of 100 people (intervention group: 50, control: 50) for quantitative analysis, as well as 10 people from the intervention group for in-depth interviews. The intervention group engaged with interactive audiovisual media focused on diet management, physical activity, and psychosocial support over an 8-week period, while the control group received only written educational materials. Pre- and post-intervention measurements were conducted using the Self-Care Obesity Scale questionnaire, standard BMI measurement tools, and a qualitative interview guide. Quantitative data were analyzed using paired t-tests and independent t-tests, while qualitative data were processed through thematic analysis. **Results:** The findings revealed that the intervention group demonstrated a significant reduction in BMI compared to the control group ( $p < 0.001$ ), along with a substantial increase in self-care scores ( $p < 0.001$ ) and notable improvements in quality of life ( $p < 0.001$ ). Qualitative insights highlighted that audiovisual media facilitated better comprehension of information and boosted motivation among participants, although some struggled with maintaining consistency. Additionally, the use of this media was reported to positively influence both physical and mental well-being. **Conclusion:** This study concludes that audiovisual media represents an innovative and effective method for enhancing self-care, reducing BMI, and improving the quality of life among individuals with obesity. This approach holds significant potential for incorporation into future health promotion initiatives. The integration of audiovisual tools into health promotion programs is recommended for broader application in community and clinical settings.

**Keywords:** Self-Care, Obesity, Audiovisual Media, Quality of Life, Health Promotion.



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## Introduction

Obesity has emerged as a major global health issue, impacting millions of individuals worldwide. The World Health Organization (WHO) reports a sharp rise in obesity prevalence over recent decades, projecting that by 2025, over 2.3 billion adults will be overweight, with 700

million classified as obese (WHO, 2022). This condition is a significant contributor to various chronic diseases, including type 2 diabetes, cardiovascular disorders, and certain cancers (WHO, 2021). Beyond its physical health implications, obesity also adversely affects mental health and overall quality of life (Lam et al., 2023). In Indonesia, the Ministry of Health (Kemenkes, 2023) highlights that

obesity prevalence among adults has reached 21.8%, underscoring the need for a comprehensive approach to tackle this issue. Additionally, data from the Central Statistics Agency reveals a continuous increase in obesity rates among both adults and children, emphasizing the urgency for effective interventions (Badan Pusat Statistik, 2023).

Self-care plays a crucial role in managing obesity and has become an increasingly popular strategy for addressing this condition. This approach focuses on empowering individuals to make informed decisions to maintain their health and overall well-being (Sunol et al., 2023). The ability to effectively manage diet, engage in regular physical activity, and cope with stress significantly influences successful weight management and the prevention of related complications. However, many individuals struggle to maintain consistent self-care practices due to a lack of knowledge, motivation, and adequate support (Deslippe et al., 2023). Consequently, innovative strategies that enhance understanding and motivation toward self-care are essential for promoting better health outcomes.

Self-care encompasses the actions individuals take to enhance their health and well-being, such as adopting healthier eating habits, increasing physical activity, and managing stress (Sunol et al., 2023). However, many individuals still struggle to consistently implement these self-care practices. As a result, innovative strategies that can capture attention and inspire individuals to adopt behavioral changes are crucial. In this regard, audiovisual media can play a vital role by providing the necessary information, motivation, and social support to encourage greater engagement in self-care activities (Ouchene et al., 2024). Audiovisual media, such as educational videos, applications, and social media platforms, offer creative and interactive ways to communicate health-related messages.

Numerous studies have demonstrated that technology-based methods, such as educational videos, can present information in a more engaging and easily comprehensible format compared to traditional media. Audiovisual media also enhance emotional engagement and motivate patients through effective visual and auditory communication (Sharma et al., 2022). Tools such as educational videos and digital platforms have proven successful in delivering health information and promoting behavior change (Hatfield et al., 2020). Research indicates that the use of audiovisual media can boost understanding and involvement, motivating individuals to adopt positive self-care behaviors (Arif P & Wardaningsih, 2023). In a recent study, Soltani et al., (2023) found that incorporating audiovisual media into obesity intervention programs improved participants' knowledge and skills in weight management, while also reducing the stigma often associated with obesity. By

utilizing audiovisual media, the transformation of self-care for individuals affected by obesity can be achieved in a more engaging and impactful manner. The distribution of audiovisual content has also become easier through online platforms, ensuring broader accessibility.

The transformation of self-care through audiovisual media not only enhances educational outcomes but also fosters long-term behavioral changes. Content that incorporates motivational elements and practical advice can assist individuals in recognizing the significance of self-care, overcoming psychological barriers, and encouraging consistent adoption of a healthy lifestyle. Consequently, audiovisual media holds promise as an innovative method for improving the quality of life of individuals with obesity. However, studies that specifically assess the effectiveness of audiovisual media in transforming obesity self-care are still limited, particularly in Indonesia. Therefore, this study seeks to investigate the transformation of obesity self-care through audiovisual media, with a focus on how this approach can enhance the quality of life of obese individuals. The primary aim of this research is to identify effective communication strategies and evaluate the impact of audiovisual media-based interventions on self-care practices and overall health. Ultimately, this research is expected to contribute significantly to the development of more effective, adaptive health programs and technology-driven obesity management strategies that can be broadly implemented in healthcare settings.

By exploring the role of audiovisual media in promoting self-care, this research aims to offer fresh perspectives on innovative strategies for tackling obesity and enhancing the quality of life for individuals. The study will employ both qualitative and quantitative methods to assess the effectiveness of audiovisual media in self-care practices related to obesity, as well as its impact on individuals' behaviors and attitudes toward their health.

Despite these advancements, there remains a significant gap in the literature, particularly regarding studies that integrate both quantitative and qualitative approaches to examine the comprehensive impact of audiovisual media on obesity self-care, especially in low- to middle-income countries like Indonesia. Most existing studies focus on short-term educational outcomes without exploring the deeper personal experiences of participants or the sustainability of behavior change. This represents a critical gap that this study aims to address.

Therefore, the purpose of this study is to assess the effectiveness of audiovisual media as a self-care intervention for adults with obesity using a mixed-method approach. This study specifically aims to evaluate the impact of audiovisual content on body mass index (BMI), self-care behavior, and quality of life, while also exploring participants' lived experiences and perceived challenges.

By doing so, this research seeks to inform the development of more adaptive, engaging, and culturally relevant health promotion strategies that utilize audiovisual media in the management of obesity.

## Methods

This study uses a quantitative and qualitative approach (mixed-method) to understand the effectiveness of audiovisual media in improving self-care behavior in individuals with obesity. The design used was a quasi-experimental design to measure the effect of audiovisual interventions on changes in self-care behavior. The study also included qualitative phenomenology to explore participants' experiences with audiovisual media. The population in the study was adult individuals (18–45 years) with obesity (BMI  $\geq 30$  kg/m<sup>2</sup>). The sample for the quantitative phase of the study consisted of 100 participants, divided into an intervention group (50 participants) and a control group (50 participants). For the qualitative phase, 10 participants were selected from the intervention group through purposive sampling. For the qualitative phase, purposive sampling was used to select 10 participants from the intervention group, representing variations in age, gender, and occupation. Sampling continued until data saturation was reached that is, when no new themes emerged during the interviews. Saturation was confirmed after the 9th and 10th interviews yielded repetitive insights.

The inclusion criteria required participants to have access to audiovisual media (smartphone or computer) and to be willing to participate in the study for a duration of 8 weeks. Exclusion criteria included participants with severe mental health disorders or those unable to understand the research instructions.

The media used in this study consists of audiovisual content focused on obesity self-care education, including topics such as diet management, physical activity, and

psychosocial support, with each session lasting 5–10 minutes. The content was validated by health experts and communication media specialists. The intervention group had access to the audiovisual media via an online platform for 8 weeks, while the control group received only written educational materials through leaflets. Quantitative measurements were conducted using pre- and post-tests, utilizing the Self-Care Obesity Scale questionnaire and BMI measurements, while qualitative data were collected through in-depth interviews after the intervention. The research instruments included the Self-Care Obesity Scale questionnaire, which has undergone validity and reliability testing. The validity test results showed an  $r$  value  $\geq r$  table ( $0.575 \geq 0.388$ ), confirming the validity of the questionnaire, and the Cronbach's alpha value of 0.77 indicated its reliability. In addition to the Self-Care questionnaire, a standard BMI measuring device and a qualitative interview guide were also used.

The quantitative data analysis involved conducting statistical tests, including a paired  $t$ -test to compare self-care scores before and after the intervention, and an independent  $t$ -test to examine the differences between the intervention and control groups. The qualitative data analysis employed thematic analysis to identify the key themes from the in-depth interviews. This study received ethical approval from the Health Research Ethics Committee of STIKES Kendal (No: 07/KEPK/STIKES-KDL/2024). All participants provided written informed consent before participating.

## Results

### 1. Characteristics Respondent

A total of 100 respondents participated in this study, consisting of an intervention group (50 respondents) and a control group (50 respondents). Respondents' characteristics include age, gender, education level, and employment status.

**Table 1** Characteristics of Quantitative Respondents (n=100)

Characteristic	Intervention Group (n=50)	Control Group (n=50)	p-value
Usia (Mean $\pm$ SD)	34.6 $\pm$ 5.2	35.1 $\pm$ 4.8	0.621
Gender			
- Male (%)	20 (40%)	18 (36%)	0.721
- Female (%)	30 (60%)	32 (64%)	
Education Level			
- Elementary and Junior High School (%)	10 (20%)	12 (24%)	0.641
- SMA (%)	30 (60%)	28 (56%)	
- Higher Education (%)	10 (20%)	10 (20%)	
Employment Status			
- Working (%)	25 (50%)	22 (44%)	0.673
- Not Working (%)	25 (50%)	1 56%)	

Table 1 presents the demographic characteristics of the intervention and control groups. No statistically significant differences were found in age, gender, education level, or employment status ( $p > 0.05$ ), indicating that both groups were comparable prior to the intervention. Overall, the demographic characteristics were balanced across both groups, supporting the validity of outcome comparisons.

## 2. Univariate Results

The main variable measurements included body mass index (BMI), self-care score, and quality of life score before and after the intervention. The participants in both groups were similar in terms of age, gender, education, and employment. This comparability strengthens the attribution of observed changes in self-care, BMI, and quality of life to the intervention rather than demographic differences.

**Table 2** Univariate Results Before and After Intervention in Intervention and Control Groups

Variable	Before the Intervention (Mean $\pm$ SD)	After the Intervention (Mean $\pm$ SD)	$\Delta$ (Change)	p-value
BMI (kg/m <sup>2</sup> ) (Intervention)	32.4 $\pm$ 2.5	30.8 $\pm$ 2.3	-1.6	0.02
IMT (kg/m <sup>2</sup> ) (Check)	31,2 $\pm$ 2,3	31,1 $\pm$ 2,4	-0,1	0.80
Self-Care Score (Intervention)	55.2 $\pm$ 10.4	72.3 $\pm$ 8.5	+17.1	0.001
Self-Care Score (Control)	48,1 $\pm$ 5,5	49,0 $\pm$ 5,7	+0,9	0.35
Quality of Life Score (Intervention)	68.5 $\pm$ 12.2	82.1 $\pm$ 10.3	+13.6	0.04
Quality of Life Score (Control)	58,9 $\pm$ 6,5	60,3 $\pm$ 6,4	+1,4	0.60

The table 2 assumes a t-test to compare changes in each variable between the intervention and control groups. P-values smaller than 0.05 show a statistically significant difference. The interpretation of the results of table 2 is as follows:

- BMI (kg/m<sup>2</sup>) (Intervention): The mean change in BMI ( $\Delta$ \Delta) was -1.6 kg/m<sup>2</sup>, indicating a significant decrease in BMI in the intervention group.
- BMI (kg/m<sup>2</sup>) (Control): The mean change ( $\Delta$ \Delta) BMI was -0.1 kg/m<sup>2</sup>, indicating a very small decrease in BMI in the control group.
- Self-Care Score (Intervention): The mean change ( $\Delta$ \Delta) of Self Care was +17.1, indicating that the intervention succeeded in substantially improving the participants' self-care ability.
- Self-Care Score (Control): The mean change ( $\Delta$ \Delta) of Self Care is +0.9 indicating that although there is a slight change in the self-care score, it may not be significant enough or large enough to indicate a clear effect of an intervention.
- Quality of Life Score (Intervention): The mean change ( $\Delta$ \Delta) of Quality of Life was +13.6, indicating a significant positive change in the quality

of life of the participants who received the intervention.

- Quality of Life Score (Control): The mean change ( $\Delta$ \Delta) of Quality of Life was +1.4 indicating a relatively small change in the quality of life of the control group after the measurement period.

The results of the bivariate analysis indicate that the intervention group experienced significant changes in all tested variables (BMI, self-care score, and quality of life score) compared to the control group. The most substantial changes were observed in self-care scores and quality of life scores, suggesting that audiovisual media-based interventions may have a more pronounced effect on behavior change and quality of life for obese individuals than the control group, which did not receive the intervention.

## 3. Bivariate Results

The relationship between audiovisual media interventions and changes in self-care scores and quality of life was analyzed using *paired t-test* and *independent t-test*.

**Table 3** Results of Bivariate Analysis

Variable	Intervention Group (Mean $\pm$ SD)	Control Group (Mean $\pm$ SD)	p-value
$\Delta$ IMT (kg/m <sup>2</sup> )	-1.6 $\pm$ 0.8	-0.1 $\pm$ 0.6	<0.001
$\Delta$ Skor Self-Care	17.1 $\pm$ 6.3	0.9 $\pm$ 2.2	<0.001
$\Delta$ Quality of Life Score	13.6 $\pm$ 7.1	1.4 $\pm$ 5.3	<0.001

The interpretation of the results of table 3 is as follows:

- Changes in Body Mass Index (BMI): The intervention group demonstrated a significant reduction in BMI in comparison to the control group ( $p<0.001$ ).
- Self-Care: Self-care scores showed a greater increase in the intervention group compared to the control group ( $p<0.001$ ), highlighting the effectiveness of audiovisual media in encouraging self-care behavior.
- Quality of Life: The intervention group showed a significant improvement in quality of life scores

compared to the control group ( $p<0.001$ ), indicating the positive effect of this innovative approach.

- Conclusions: The analysis revealed that interventions based on audiovisual media were significantly more effective in enhancing self-care, improving quality of life, and reducing BMI compared to the control group.

#### 4. Characteristics of Participants in Qualitative Studies

**Table 4** Qualitative Participant Characteristics

Participant Code	Gender	Age (years)	BMI	Work	Duration of Program
P1	Woman	32	34,1	Private employees	3 months
P2	Man	40	35,2	Entrepreneurial	3 months
P3	Woman	27	33,5	Student	3 months
P4	Man	45	36,0	Civil servants	3 months
P5	Woman	38	32,7	Housewives	3 months
P6	Man	50	36,5	Pensioner	3 months
P7	Woman	29	33,9	Freelancer	3 months
P8	Man	35	34,4	Private employees	3 months
P9	Woman	44	35,3	Housewives	3 months
P10	Man	37	34	Entrepreneurial	2 months

#### 5. Main Theme of Qualitative Findings

The phenomenological approach was conducted through in-depth interviews with 10 participants from the intervention group to explore their experiences during the program. The results of the qualitative analysis resulted in several key themes that reflected the participants' experiences.

- Ease of Access to Information through Audiovisual: Participants feel helped to understand the right diet and physical activity.
- Participant Quote: *"Through the video, it is easier for me to understand how to do sports."*
- Motivation from Visualization: Audiovisual media helps increase participant motivation.
- Participant Quote: *"Looking at the examples in the video makes me believe I can too."*
- Consistency Challenge: Some participants admitted to having difficulty maintaining motivation.
- Participant Quote: *"At the beginning I was very excited, but sometimes it was difficult to maintain this pattern every day."*
- Improved Well-Being: Participants reported a positive impact on physical and mental well-being.
- Participant Quote: *"I feel more confident now, even though I haven't lost much weight yet."*

## Discussion

### 1. Characteristics Respondent

This study involved 100 respondents divided into two groups, namely the intervention group and the control group, each consisting of 50 respondents. The demographic characteristics tested in this study include age, gender, education level, and employment status. Based on the results shown in Table 1, there are several things to consider:

- Age: The mean age of the intervention group was 34.6 years with a standard deviation (SD) of 5.2, while the control group had an average age of 35.1 years with an SD of 4.8. The p-value of 0.621 suggests that there is no significant age difference between the two groups. This aligns with findings from other studies, which indicate that age does not significantly impact the effectiveness of media-based interventions in enhancing self-care behaviors (Liu et al., 2023). The similar age distribution between the two groups led the researchers to conclude that the differences in outcomes were likely attributed to the intervention rather than age.
- Gender: The majority of participants in both groups were female, comprising 60% of the intervention group and 64% of the control group. The difference



in the gender distribution between the two groups was not statistically significant ( $p=0.721$ ). Research by (Fidjeland & Øen, 2023) also reported that gender did not affect the outcomes of audiovisual-based interventions in the context of obesity, which suggests that audiovisual media can be effective for different genders.

- c. **Education Level:** The majority of respondents in both groups had completed high school, with 60% in the intervention group and 56% in the control group. The difference in education levels between the two groups was not statistically significant ( $p=0.641$ ). This aligns with findings from Abud et al., (2022), which suggest that education level may have a minimal impact on the outcomes of intervention programs when participants have similar baseline knowledge. In this study, the educational differences between the groups were not substantial enough to influence the intervention's results.
- d. **Employment Status:** In the intervention group, 50% of respondents were employed, while 44% of respondents in the control group were employed. Despite the slight difference in percentages, a  $p$ -value of 0.673 indicated no significant difference between the two groups regarding employment status. Previous studies have suggested that employment status may influence the amount of time available for participation in health programs (Dean et al., 2018). However, in this study, this variable did not significantly affect the intervention outcomes, likely because both groups had a comparable level of access to and commitment to the program.

Overall, there were no significant differences in the demographic characteristics between the intervention and control groups. This indicates that the observed differences in the study's results are unlikely to be influenced by factors such as age, gender, education level, or employment status. In other words, the groups were comparable prior to the intervention, allowing the changes in the primary variables (self-care and quality of life) to be attributed to the effects of the audiovisual media-based interventions.

## 1. Univariate Results

In table 2, univariate analysis was carried out to measure changes in three main variables, namely Body Mass Index (BMI), Self-Care Score, and Quality of Life Score in both groups before and after the intervention.

### a. Body Mass Index (BMI) ( $\text{kg}/\text{m}^2$ )

In the intervention group, there was a statistically significant decrease in BMI of  $-1.6 \text{ kg}/\text{m}^2$  ( $p=0.02$ ), indicating that the intervention succeeded in reducing participants' body weight. This decrease was statistically significant, indicating that participants exposed to

audiovisual content that educated and informed about weight management were able to implement positive changes in their eating habits and physical activity. In contrast, the control group experienced only a very small decrease of  $-0.1 \text{ kg}/\text{m}^2$  ( $p=0.80$ ), indicating that there was no significant change in the control group. A greater decrease in BMI in the intervention group suggests that audiovisual media may have a direct impact on increasing participants' awareness and motivation to implement behavioural changes that support weight loss. These findings are consistent with findings from previous studies that suggest that media-based approaches, including educational videos and interactive content, can amplify the influence of weight loss programs ((Beleigoli et al., 2019); Abud et al., 2022)). Videos and audiovisual media provide easily accessible information and increase participant engagement in obesity management programs.

### b. Self-Care Score

The self-care score in the intervention group experienced a significant increase of 17.1 points ( $p=0.001$ ), indicating that audiovisual media-based interventions were very effective in improving participants' ability to take care of themselves. This signifies that audiovisual media-based interventions provide a broader effect in motivating individuals to take preventive measures and self-care, such as dietary changes and increased physical activity. Meanwhile, the control group only showed a small increase of 0.9 points ( $p=0.35$ ), which was not statistically significant and therefore showed an insignificant change. The significant improvement in self-care scores in the intervention group is consistent with research by (Nagpal et al., 2023) which showed that audiovisual media can provide effective training in improving self-care skills in individuals with obesity. Media such as videos and interactive apps not only provide information, but also allow participants to learn in a more fun and practical way, increasing their success in adopting healthy behaviors.

### c. Quality of Life Score

The increase in quality of life scores in the intervention group by 13.6 points ( $p=0.04$ ) showed that the intervention had a positive effect on the physical and psychological well-being of participants. This improvement in quality of life includes increased energy, mobility, and a reduction in feelings of anxiety and stress related to obesity. In contrast, the control group experienced only a small increase of 1.4 points ( $p=0.60$ ), indicating an insignificant change. This significant improvement in quality of life was also reflected in previous research showing that a media-based approach can help individuals feel more empowered in managing their health, which in turn improves physical and emotional well-being (Hinchliffe et al., 2022). Video and

audiovisual media provide emotional and social support, and help participants feel more connected to their health goals.

These univariate results indicate that audiovisual media-based interventions are effective in improving BMI, self-care scores, and quality of life, especially in the intervention group. This indicates that media-based approaches are not only effective in reducing weight, but also in improving self-care skills and psychological well-being. Thus, audiovisual media can be an effective tool in helping individuals with obesity to manage their condition and improve their overall quality of life.

## 2. Bivariate Results

Bivariate analysis was carried out to test the relationship between variable changes in the intervention and control groups. The results obtained from Table 3 show very significant differences between the two groups for all three variables tested:

### a. Change in Body Mass Index ( $\Delta$ BMI ( $\text{kg}/\text{m}^2$ ))

The decrease in BMI in the intervention group ( $-1.6 \pm 0.8$ ) was significant compared to the control group ( $-0.1 \pm 0.6$ ), with a p-value of  $<0.001$ . This suggests that successful interventions in lowering BMI are more effective compared to the control group. These differences show that audiovisual media-based interventions successfully increase participants' awareness and motivation to adopt habits that support weight loss, such as diet management and physical activity. The significant decrease in BMI in the intervention group is consistent with research by (Li et al., 2020), which suggests that digital media-based interventions can improve the effectiveness of obesity management programs through the provision of in-depth information and visual motivation. Audiovisual media helped participants visualize the positive impact of lifestyle changes, which increased adherence to health programs.

### b. Change in Self-Care Score ( $\Delta$ Self-Care Score)

The intervention group showed a higher improvement in self-care scores ( $17.1 \pm 6.3$ ) compared to the control group ( $0.9 \pm 2.2$ ), with a p-value of  $<0.001$ . This confirms that audiovisual media has a significant impact on improving self-care behavior in participants. These findings show that audiovisual interventions not only educate participants about healthy behaviors, but also empower them to apply them in their daily lives. Audiovisual media provides an interactive and engaging learning experience, making it easier for participants to understand concepts and practice self-care. These findings are in line with research by (Sithole et al., 2023) which showed that interactive digital media has a significant impact on improving self-care behavior in patients with chronic conditions. The use of technology-based media

allows participants to learn independently in an accessible and relevant way.

### c. Change in Quality of Life Score ( $\Delta$ Quality of Life Score)

The improvement in quality of life scores in the intervention group ( $13.6 \pm 7.1$ ) was much higher than that in the control group ( $1.4 \pm 5.3$ ), with a p-value of  $<0.001$ . This suggests that audiovisual media-based interventions can significantly improve quality of life. This shows that in addition to affecting physical aspects, audiovisual media-based interventions also have a significant impact on the psychological and social well-being of participants. Participants feel more motivated and have a more positive perception of themselves, which ultimately improves their quality of life. Previous research by (Cilli et al., 2022) supports these findings, where the use of technology-based media in health programs has been shown to improve the psychosocial aspects of patients' quality of life. Audiovisual media not only provides information, but also creates an emotional experience that supports positive behavior change.

Overall, the results of the bivariate analysis showed that the audiovisual media-based intervention had a significant effect in improving BMI, self-care, and quality of life compared to the control group. These interventions provide innovative approaches that can be used widely to improve the effectiveness of obesity management programs. Audiovisual media not only influenced physical outcomes, but also empowered participants to practice sustainable self-care and improve their overall well-being.

## 3. Qualitative Findings

Thematic analysis followed Braun & Clarke's six-step process. Interview transcripts were coded manually, and similar codes were grouped into categories. Themes were developed through iterative discussions among researchers. Data saturation was achieved when no new codes or themes emerged in the final interviews.

In this study, there are qualitative findings that provide deeper insights into participants' experiences with audiovisual media-based interventions. Some of the main themes found are:

### a. Ease of Access to Information through Audiovisual

Participants found it easier to understand the right diet and physical activity through video, which helped them in undergoing the intervention program. Participants admitted that audiovisual media made it easier for them to understand the steps in living a healthy lifestyle, such as choosing the right food and appropriate physical activity. Videos provide visual and practical guidance that is easier to understand than written or lecture materials. This supports research by (Galmarini et al., 2024), which found that audiovisual media improves

information understanding and retention in health management programs. Audiovisuals allow participants to learn health concepts flexibly and personally according to their needs.

#### b. Motivation from Visualization

Visualization in the form of videos helps increase participants' motivation, by looking at live examples that motivate them to make lifestyle changes. Visualization in the video has a great motivational impact on participants. They feel motivated when they see real examples of other individuals' successes or visualize simple steps to achieve health goals. This motivation is reinforced by research by (Irvin et al., 2023), which shows that visualization in digital media creates emotional connections and increases participants' confidence to make lifestyle changes.

#### c. Consistency Challenges

Despite the high enthusiasm at the beginning, some participants admitted that it was difficult to maintain consistency in running the program, which was a challenge in itself. These challenges are related to external factors, such as a lack of social support, and internal factors, such as time management. This is in line with the findings in the study by (Kaboré et al., 2022), which stated that constraints such as a lack of long-term motivation often arise in technology-based programs, so further interventions or additional support mechanisms are needed to maintain consistency.

#### d. Improving Well-Being

Many participants reported improvements in physical and mental well-being, although weight loss was not always significant. They feel more energetic, optimistic, and able to manage stress better. This shows that lifestyle changes implemented through the intervention have a positive impact on overall health. These findings are supported by research by (Hinchliffe et al., 2022), which shows that digital media-based lifestyle changes not only affect physical outcomes such as weight, but also improve overall psychosocial well-being.

These qualitative results emphasize that the success of audiovisual media-based interventions depends not only on physical outcomes, such as weight loss, but also on participants' experiences in understanding, practicing, and maintaining a healthy lifestyle. To improve the effectiveness of the intervention, this approach needs to be integrated with long-term support, such as periodic reminders, support communities, or follow-up motivational programs that can address consistency challenges.

### Conclusion

Audiovisual media as an innovative approach has been proven to improve self-care behavior, lower BMI, and

improve the quality of life of obese patients. This approach can be integrated into public health programs.

#### Declaration of Conflicting Interest

No conflict of interest to declare.

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#### Author's Contribution

TA and AA contributed to the study's conception and design, data collection, analysis and interpretation, drafted the manuscript, revised it critically for important intellectual content, and approved the final version to be published.

#### Data Availability Statement

The dataset generated and analyzed during the current study is available from the corresponding author upon reasonable request.

#### Declaration of Use of AI in Academic Writing

The author used ChatGPT to improve language clarity and grammar. However, the author is fully responsible for the originality, accuracy, and integrity of the manuscript content.

### References

- Abud, T., Kounidas, G., Martin, K. R., Werth, M., Cooper, K., & Myint, P. K. (2022). Determinants of healthy ageing: a systematic review of contemporary literature. In *Aging Clinical and Experimental Research* (Vol. 34, Issue 6, pp. 1215–1223). Springer Science and Business Media Deutschland GmbH. <https://doi.org/10.1007/s40520-021-02049-w>
- Arif P, S., & Wardaningsih, S. (2023). Effectiveness of audiovisual media to improve mental health knowledge for adolescents: A systematic review. *Jurnal Aisyah : Jurnal Ilmu Kesehatan*, 8(2). <https://doi.org/10.30604/jika.v8i2.2012>
- Badan Pusat Statistik. (2023). Profil Statistik Kesehatan 2023. <https://web-api.bps.go.id/download.php?f=pECFKuFFYlnu2j11HSmlok1uNzl0U0ZaRS9yQnpia3NnQmFsbThMV GxvZ2hkQ2FnN3FOUUhWd29icVpUUnp2K0x1YTF0VWZLYVIRZERrRTNzNFZocC8zNnpIUnY2Uy s5Qzl3VGZiWWRiMVFuREdkbUxsOHZLeVNLTFU0a054MUpVMUFR0VZFTE13UFFhT2R4WnJm dnQ1c3lDRmhRMXhpZnpKdmczQWY2U3U0dVp lVHVWnmt1MWtuaUM1YXorYVvk5cmRPeGR0R FlJSFJHKzhDRndVVHI2SWtPY21UcXBRVmtVRH>



- ZoeCswaTNqZHh3bnlyckVZSnBINXITNU11Sk9OemNVKzIwOU1odGtvNkpSSGM=&\_gl=1\*11zurzv\*\_ga\*NDQyMDQ3NzIxLjE3MzI1MjM2MzZM.\*\_ga\_XXTTVXWHDB\*MTczMjUyMzYzMy4xLjEuMTczMjUyMzY0Ni4wLjAuMA..
- Beleigoli, A. M., Andrade, A. Q., Cançado, A. G., Paulo, M. N. L., Diniz, M. D. F. H., & Ribeiro, A. L. (2019). Web-based digital health interventions for weight loss and lifestyle habit changes in overweight and obese adults: Systematic review and meta-analysis. *Journal of Medical Internet Research*, 21(1). <https://doi.org/10.2196/jmir.9609>
- Cilli, E., Ranieri, J., Guerra, F., Ferri, C., & Di Giacomo, D. (2022). Naturalizing digital and quality of life in chronic diseases: Systematic review to research perspective into technological advancing and personalized medicine. In *Digital Health* (Vol. 8). SAGE Publications Inc. <https://doi.org/10.1177/20552076221144857>
- Dean, E. E., Shogren, K. A., Hagiwara, M., & Wehmeyer, M. L. (2018). How does employment influence health outcomes? A systematic review of the intellectual disability literature. In *Journal of Vocational Rehabilitation* (Vol. 49, Issue 1, pp. 1–13). IOS Press. <https://doi.org/10.3233/JVR-180950>
- Deslippe, A. L., Soanes, A., Bouchaud, C. C., Beckenstein, H., Slim, M., Plourde, H., & Cohen, T. R. (2023). Barriers and facilitators to diet, physical activity and lifestyle behavior intervention adherence: a qualitative systematic review of the literature. In *International Journal of Behavioral Nutrition and Physical Activity* (Vol. 20, Issue 1). BioMed Central Ltd. <https://doi.org/10.1186/s12966-023-01424-2>
- Fidjeland, T. G., & Øen, K. G. (2023). Parents' Experiences Using Digital Health Technologies in Paediatric Overweight and Obesity Support: An Integrative Review. In *International Journal of Environmental Research and Public Health* (Vol. 20, Issue 1). MDPI. <https://doi.org/10.3390/ijerph20010410>
- Galmarini, E., Marciano, L., & Schulz, P. J. (2024). The effectiveness of visual-based interventions on health literacy in health care: a systematic review and meta-analysis. In *BMC Health Services Research* (Vol. 24, Issue 1). BioMed Central Ltd. <https://doi.org/10.1186/s12913-024-11138-1>
- Hatfield, T. G., Withers, T. M., & Greaves, C. J. (2020). Systematic review of the effect of training interventions on the skills of health professionals in promoting health behaviour, with meta-analysis of subsequent effects on patient health behaviours. In *BMC Health Services Research* (Vol. 20, Issue 1). BioMed Central. <https://doi.org/10.1186/s12913-020-05420-1>
- Hinchliffe, N., Capehorn, M. S., Bewick, M., & Feenie, J. (2022). The Potential Role of Digital Health in Obesity Care. In *Advances in Therapy* (Vol. 39, Issue 10, pp. 4397–4412). Adis. <https://doi.org/10.1007/s12325-022-02265-4>
- Irvin, L., Madden, L. A., Marshall, P., & Vince, R. V. (2023). Digital Health Solutions for Weight Loss and Obesity: A Narrative Review. In *Nutrients* (Vol. 15, Issue 8). MDPI. <https://doi.org/10.3390/nu15081858>
- Kaboré, S. S., Ngangue, P., Soubeiga, D., Barro, A., Pilabré, A. H., Bationo, N., Pafadnam, Y., Drabo, K. M., Hien, H., & Savadogo, G. B. L. (2022). Barriers and facilitators for the sustainability of digital health interventions in low and middle-income countries: A systematic review. In *Frontiers in Digital Health* (Vol. 4). Frontiers Media S.A. <https://doi.org/10.3389/fdgh.2022.1014375>
- Kemenkes. (2023). Kurang Aktivitas Fisik Sebabkan Obesitas. <https://Sehatnegeriku.Kemkes.Go.Id/Baca/Rilis-Media/20230712/2043493/Kurang-Aktivitas-Fisik-Sebabkan-Obesitas/>.
- Lam, B. C. C., Lim, A. Y. L., Chan, S. L., Yum, M. P. S., Koh, N. S. Y., & Finkelstein, E. A. (2023). The impact of obesity: a narrative review. In *Singapore medical journal* (Vol. 64, Issue 3, pp. 163–171). NLM (Medline). <https://doi.org/10.4103/singaporemedj.SMJ-2022-232>
- Li, Y., Xie, X., Lei, X., Li, Y., & Lei, X. (2020). Global prevalence of obesity, overweight and underweight in children, adolescents and adults with autism spectrum disorder, attention-deficit hyperactivity disorder: A systematic review and meta-analysis. *Obesity Reviews*, 21(12). <https://doi.org/10.1111/obr.13123>
- Liu, S., Zhang, Y., Liu, H., & Yan, C. (2023). The Impact of Higher Education on Health Behavior during the COVID-19 Pandemic: Evidence from China. *Sustainability* (Switzerland), 15(24). <https://doi.org/10.3390/su152416644>
- Nagpal, T. S., Pearce, N., Sockalingam, S., Hawa, R., Dhaliwal, K. K., Lee-Baggley, D., El-Hussein, M.,

- Nutter, S., Piccinini-Vallis, H., Vallis, M., Dennett, L., Forhan, M., Hadjiyanakkis, S., Kushner, R. F., McMillan, M., Wharton, S., Wiljer, D., & Abraham, J. R. (2023). A scoping review of obesity education interventions for current and prospective medical professionals in Canada. In *Obesity Pillars* (Vol. 8). Elsevier B.V. <https://doi.org/10.1016/j.obpill.2023.100085>
- Ouchene, D., Boussalah, H., & Ziane, K. (2024). Role of the Media in Health Awareness. *International Journal of Health Sciences*, 8(S1), 477–482. <https://doi.org/10.53730/ijhs.v8ns1.14808>
- Sharma, S., Mohanty, V., Balappanavar, A. Y., Chahar, P., & Rijhwani, K. (2022). Role of Digital Media in Promoting Oral Health: A Systematic Review. *Cureus*. <https://doi.org/10.7759/cureus.28893>
- Sithole, B. R., Pappas, Y., & Randhawa, G. (2023). eHealth in obesity care. *Clinical Medicine, Journal of the Royal College of Physicians of London*, 23(4), 347–352. <https://doi.org/10.7861/clinmed.2023-0145>
- Soltani, S., Jayedi, A., Abdollahi, S., Vasmehjani, A. A., Meshkini, F., & Shab-Bidar, S. (2023). Effect of carbohydrate restriction on body weight in overweight and obese adults: a systematic review and dose-response meta-analysis of 110 randomized controlled trials. In *Frontiers in Nutrition* (Vol. 10). Frontiers Media SA. <https://doi.org/10.3389/fnut.2023.1287987>
- Sunol, R., González-González, A. I., Valli, C., Ballester, M., Seils, L., Heijmans, M., Poortvliet, R., van der Gaag, M., Rocha, C., León-García, M., Salas-Gama, K., de Guzman, E. N., Kaloteraki, C., Santero, M., Spoiala, C., Gurung, P., Moaddine, S., Wilemen, F., Cools, I., ... Orrego, C. (2023). Self-management interventions for adults living with obesity to improve patient-relevant outcomes: An evidence map. *Patient Education and Counseling*, 110. <https://doi.org/10.1016/j.pec.2023.107647>
- WHO. (2022, March 1). Obesity and overweight. <https://www.who.int/news-room/fact-sheets/detail/obesity-and-overweight>.
- World Health Organization (WHO). (2021). Obesity and overweight factsheet. <https://www.who.int>