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ORIGINAL ARTICLE

Applying the Healthy Lifestyle Education and Management on Resilience and Health with Emphasis on Overweight

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EXTENDED A B S T R A C T

Introduction

Obesity and overweight have emerged as some of the most urgent health challenges of our time, sweeping across both developing countries like Iran and industrialized nations at an alarming rate. The modern era-shaped by urbanization, widespread access to high-calorie convenience foods, and increasingly sedentary lifestyles-provides a perfect storm for this epidemic to thrive. In medical terms, obesity involves excessive accumulation of body fat, usually defined as a body mass index (BMI) above 30. People dealing with overweight or obesity often pursue various means of weight reduction, sometimes resorting to unsafe and extreme approaches with serious consequences. The impact of obesity is broad, detrimentally influencing both physical health and emotional, psychological, and social well-being.

The World Health Organization emphasizes that health encompasses a complete state of physical, mental, and social well-being. Within this multidimensional framework, the concept of "health hardiness" has attracted attention among researchers focusing on overweight populations. Health hardiness, a psychological trait, comprises three core elements: commitment, control, and challenge. Individuals with higher hardiness tend to view obstacles more positively, cope better with setbacks, and reinterpret health threats as opportunities for personal growth. For those grappling with excess weight, strengthening psychological resilience may be as central to health outcomes as physical interventions themselves.

Obesity arises from a multifaceted interplay of genetic, economic, social, cultural, behavioral, and environmental factors. Rapid changes in lifestyle, particularly the shift from traditional dietary patterns to modern, calorie-dense diets, alongside reduced physical activity, have further aggravated the problem. As such, educational interventions-focusing on nutrition, regular exercise, stress management, and sustained behavioral modification—are now widely recognized as effective, sustainable routes to disease prevention and health promotion. Encouraging positive lifestyle change has thus become foundational to public health, enhancing self-care practices and supporting better quality of life.

Today, industrialized living and urbanization have fundamentally changed the way people live, leading to reduced physical activity and increased consumption of highly processed, fatty foods. The World Health Organization's 2014 report sketched a global portrait: 39% of adults aged 18 and above were overweight, and 13% were classified as obese. The urgency to raise public awareness and intervene early is therefore undeniable. Early lifestyle modification-including improved diet, increased physical activity, and stress management—is crucial to halting the negative spiral. Instead, many turn to single-food diets, medications, or extreme regimens-none of which offer sustainable solutions. For all these reasons, the importance of promoting healthy lifestyle management, with a particular focus on weight control, has never been clearer.

Mothodology

The aim of this study was to evaluate applying the healthy lifestyle education, alongside structured management, on health hardiness and BMI among overweight adults. Conducted as a quantitative, semi-experimental study, it employed a pretest-posttest design with a control group. Participants were overweight residents of Pakdasht city, selected purposefully and then randomly assigned to either the intervention or control group, each composed of 20 individuals. Criteria for inclusion were being an adult, meeting a threshold of psychological health, and not participating in simultaneous treatments that could confound results. The intervention entailed ten 90-minute group sessions focused on all aspects of healthy living: balanced nutrition, regular exercise (particularly walking), proper sleep, optimal mental and spiritual health, social skills, and time management. Sessions sought to build psychological resilience and improve health outcomes. The control group received no intervention.

Data were collected using two main instruments. The first was the Health Hardiness Inventory, a validated, 24-item Likert scale questionnaire measuring levels of health hardiness (score range: 24–120; higher scores = greater hardiness). Prior research has confirmed its reliability for Iranian populations. Second, participants' weights were measured with calibrated digital scales, and BMI was calculated as weight in kilograms divided by the square of height in meters. Measurements and surveys took place before and after the intervention. Statistical analysis was performed using SPSS version 24, utilizing descriptive and inferential statistics, including multivariate analysis of covariance (MANCOVA), to test for intervention effects and control for confounding factors.

Findings

This study enrolled 40 adults evenly split between experimental and control groups; both groups reflected a balance of men and women, as well as diversity in age and educational attainment. Descriptive analyses revealed clear improvements in both BMI and health hardiness scores among those receiving the intervention. In the experimental group, average BMI declined from 27.3 at pretest to 22.2 post-intervention; the control group showed almost no change (27.5 to 27.4). Similarly, within the experimental group, dimensions of health hardiness improved significantly—perceived health value increased from 15.9 to 19.7, internal health locus of control from 14.05 to 19.2, and perceived health competence from 18.6 to 21.5. Notably, external health locus of control dropped from 22.7 to 16.8, suggesting increased empowerment and self-agency among these participants. The control group, in contrast, displayed negligible changes across all variables.

Assumptions for MANCOVA were satisfied: data were normally distributed, skewness and kurtosis were within acceptable ranges, and homogeneity of variances was verified. MANCOVA results demonstrated a large, statistically significant overall treatment effect (Wilks' Lambda = 0.092, $F = 44.276$, $p < 0.001$, partial eta squared = 0.708): over 70% of the change in posttest variables was attributable to the intervention. Both reductions in BMI ($\eta^2 = 0.626$) and improvements in health hardiness ($\eta^2 \approx 0.45$) were statistically and clinically meaningful.

Discussion and Conclusion

Findings highlight the power of comprehensive, multi-component interventions for overweight adults. By embedding educational strategies regarding nutrition, accessible physical activity, stress management, and time organization within a supportive group setting, significant and sustained gains were achieved in both physical and psychological health parameters. The observed effect sizes indicate not only statistical significance but also real-world, tangible benefits, with many experimental participants moving from overweight to healthy BMI ranges and experiencing strengthened adaptive capacity and resilience.

These results resonate with those of national and international studies. Evidence from various interventions—ranging from educational campaigns in schools and workplaces to community-led walking groups and family-focused programs—consistently demonstrates the effectiveness of multi-pronged lifestyle education. For example, school-based interventions involving improved cafeteria options, curricular activities, active parental participation, and visible environmental cues have led to reductions in obesity trends and raised awareness about preventive health. The positive outcomes are especially apparent for subgroups at higher risk, including girls, older youth, and those with lower socioeconomic status.

In Iran, efforts that increase mothers' health literacy or improve children's home environments have translated to more effective parental behaviors and reduced childhood obesity. Across all contexts, effective programs share common features: culturally relevant content, community engagement, and consistent, accessible delivery of resources and support. International research echoes these prerequisites, underscoring the necessity for integrated, bottom-up solutions to the obesity crisis.

One of the striking themes emerging from these efforts is the transformative impact of small, manageable lifestyle modifications. Incorporating moderate, daily exercise (such as walking), making mindful dietary choices, prioritizing sleep, and managing stress collectively contribute to

profound improvements in long-term health and well-being. These incremental changes are considerably more sustainable than extreme regimens and more compatible with most people's daily lives.

Walking, in particular, stands out as a uniquely accessible and powerful form of exercise. Its versatility across age groups and fitness levels, low cost, and strong evidence base for enhancing cardiovascular health, weight management, and psychological well-being make it a foundational recommendation. Studies corroborate its role in improving outcomes for pregnant women, adults, and seniors alike. As societal infrastructure and policies evolve, a concerted effort to create inviting, safe walking environments should be seen as an essential public health investment.

Overall, this study provides strong support for applying the healthy lifestyle education and structured management programs, particularly when paired with accessible activities such as walking, in enhancing both physical and psychological well-being for overweight adults. The results highlight the potential for such interventions to be incorporated into community health outreach, school programs, and workplace wellness initiatives. Developing culturally sensitive educational materials, promoting regular physical activity and sound nutrition, and teaching coping strategies for stress and sleep management should be key components of health promotion efforts. Ensuring the accessibility and relevance of resources for various populations and strengthening community infrastructure to encourage physical activity are also essential. Family involvement and social support emerged as crucial factors, amplifying the adoption and maintenance of healthy habits. Encouraging individuals' psychological resilience and sense of self-efficacy can enhance the sustainability of outcomes. Moreover, collaborative efforts between policymakers, health authorities, educational institutions, and community organizations are necessary to design, implement, and sustain these comprehensive interventions. Regular assessment and adaptation of strategies, based on feedback and emerging scientific evidence, will help ensure that these initiatives remain effective and responsive to changing needs. This multifaceted, integrative approach has the capacity to significantly reduce the prevalence and impact of overweight and obesity, foster self-care and resilience, and ultimately raise the quality of life at both the individual and societal levels.

K E Y W O R D S
Healthy Lifestyle Education And Management, Hard Work, Health, Weight Gain.