

The High Obesity Program on Weight for Adults: Integrative Review

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Abstract

Introduction: This integrative review is a call to action for all responsible stakeholders to consider implementing an evidence-based intervention to mitigate adult obesity. This review explored the High Obesity Program intervention to address obesity among adults. The scope of this practice problem is as extensive as its negative impact at the individual, local, national, and global levels. Obesity generates an evident burden on global health, well-being, and economies.

Research Methodology: This scholarly work started in the year 2021 and included 17 research articles published from 2018 and 2021 and from the highest level of evidence to analyze the impact of the intervention. The search strategy of this review was extensive; it included data collection of quantitative and qualitative research using key terms such as Obesity, Adults, and the High Obesity Program.

Results and Discussion: The common themes identified in the research evidence suggest that the High Obesity Program has shown statistical significance in decreasing body weight, successful outcomes among adults, vast implications for public health and future health programs, and consistency of all results across diverse individuals. There were no conflicting or contrary results between this review and the practice question.

Conclusions and Further Recommendations: This review concluded that the intervention not only positively impacts weight among adults with obesity but also improves the health and well-being of the entire population. This intervention positively impacts public health at many different levels.

Keywords: High Obesity Program, community support, nursing, public health

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The High Obesity Program on Weight for Adults: Integrative Review

Obesity is an international practice problem with escalating adverse effects at many levels. The clinical issue of adult obesity possesses daunting consequences on the health, well-being, and economy of the entire population worldwide (Centers for Disease Control and Prevention [CDC], 2018, 2021; The U.S. Burden of Disease Collaborators, 2018). This integrative review concerns the High Obesity Program (HOP) intervention nationally endorsed by the CDC and remarkably effective in improving healthcare outcomes regarding safety, quality, cost, timeliness, effectiveness, and person-centered care.

Adult obesity is not only an international practice problem but an issue of particular concern in most counties of the United States. This review included recent statistics from one specific county in the country to exemplify the impact of adult obesity at the local level. Brevard County, Florida, is among one the counties in the country needing immediate attention to the public health issue of adult obesity, considering its spiking rates among this specific population (Florida Department of Health in Brevard, 2019). There is clear consensus worldwide from research and non-research evidence surrounding the effectiveness of the bundle intervention that combines a healthy diet with moderate exercise as recommended by the CDC in addressing obesity (Arnotti & Bamber, 2020; Borek et al., 2018; CDC, 2018, 2021; Cleo et al., 2019; Hsu et al., 2019; Jones et al., 2021; Kahin et al., 2020; Lindsay et al., 2018; McRobbie et al., 2019; Nepper et al., 2021; Shams-White et al., 2020; Viester et al., 2018). This integrative review aimed to explore the impact of the HOP among the adult population through quantitative and qualitative recent research evidence. The sections of this review are methodology, results and discussion, and conclusions and further recommendations.

Problem Statement

Obesity across the lifespan is undoubtedly a global clinical practice issue. This condition has multiple adverse effects on the health and well-being of the entire population worldwide, with vast significance at the international, national, and local levels (Dai et al., 2020). Obesity is a persistent disease with alarming and steadily increasing rates worldwide, especially among adults (Arnotti & Bamber, 2020; CDC, 2018, 2021). The following practice question served as the basis for this integrative review: For adults with obesity in a community center, what is the impact of implementing the Centers for Disease Control and Prevention's High Obesity Program, compared to current practice, on weight in 8 to 10 weeks?

Significance of the Practice Problem

Global data collected between 1990 and 2017 showed that obesity has escalating significance, economic effects, and public health concerns. A recent statistical analysis highlighted that 39% of the worldwide adult population is overweight or obese, and the mortality rate is hard to estimate with exactitude considering the links with other chronic conditions (Dai et al., 2020; The U.S. Burden of Disease Collaborators, 2018). The global impact of the prevalence of adult obesity and its healthcare cost is perturbing. Dai et al. (2020) highlight that the rates of obesity in over 70 countries have doubled in recent years while causing four million deaths worldwide and an exponential monetary cost. The global impact of adult obesity on nurses, healthcare organizations, and society's quality of care is also vastly negative. Adult obesity impacts patients, healthcare institutions, law-making entities, and frontline personnel such as nurses and nursing staff. Frontline personnel are often overwhelmed and stretched trying to help multiple patients with obesity and associated conditions and comorbidities (Dai et al., 2020). Mitigating obesity is the responsibility of all individuals in each society. Like this global

significance, the clinical practice problem of obesity negatively impacts the community at the national and local levels.

At the national level, the incidence, prevalence, mortality, and disability rates of adult obesity in the United States are daunting. According to the CDC (2021), one in every three adults is currently obese, with an escalating prevalence in most states and spiking mortality and disability rates conducive to an economic burden of over \$140 billion annually. Like the global impact of obesity among nurses and all responsible stakeholders, there is a substantial impact of adult obesity at the national level that is hard to measure in isolation considering the links of this clinical condition with other chronic conditions such as cardiovascular disease and diabetes (CDC, 2021). The adverse effects of obesity, such as healthcare costs, disability, and susceptibility to other chronic conditions, impact not only the entire healthcare team of the nation but also the whole population either directly or indirectly by decreasing the quality of life and increasing the susceptibility to other chronic conditions (CDC, 2021). Unfortunately, the scenario does not look any better from a local perspective.

At the local level, the prevalence of adult obesity in Brevard County in Florida is as problematic as at the national and global levels. It represents a clear example of the common problem across all country states. The Florida Department of Health in Brevard (2019) reported that 68.8% of its population is overweight, and an alarming 33.3% of the adult population is obese, surpassing the benchmarks of obesity for Florida and the nation. It is evident that Brevard, like most other geographical locations nationwide and worldwide, needs immediate attention toward mitigating obesity while improving the health and well-being of its community members. Many community centers across the country currently face the harmful effects of obesity among their adult participants. To achieve a healthy weight, offering community support to adults of all

backgrounds and races is imperative. The impact of this public health issue on local nurses and the quality of life among the population is like the national and global effects. This condition affects all responsible stakeholders, society, and policy in general while preventing obese individuals and the entire community from living healthy lives obesity. It is vital to perform integrative reviews of the current research evidence and develop change advocacy projects in all communities conducive to educating the adult population about healthier choices that can impact their body weight. This integrative review focused on exploring the impact of the CDC's HOP on adults ages 18 and older to positively impact nursing and health care through disseminating all findings.

Translational Science Framework

The integrated-Promoting Action on Research Implementation in Health Services (i-PARIHS) Model is the translational science model that guided this integrative review. According to Cao et al. (2022) and Qin et al. (2020), the i-PARIHS added integration and innovation components to the previous framework's initial phases, ensuring a more robust tool for translating research evidence into practice. This model's main concepts and steps are facilitation, innovation, recipients, and context (Qin et al., 2020). All this integrative review aligned with those four main theoretical concepts of the i-PARIHS and ensured the focus on facilitation as the active element of the process. Accordingly, the steps of this review included an inter-professional partnership with facilitation, innovation within the limits of recent evidence-based research, careful analysis of all affected and responsible parties, and context surrounding the community and its needs. This translation science served as the framework for the integrative review of the CDC's HOP. The i-PARIHS steps facilitated the appraising of evidence and translating that evidence into practice. This i-PARIHS multidimensional framework effectively

assists in implementing healthcare projects and facilitates review and quality processes related to best practices, innovation, change, and improvement (Qin et al., 2020). This review employed all components of the i-PARIHS framework to conduct the scholarly integrative review concerning the CDC's HOP. It successfully concluded the impact of this EBP intervention, as comprehensively explained in the following sections. There is a clear linkage between the components of the i-PARIHS framework and all the elements of the clinical problem of adult obesity and the CDC's HOP intervention. Indeed, the steps of this framework effectively guide all processes related to innovation and improvement of services while promoting active participation and best practices at all levels.

Methodology

This section provides a detailed description of the process for this comprehensive review. There was an extensive analysis to achieve this scholarly review of evidence. This methodology includes review protocol, inclusion and exclusion criteria, and data analysis.

Review Protocol

This integrative review included the best search strategies while carefully following all the recommendations of the best research evidence. The search strategy started in 2021 with a broad search in the search everything tab of academic online libraries to include all the available databases without making any exclusions. This review included the following initial search terms: Obesity AND Adults AND "Centers for Disease Control and Prevention" AND "High Obesity Program." This review had a refined search by selecting the peer-reviewed journal articles tab and changing the date range to 2018 to 2021 inside the electronic library to ensure the selection of only the best and most recent research evidence available. Additionally, this review included new critical terms to the search to assist in locating levels I, II, and III of research

evidence while staying away from gray literature and other non-scholarly sources for this review. Some new terms included: "Randomized-Control Trials," "Meta-analyses," OR Qualitative. From this initial search, only a couple of high-evidence studies emerged. This new advance motivated the author to examine additional databases such as ProQuest, Directory of Open Access Journals, EBSCOhost, and PubMed Central. The author located the initial 10 high-level research articles inside the databases supporting the EBP intervention while including the same population and outcome as the practice question that preceded the integrative review. Four of these 10 articles emerged from the ProQuest database, three from the Directory of Open Access Journals, one from the EBSCOhost, and two from PubMed Central.

To continue this integrative review, the author intended to find at least five additional original research studies or systematic reviews with meta-analyses to comply with the institution's requirements. For this, a new search started. To find the best and latest evidence regarding the intervention while ensuring the similarity of all pieces of the practice question with all research studies, the author abided by the best research evidence and scholarly literature. As a result of this last search, there were seven new articles to add to the integrative review, all emerging from the official CDC database: Preventing Chronic Disease. The initial search terms were: Obesity AND Adults AND "Centers for Disease Control and Prevention" AND "High Obesity Program" and added NOT Children. This search ended with the excellent last seven original articles for the review, all published and sponsored by the CDC and with favorable outcomes like those of the initial studies and meta-analysis of the first 10 articles. The CDC's last seven original research articles on the CDC's HOP include four quasi-experimental level II, one qualitative level III, one mixed-studies level III, and one non-experimental descriptive design III. Throughout this review protocol and search refinement, there was an explicit criterion for

inclusion and exclusion of evidence necessary to ensure only the best evidence to support all claims of this integrative review.

Inclusion/Exclusion Criteria

This integrative review's inclusion and exclusion criterion section followed all indications of EBP practice around research evidence and advanced-practice nursing. The inclusion criterion consisted of original research articles, either quantitative or qualitative designs, and from the first three research levels of proof only. For this part of the review, the author appraised only peer-reviewed journal articles on human subjects from well-known databases. The author used the Johns Hopkins Nursing Evidence-Based Practice Individual Evidence Summary (JHEBP) tool while ensuring that all pieces of the practice question aligned with those pieces of research of all articles in the English language (see Appendix).

The exclusion criterion followed the same guidelines as the inclusion while ensuring the selection of only the best evidence. For this, there was an exclusion of all research articles outside the years from 2018 to 2021, articles outside the first three levels of evidence and clinical practice guidelines. There was also the exclusion of all research articles related to the CDC's HOP, including those other than the adult population, gray literature, and non-English language. In this regard, all original studies, systematic reviews about children or adolescents, and duplicated studies did not qualify for this integrative review.

The specific selection approach for this integrative review followed all the requirements of best research evidence. This review is a precise scholarly work integrating the best evidence and research support to analyze the effects of the CDC's HOP. The selection of evidence sources from this review followed strict scrutiny for this inclusion and exclusion criterion for the data analysis from all 17 research articles in this integrative review.

Data Analysis

The data analysis for this integrative review consisted of careful and meaningful electronic and color-coded extraction of similar findings while grouping all common themes and appraising all the key concepts from the articles constituting the supporting evidence. The author extracted all data from the sources contained in this integrative review using the JHEBP tool and sought commonalities. The author created a synthesis feasible for a scholarly integrative review based on four common themes aligned with the first three levels of evidence.

The author handled the results from all 17 research studies with the scientific and professional approach of an advanced-practice nurse seeking evidence to support all claims regarding the need to implement the CDC's HOP to mitigate obesity at the community level. For this approach, there was a combination of related themes from similar levels of research evidence to provide a clear review of the information from all evidence in this review.

There was a comprehensive analysis of all quantitative and qualitative research sources while providing a clear justification of the analytic methods and their appropriateness as part of the educational process to elaborate a concise review. First, the author appraised all evidence with the JHEBP tool. Second, the author analyzed all common themes from the evidence and grouped them into categories and levels of evidence to facilitate the synthesis and scholarly integrative review. Lastly, the author elaborated on this work, disseminating the information regarding all findings for the integrative review concerning the CDC's HOP.

In past years, the CDC's Division of Nutrition, Physical Activity, and Obesity and the U.S. Department of Agriculture's Cooperative Extension Services (CES) launched the initial HOP as a pilot program. This program offers concise guidelines to combat obesity with simple education and guidance regarding healthy habits on eating and moving that do not include the

suggestions of any commercial weight loss programs. The simple and straightforward three steps of the HOP are (a) provide education and support regarding available resources, (b) encourage healthy foods and drinks, and (c) encourage physical movement according to everyone's age and overall condition (CDC, 2018; Kahin et al., 2020). Between 2014 and 2018, the HOP added more resources to the initial program while continuing to use the knowledge and relationships of CES and communities to improve the nutrition and physical activity environments in multiple communities while ensuring evidence-based support and positive outcomes concerning weight reduction and healthier lifestyles (CDC, 2018; Kahin et al., 2020). Indeed, the HOP highlights the need to include more fruits and vegetables and moderate exercise according to the age and medical condition of the individual while encouraging behavioral changes conducive to healthier living. The following are the results of this extensive review regarding this EBP intervention supported by the CDC.

Results and Discussion

Conclusive results emerged from this integrative review. This section provides a concise description of evaluating the quality of all research evidence and all findings. This portion discusses the characterization of the body of literature and the synthesis of the results.

Characterization of the Body of Literature

The characterization of the body of literature for this integrative review consisted of the scholarly appraisal and inspection of the quality of all sources selected for this work using the JHEBP tool and the knowledge and experience from postgraduate education and the advanced-practice nursing role. The number of sources eliminated throughout this process is countless. The author discarded numerous research studies that were not feasible for this review because they were not exclusively on the CDC's HOP intervention or needed to follow the inclusion criterion.

These pieces of evidence included 17 research articles from the first three levels of evidence, including original single studies and meta-analyses. The various types of journals reviewed included the CDC's database: Preventing Chronic Disease, ProQuest, Directory of Open Access Journals, EBSCOhost, and PubMed Central. The methods used by the author for this review included following all guidelines and recommendations of best evidence while abiding by the best research evidence and using the JHEBP tool to appraise EBP evidence.

The strengths and weaknesses of the sources from this review are various. Some of the positive aspects of the evidence constituting the JHEBP tool and the review are that they are all high-level evidence and emerge from the first three levels of research evidence and high-quality studies. Additional strengths from the evidence sources are that they all have the same EBP intervention and similar populations and outcomes.

Some of the limitations of the research evidence supporting this integrative review include the need for more evidence after the intervention phase to evaluate the duration of the results (Cleo et al., 2019; Hsu et al., 2019), the possible presence of bias in some studies (Arnotti & Bamber, 2020; Jones et al., 2021; Nepper et al., 2021), and the absence of resources to perform more comprehensive studies (Carter et al., 2019). In addition, some studies have self-reported outcomes that could impede the accurate measurement of the results (Nepper et al., 2021; Viester et al., 2018).

The sources eliminated from this integrative review included all those studies presenting only some pieces from the inclusive criteria. All articles older than five years old, without adults as a population, without the same CDC's HOP intervention, or with poor results did not become part of this review. Also, research articles with evidence levels outside the first three levels did

not become part of this review either. To ensure the high quality of this review, the author strictly followed the best evidence regarding integrative studies and synthesis of evidence.

The HOP is an evidence-based bundle intervention comprised of a healthy diet and exercise endorsed nationally by the CDC (CDC, 2018; Jones et al., 2021; Kahin et al., 2020). The 17 research articles constituting this evidence are all high quality and directly connected to the CDC program. All studies included the adult population, ages 18 and older, from multiple countries and backgrounds. The studies employed the same bundle intervention and steps endorsed by the CDC while abiding by healthy habits and not following any fad or commercial diets or programs. The same components of the CDC's HOP are intrinsic to all the studies. Six of these articles are level I evidence emerging from three randomized control trials (RCTs) and three systematic reviews with meta-analysis. Five articles are quasi-experimental design level II. Six articles are level III evidence from two mixed studies, three qualitative designs, and one non-experimental descriptive study. The following synthesis comprises the latest evidence-based practice illustrating the substantial effects of the exact CDC intervention, with or without national patronage, on body weight reduction exclusively for the adult population (See Appendix).

Findings Synthesis

The following is a thematic analysis of the latest literature. This integrative review included research evidence from the highest research evidence levels (I, II, and III). The author included various quantitative and qualitative single studies in addition to systematic reviews with meta-analyses from the last five years to provide a substantial integrative review that effectively analyses and concludes the impact of the CDC's HOP intervention among the adult population.

Accordingly, the evidence emerging from the 17 research articles, primary studies, and meta-analyses strongly suggests the effectiveness of this EBP intervention.

The four main common themes from extensive experimental studies on the adult population are, first: the positive impact of combining a healthy diet with moderate exercise to decrease body weight (Cleo et al., 2019; McRobbie et al., 2019; Nepper et al., 2021; Viester et al., 2018). Second, the success of this bundle intervention among the adult population (Arnotti & Bamber, 2020; Borek et al., 2018; Hsu et al., 2019). Third, the significance of the implications for public health nationwide and future healthy programs (Gustafson et al., 2019; Kendall et al., 2019; Powers et al., 2019; Stluka et al., 2019). Fourth, the consistency of benefits across diverse participants (Castillo et al., 2019; Carter et al., 2019; Jones et al., 2021; Lindsay et al., 2018; Shams-White et al., 2020; Wallace et al., 2019). The author joined all common themes from the research evidence of this review into groups under their respective level of evidence, considering the similarities of the results and the consistency of those results across different studies of the same level of proof, either group I, II, or III of research support.

The Success of the High Obesity Program in Reducing Body Weight

Four single quantitative studies with the adult population from different settings and races support the first theme regarding the success of the intervention in reducing body weight. Recent experimental studies showed the statistical significance of the diet-exercise bundle intervention on weight (Cleo et al., 2019; McRobbie et al., 2019; Nepper et al., 2021; Viester et al., 2018). These original quantitative designs determined that habit-based interventions, including diet along with physical activity as recommended by the CDC, are beneficial in weight loss in the short and long term while adding the benefits of behavioral changes among participants of the studies concerning healthy living (Cleo et al., 2019; McRobbie et al., 2019; Nepper et al., 2021;

Viester et al., 2018). These original single studies followed similar research protocols that included control groups, randomization of the sample, power analysis to determine the study size, and well-known statistical analysis supporting the statistical significance behind their *p-values*. The evidence-based bundle intervention combining diet and exercise showed statistical importance in weight loss among adults of different races and backgrounds (Arnotti & Bamber, 2020; Borek et al., 2018; Cleo et al., 2019; Hsu et al., 2019; McRobbie et al., 2019; Nepper et al., 2021; Shams-White et al., 2020; Viester et al., 2018). The researchers of this original study completed statistical analysis to compare the pre- and post-intervention data, and all have significant results. Additionally, an attendance list evaluated the participants' compliance as a formative assessment of the studies suggesting the compliance and effectiveness of this EBP intervention.

Consistent Results of the High Obesity program Among Adults

An extensive quantitative consensus is emerging from three systematic reviews, with meta-analysis in this review suggesting that the intervention has consistent results among the adult population. Arnotti and Bamber (2020), Borek et al. (2018), and Hsu et al. (2019) highlight through meta-analyses the consistency of the positive results supporting this second common theme. Indeed, evidence emerging from level one research suggests the effectiveness and persistency of the benefits of the intervention among the adult population. These systematic reviews with meta-analysis included a clear introduction with a brief background followed by the search strategy and the clear and concise results emerging from the meta-analyses of all results from randomized-control studies in recent years. All information from these meta-analyses added the statistical results from quantitative designs supporting the statistical significance of the EBP intervention. These meta-analyses evaluated the impact of diet and exercise on weight-related

metrics, body composition, and performance of adult participants with obesity. They presented new statistics based on the careful calculations of several randomized-control trials using fixed or random-effects methods to support their conclusions. Some of the common findings of this systematic review with meta-analysis included that physical activity is vital to improve the body's composition while a healthy diet decreases fat mass. These meta-analyses highlighted the positive outcomes of the intervention for diverse participants with obesity.

Positive Implications of the High Obesity Program for Public Health

Four level II quasi-experimental studies published directly by the CDC in 2019 vastly supported the significant implications for public health nationwide and future health programs of the CDC's HOP. There is an evident need to educate all communities on more nutritious choices, like those recommended by the CDC, while facilitating healthier eating and exercise since this EBP intervention has suggested positive outcomes in the health and overall wellness of the entire population that implement these nutritional recommendations (Gustafson et al., 2019; Kendall et al., 2019; Powers et al., 2019; Stluka et al., 2019). The common aim of these four level II studies from the CDC was to explore the impact of the CDC's HOP concerning healthy eating and physical activity as the foundation of community-based nutritional programs. Their findings were consistent with the report of healthier communities with improved choices regarding diet and exercise. Participants from these CDC studies reported healthier lifestyles, including healthier eating and enhanced daily physical activity.

Consistency of the Results Among Diverse Individuals

With level III qualitative analysis that included holistic and empathetic interviews, focus groups, and surveys, six recent research studies support the fourth theme related to the consistency of results among diverse participants while emphasizing the benefits of the

intervention. Subsidiary positive effects of the intervention include empowerment, healthier behaviors, improved quality of life, and more motivation for weight loss (Castillo et al., 2019; Carter et al., 2019; Jones et al., 2021; Lindsay et al., 2018; Shams-White et al., 2020; Wallace et al., 2019). Most participants from these qualitative studies agreed that diet, exercise, and positive behaviors assist in the improvement of healthy living. Similarly, participants verbalized the need for community programs that support such healthy behaviors. Lastly, most participants agreed that several limitations in their environments impede daily physical activity and healthy eating as recommended by the CDC, which generates an undeniable need for more community projects based on the CDC's recommendations.

In contrast, despite the nationally endorsed guidelines and recommendations in the United States, Americans, like other populations, still need to make healthier choices (Nepper et al., 2021; Jones et al., 2021). The HOP and multimodal interventions that combine healthy eating with physical movement are feasible tools vastly supported by research to reduce weight among adults and represent an easy, viable, low-cost way to ensure healthy and high-quality living (Nepper et al., 2021; Jones et al., 2021). Indeed, the objective overarching facts from recent research evidence strongly suggest the effectiveness of the CDC's bundle intervention in reducing adult body weight while ensuring high quality of life (Arnotti & Bamber, 2020; Borek et al., 2018; Carter et al., 2019; Castillo et al., 2019; Cleo et al., 2019; Gustafson et al., 2019; Hsu et al., 2019; Jones et al., 2021; Kendall et al., 2019; Lindsay et al., 2018; McRobbie et al., 2019; Nepper et al., 2021; Powers et al., 2019; Shams-White et al., 2020; Stluka et al., 2019; Viester et al., 2018; Wallace et al., 2019). Undoubtedly, the HOP is an effective evidence-based bundle intervention comprised of a healthy diet and exercise endorsed nationally by the CDC

that has persistently supported efficient weight loss at the individual level while positively affecting the person and those around.

The positive impact of combining a healthy diet with moderate exercise to decrease body weight, the success of the HOP bundle among the adult population, and the consistency of benefits across diverse participants while promoting healthy environments at the micro level are evident. Recent quantitative, qualitative, and mixed studies and systematic reviews with meta-analyses vastly support these claims about the positive impact of the CDC's HOP. Indeed, entire communities benefit from implementing health projects that include the diet-exercise bundle intervention by promoting healthier practices and improving quality of life. Similarly, the whole nation could benefit from this evidence-based intervention by generating an added effect of healthier choices around diet and exercise; creating a positive impact at the national level; and decreasing the incidence, prevalence, mortality, and disability rates of adult obesity. Still, most communities across the United States counties do not incorporate any health programs around diet and exercise.

In summary, all 17 research articles supporting the evidence-based bundle intervention of this integrative review followed the same three straightforward components of the CDC's HOP, with or without national endorsement, while ensuring the same steps and outcomes. A multimodal mediation that combines the three phases of education, healthy nutrition, and physical activity without following any specific fad suggestions impacts weight-related metrics among the adult population (Arnotti & Bamber, 2020; Borek et al., 2018; Carter et al., 2019; Castillo et al., 2019; Cleo et al., 2019; Gustafson et al., 2019; Hsu et al., 2019; Jones et al., 2021; Kendall et al., 2019; Lindsay et al., 2018; McRobbie et al., 2019; Nepper et al., 2021; Powers et al., 2019; Shams-White et al., 2020; Stluka et al., 2019; Viester et al., 2018; Wallace et al.,

2019). Accordingly, although all 17 research studies performed their investigations differently, they all included the three steps endorsed by the CDC and showed the effectiveness of the CDC's EBP intervention. It is imperative to disseminate this information regarding the positive impact of the CDC's HOP and similar healthy programs to motivate all communities nationwide to create and sustain programs around diet and exercise to mitigate obesity effectively.

Conclusions and Further Recommendations

Robust results from this review indicated the need to advocate for a practice change concerning adult obesity. This section discusses all the main topics of this review concisely. These conclusions include implications of this integrative review for nursing practice, contributions of this review to the nursing profession, and recommendations.

Implications for Nursing Practice

The implications of this integrative review for nursing practice are vast. This review found that the CDC's HOP has persistently shown efficient weight loss at the individual level while improving health and well-being for the person and those around. Entire communities and the nursing profession benefit from this bundle by promoting healthier practices and improving the health and quality of life while decreasing morbidity in adults members of the community (Arnotti & Bamber, 2020; Borek et al., 2018; Carter et al., 2019; Castillo et al., 2019; Cleo et al., 2019; Gustafson et al., 2019; Hsu et al., 2019; Jones et al., 2021; Kendall et al., 2019; Lindsay et al., 2018; McRobbie et al., 2019; Nepper et al., 2021; Powers et al., 2019; Shams-White et al., 2020; Stluka et al., 2019; Viester et al., 2018; Wallace et al., 2019). Indeed, combining a healthy diet and exercise has persistently shown efficient weight loss at the individual and community levels. The CDC's evidence-based intervention has persistently shown the reduction of obesity-associated health complications while promoting healthy living.

This review suggests that combining a healthy diet and exercise, as recommended by the CDC, evidently showed positive implications at the micro, meso, and macro levels. The positive findings of this review suggest that the CDC's intervention generates positive outcomes of effective weight reduction at the individual level while improving the well-being of those around the person (Arnotti & Bamber, 2020; Borek et al., 2018; Carter et al., 2019; Castillo et al., 2019; Cleo et al., 2019; Gustafson et al., 2019; Hsu et al., 2019; Jones et al., 2021; Kendall et al., 2019; Lindsay et al., 2018; McRobbie et al., 2019; Nepper et al., 2021; Powers et al., 2019; Shams-White et al., 2020; Stluka et al., 2019; Viester et al., 2018; Wallace et al., 2019). These findings show the significant positive impact of this review and the CDC's recommendations at the micro-level. At the meso level, this review represents a call to action for all healthcare organizations and communities to implement health programs like the CDC's HOP to mitigate obesity effectively and feasibly. This review can positively impact the entire country at the macro level. Accordingly, at the national and local levels, this intervention decreases not only obesity's statistical rates but also the burden and the cost of healthcare, which benefits all healthcare systems and public health.

Some of the recommendations from this integrative review include the further analysis of the CDC's HOP and related programs for obesity in the nation and the creation of similar community projects that utilize the resources and the experts' recommendations to mitigate obesity. It is imperative to take an active role regarding obesity at all levels of practice and to start impacting the obesity rates around the globe immediately (Arnotti & Bamber, 2020; Borek et al., 2018; Carter et al., 2019; Castillo et al., 2019; Cleo et al., 2019; Gustafson et al., 2019; Hsu et al., 2019; Jones et al., 2021; Kendall et al., 2019; Lindsay et al., 2018; McRobbie et al., 2019; Nepper et al., 2021; Powers et al., 2019; Shams-White et al., 2020; Stluka et al., 2019;

Viester et al., 2018; Wallace et al., 2019). This review also represents a recommendation to practice change in terms of improving all current efforts toward obesity and invites all responsible stakeholders to take an active role in the management of adult obesity in the United States. Lastly, this integrative review is a clear recommendation to all health care worldwide to role-model the CDC's HOP. Community support and person-centered approaches create a positive change conducive to better health and quality of life for the entire population. There is a clear need to improve public health worldwide regarding obesity, and this review recommends that improvement.

Conclusions and Contributions to the Profession of Nursing

The main topics from this integrative review conclude the effectiveness of the CDC's HOP to mitigate adult obesity while answering the nursing practice question at the same time. Regarding the clinical issue, this review concluded that obesity is a worldwide public health problem with escalating adverse effects at the global, national, state, and local levels. Recent statistical analyses of international data highlight that around 650 million adults worldwide are currently obese (Arnotti & Bamber, 2020; Borek et al., 2018). At the national level, one in every three adults is obese, which generates an economic burden of over 140 billion dollars annually while adding to the statistical rates of many other chronic conditions such as cardiovascular disease, some cancers, and type 2 diabetes (The Florida Department of Health in Brevard, 2019). At the local level, 68.8% of the community in Brevard County is overweight, and an alarming 33.3% of the adult population is obese (The Florida Department of Health in Brevard, 2019). There is worldwide consensus about the urgency to mitigate obesity while improving the health and well-being of the entire population (Arnotti & Bamber, 2020; Borek et al., 2018; Jones et al.,

2021). Undoubtedly, the clinical practice issue of adult obesity is a current public health issue needing the immediate attention of all responsible stakeholders.

Regarding the CDC's HOP, this review concluded that this EBP multimodal bundle intervention mediation that combines diet and exercises through support and education without following any specific fad suggestions positively and effectively impacts weight-related metrics among the adult population while improving the health and well-being of the entire population (Arnotti & Bamber, 2020; Borek et al., 2018; Carter et al., 2019; Castillo et al., 2019; Cleo et al., 2019; Gustafson et al., 2019; Hsu et al., 2019; Jones et al., 2021; Kendall et al., 2019; Lindsay et al., 2018; McRobbie et al., 2019; Nepper et al., 2021; Powers et al., 2019; Shams-White et al., 2020; Stluka et al., 2019; Viester et al., 2018; Wallace et al., 2019). Accordingly, the CDC's HOP represents a feasible and viable tool to mitigate obesity in the adult population.

Regarding the nursing practice, this review concludes that the CDC's HOP also represents a positive tool to aid nursing staff by reducing obesity-associated health complications. There is an undeniable relationship between the effects of a healthy diet and exercise, not only in the reduction of body weight of the person but also in the reduction of complications associated with obesity and other chronic conditions secondary to obesity (Arnotti & Bamber, 2020; Borek et al., 2018; Carter et al., 2019; Castillo et al., 2019; Cleo et al., 2019; Gustafson et al., 2019; Hsu et al., 2019; Jones et al., 2021; Kendall et al., 2019; Lindsay et al., 2018; McRobbie et al., 2019; Nepper et al., 2021; Powers et al., 2019; Shams-White et al., 2020; Stluka et al., 2019; Viester et al., 2018; Wallace et al., 2019). This review recommends that all responsible parties implement EBP interventions such as the CDC's HOP to help adults achieve healthier weight and living.

Recommendations

The recommendations of this integrative review are helpful for clinical practice and research, health care policy, leadership, and education. The following recommendations emerged strictly from the findings from the extensive appraisal and analysis of the highest level of recent research evidence. These recommendations are for all responsible stakeholders in health care and the entire society, in general, to take a more active role regarding obesity and practice change advocacy while implementing the current EBP interventions that have shown effectiveness, such as the CDC's HOP. It is critical to unify efforts worldwide and support each other in managing obesity. Indeed, we are all responsible for the health and well-being of our communities, despite specific roles and positions. The following are concise recommendations from this review for mitigating obesity at all levels of practice and expertise.

The specific recommendations of this review for leaders in the nursing field and policymakers are to advocate for a practice change at all levels of practice at the community, local, and institutional levels while providing empathetic and person-centered support to all the populations. Advocating for creating and maintaining healthy projects that educate the entire community about healthier choices regarding diet and physical activity is vital.

The specific recommendations of this review for future research are to continue the studies and exploration of current available EBP interventions to mitigate obesity and to explore new and innovative manners to develop new health programs. There is an imminent need to improve services and support worldwide to reduce obesity (Arnotti & Bamber, 2020; Borek et al., 2018; Carter et al., 2019; Castillo et al., 2019; Cleo et al., 2019; Gustafson et al., 2019; Hsu et al., 2019; Jones et al., 2021; Kendall et al., 2019; Lindsay et al., 2018; McRobbie et al., 2019; Nepper et al., 2021; Powers et al., 2019; Shams-White et al., 2020; Stluka et al., 2019; Viester et

al., 2018; Wallace et al., 2019). Indeed, it is imperative to not only continue the appraisal and translation of current research evidence into clinical practice regarding obesity but also to develop new research with larger sample sizes and ensure diversity and inclusion that guides future practice and community support for this clinical issue.

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Viester, L., Verhagen, E. A., Bongers, P. M., & van der Beek, A. J. (2018). Effectiveness of a worksite intervention for male construction workers on dietary and physical activity behaviors, body mass index, and health outcomes: Results of a randomized controlled trial. *American Journal of Health Promotion, 32*(3), 795-805.

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Appendix

Johns Hopkins Nursing Evidence-Based Practice Individual Evidence Summary Tool

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Article Number	Author and Date	Evidence Type	Sample, Sample Size, Setting	Findings That Help Answer the EBP Question	Observable Measures	Limitations	Evidence Level, Quality
1	(Cleo et al., 2019). Cleo, G., Glasziou, P., Beller, E., Isenring, E., & Thomas, R. (2019). Habit-based interventions for weight loss maintenance in adults with overweight and obesity: A randomized controlled trial. <i>International Journal of</i>	Quantitative. RCT. Type: Experimental Study. Aim: To examine the impact of habit interventions that combine diet and exercise. Objectives: To explore the impact of healthy habits on weight reduction and	130 Adult volunteers of the community ages 18-75 with BMI levels greater than 25 and 75 adults were selected. Setting: Community members ages 18 to 75 There were 12-month interventions based on behavioral	Research Questions: To determine if habit-based interventions, including diet along with physical activity, are beneficial in weight loss in the long term. To explore the effectiveness of creating new, healthier habits versus eliminating old unhealthy habits. Findings:	Bodyweight and BMI levels measures.	There was no cardiometabolic or body composition data collection. Unable to generalize to long-term weight loss considering there was no follow-up after 12 months of study. Another limitation that the researchers do not include in the article is that the size of 75 adults is small and does not represent the population. Still, it is a great study to encourage more research as it suggests	Level I High-Quality A.

	<p><i>Obesity</i> 43(2), 374–383. https://doi.org/10.1038/s41366-018-0067-4</p> <p>Database: ProQuest</p>	<p>maintenance of healthy weight over time</p>	<p>changes to healthier choices, including food and exercise.</p>	<p>Participants showed a weight reduction, BMI, and waist circumference after 12 months compared to the control group.</p> <p>□ N / A</p> <p>New habit-forming and old-habit elimination successfully improve healthier weight and well-being decisions while positively impacting weight-related metrics.</p>	<p>excellent ideas for further studies.</p> <p>One last limitation is that this RCT did not precisely test the effect of diet plus physical activity on body weight reduction. Still, this study is constructive in answering the clinical question since behavioral changes are essential to support healthier intake and physical activity decisions. The article mentions that the behavioral changes were directly related to diet and exercise, so this RCT is part of the evidence collection. This study adds tremendously to the clinical question by highlighting the importance of educating the participants on healthier choices and</p>	
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						coaching them toward behavioral modifications.	
2	(Hsu et al., 2019). Hsu, K. J., Liao, C. D., Tsai, M. W., & Chen, C. N. (2019). Effects of exercise and nutritional intervention on body composition, metabolic health, and physical performance in adults with sarcopenic obesity: A meta-analysis. <i>Nutrients</i> , 11(9), 2163. https://doi.org/10.3390/nu11092163	Systematic Review with Meta-Analysis. Type: Meta-analysis with (PRISMA) guidelines. Aim: To analyze the effects of diet and exercise on body weight. Objectives: To explore, through hundreds of quantitative studies, the benefits of healthy nutrition and physical activity on body weight while	3381 original studies From a search on PubMed and Scopus, in addition to the Clinical Key database and Cochrane. Keywords: Obese, Sarcopenia, Diet, Nutrition, Exercise, etc. Setting: Multiple settings for multiple quantitative studies published in previous years □ N /	Research Question: To analyze the impact of diet and exercise on weight-related metrics, body composition, and performance of adult participants with sarcopenic obesity. Findings: Physical activity that includes resistance is vital to improve the body's composition, while a healthy diet decreases fat mass. Both interventions together were positive for	Weight-related metrics, the composition of the body, and performance	Few studies involved the impact of nutrition and physical activity on the biomarkers. There were no studies specific to aerobic exercises as an intervention. No definitive studies evaluated the comparison between exercise, diet, and nutrition alone. There was inconsistency in the definition of sarcopenic obesity between studies. One last limitation of this study is the minor focus on weight-related metrics to evaluate the success of the interventions. Considering that the study included only	Level I High-Quality A.

	Database: DOAJ	providing new statistics pertinent to the findings	A	participants with sarcopenic obesity.		sarcopenic obese participants, it limits the relationship with the clinical question as this will be a community project on all adults with obesity. Still, this study is beneficial in guiding the direction of the nursing practice change project as it suggests the need to bundle interventions together and not include only one in the project.	
3	(Arnotti & Bamber, 2020). Arnotti, K., & Bamber, M. (2020). Fruit and vegetable consumption in overweight	Systematic Review with Meta-Analysis. Type: Comprehensive Meta-Analysis with 3.0 (CMA) Aim: To conduct an extensive review of previous	There were 3,719 total adult participants from 1,020 articles, all RCT. Only 17 counted towards the Meta-Analysis. Sample sizes of all RCTs ranged from 40 to 1,071,	Research Question: Conducting a systematic review with meta-analysis to evaluate the impact of weight-loss interventions on individuals with a body-mass index (BMI) greater than 25 Findings:	Bodyweight and BMI	The article does not specify the databases from which the researchers obtained 1,020 RCTs. Minimal studies met the inclusion criteria. Significant heterogeneity in the studies. Possible publication bias.	Level I High-Quality A.

	<p>or obese individuals: A meta-analysis. <i>Western Journal of Nursing Research</i>, 42(4), 306–314. https://doi.org/10.1177/0193945919858699</p> <p>Database: ProQuest</p>	<p>quantitative studies concerning diet and exercise to determine the effects of the intervention on BMI levels.</p> <p>Objectives: To explore, through meta-analysis, the effects of diet and exercise on BMI levels and their reduction.</p>	<p>and a sample size of 223 mean participants. *The researcher team did not include the databases from which they selected the RCT articles.</p> <p>Setting: Multiple settings for multiple quantitative studies published in previous years</p> <p>N/A</p>	<p>Combined weight loss interventions such as fruit-vegetable intake along with exercise results in statistically significant results as indicated by the overall large effect with $p < .001$</p>	<p>One last limitation is that this meta-analysis focused mainly on food intake and not food and exercise, but it is still constructive to answer the PICOT. Even though this meta-analysis focused on RCT that tested the intervention of healthy nutrition consumption in adults with weight issues, the researchers reported that this intervention included exercise and physical activity. For this reason, this meta-analysis still is robust to support the PICOT. The researchers report that the intervention of diet and exercise was successful.</p>		
4	(Viester et al., 2018).	Evidence: Quantitative RCT	314 total randomized participants.	Research Question:	Observable measures include body	There is the possibility of social	Level I High-Quality A.

<p>Viester, L., Verhagen, E. A., Bongers, P. M., & van der Beek, A. J. (2018). Effectiveness of a worksite intervention for male construction workers on dietary and physical activity behaviors, body mass index, and health outcomes: Results of a randomized controlled trial. <i>American Journal of Health Promotion, 32</i> (3), 795-805. https://doi.org/10.1177/0890117117694450</p>	<p>Type: Randomized Control Trial. Experimental Study</p> <p>Objective: To measure the impact of a healthy diet and exercise coaching sessions on weight management among a controlled group of workers.</p>	<p>(<i>n</i>=162) for intervention (<i>n</i>=152) for control.</p> <p>Setting: The setting was the industrial workers of a construction institution in a city in the Netherlands.</p> <p>□ N / A</p>	<p>They evaluate the effectiveness of an individually focused intervention to ensure a positive lifestyle, healthy habits, and prevention/reduction of weight among construction workers.</p> <p>Findings: Statistical significance of diet and exercise in lowering BMI levels (P- .010) and Weight reduction (P- 0.010) among the intervention sample compared to the control sample at six months with a confidence level of 95% applied.</p> <p>Also, at six months of the study, the control</p>	<p>weight, BMI, waist circumference, and blood pleasure.</p>	<p>desirability due to self-report.</p> <p>Also, there was a lack of validated questionnaires.</p>	
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	Database: EBSCOhost			group showed increased body weight, BMI levels, and waist circumference.			
5.	(McRobbie et al., 2019). McRobbie, H., Hajek, P., Peerbux, S., Kahan, B. C., Eldridge, S., Trépel, D., Parrott, S., Griffiths, C., Snuggs, S., & Smith, K. M. (2019). Randomised controlled trial and economic evaluation of a task-based weight management group programme. <i>BMJ Public Health</i> , 19(1), 365–365. https://doi.org	Evidence: Quantitative RCT Type: Experimental study Objective: Determining the efficacy of a multimodal task-based grouped intervention consists of a healthy diet and exercise as a focused group compared to standard primary care practice led by nurses.	A total of 330 obese Distributed as follows: Weight Action Program WAP (N = 221) and Nurses Intervention PNI (N = 109) Setting: Adults from general practices who received four sessions over eight weeks. The interventions included a healthy diet, exercise, and self-	Research Question: Evaluating a weight management program for obesity can be practical for low-income communities at six and twelve months. Findings: Statistical significance of weight reduction after the intervention for both groups 95% CI: -3.7 to -0.1; P = 0.04) The participants in the WAP group	Observable measures include body weight, BMI, waist circumference, and blood pressure.	Researchers could not contact 30% of participants after one year of the program. The sample size was predominantly women. Dropout rates possibly cause missing data.	Level I High-Quality A.

	<u>/10.1186/s12889-019-6679-3</u> Database: DOAJ		monitoring.	had a more significant weight loss with four ·2 kg, SD = 7·3 in comparison with the PNI group 2·3 kg with a 95% CI: -3·7 to -0·1 and a p = 0·04. The Weight Action Program WAP has better results in one year than the Practice Nurses' Intervention-only PNI.			
6.	(Borek et al., 2018). Borek, A. J., Abraham, C., Greaves, C. J., & Tarrant, M. (2018). Group-based diet and physical	Systematic Review with Meta-Analysis. Type: Comprehensive Meta-Analysis with the inverse variance	There were 60 RCTs in the meta-analysis emerging from an extensive search on several databases such as	Research Question: To synthesize intervention characteristics of several RCT studies in recent years concerning diet and exercise and their impact on adult obesity.	The standard quantitative measures included body weight, BMI, waist circumference, and blood pressure.	The limitations of this meta-analysis include the inability to determine with exactitude the group identification for all studies considering their ambiguous description in this regard. There was a lack of	Level I High-Quality A.

<p>activity weight-loss interventions: A systematic review and meta-analysis of randomized controlled trials. <i>Applied Psychology: Health and Well-Being</i>, 10(1), 62–86. https://doi.org/10.1111/aphw.12121</p> <p>Database: ProQuest.</p>	<p>method and the random effects model.</p> <p>Aim: To synthesize existing quantitative evidence regarding the effects of diet and exercise on weight-related metrics among adults.</p> <p>Objectives: To assess the evidence regarding the effectiveness of the multimodal intervention that combines diet and exercise. To determine the associations between the</p>	<p>PubMed, Clinical Key, and Cochrane with the binding terms of obese adults (BMI>25). Only quantitative studies with RCT that included diet and exercise were part of the sample size.</p> <p>Setting: There were multiple settings in the various quantitative studies on obesity.</p>	<p>Findings: Statistical significance of weight loss in adults with the diet/exercise intervention at six, 12, and 24 months (P<0.05). There was also greater effectiveness for programs targeting weight loss exclusively and for men only. The bundle intervention was effective and clinically meaningful for weight loss in adults.</p>		<p>inclusion of unpublished studies that could have added more descriptions. As with all other systematic reviews, the results' quality depends on the integrity of RCTs and their reports.</p>	
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		intervention and the results while elaborating new statistics through meta-analysis.					
7.	(Nepper et al., 2021). Nepper, M. J., McAtee, J. R., & Chai, W. (2021). Effect of a workplace weight-loss program for overweight and obese healthcare workers. <i>American Journal of Health Promotion</i> , 35(3), 352–361. https://doi.org/10.1177/0890117120960393	Quasi-experimental Design Type: Quantitative Quasi-experimental Aim: To examine the effects of a multimodal weight-loss program among adult healthcare workers. Objectives: To explore the impact of weight support, emphasizing exercise,	41 Adult healthcare workers from a single healthcare institution with BMIs greater than 29. Setting: Day-shift females and male healthcare workers.	Research Question: To determine the effects of a weight-loss program that supports healthcare workers on behavioral changes around healthy choices. Findings: Statistical significance in weight loss - evidenced by an average of 13 pounds average loss after the completion of the sixteen-week program. P<0.0001	Body Weight and BMI, blood pressure, depression, sleep, glucose levels, and healthy behaviors as clear measures.	One of the limitations of this study is the small sample and the fact that all participants are from the same organization making the results hard to generalize. Another limitation is the inability to make this study an experimental study considering the lack of a control group. There is a lack of long-term analysis in this study since measures emerged only at six months. There is also a risk of bias considering the self-reporting of blood pressure and	Level II High-Quality A.

	Database: ProQuest	nutrition, and behavioral changes on body weight, BMI, blood pressure, and behavior.		Extreme obesity was also reduced significantly from 36.6% to 17.1% P<0.0001 In addition to weight loss, there was an improvement in blood pressure, sleep, and depression among program participants.		glucose levels.	
8.	(Jones et al., 2021). Jones, N., Dlugonski, D., Gillespie, R., DeWitt, E., Lianekhammy, J., Slone, S., & Cardarelli, K. M. (2021). Physical activity barriers and assets in rural Appalachian	Mixed-methods Study Type: Quantitative and Qualitative Approach Methods: Quantitative analysis Grounded Theory Focus groups Cohort Survey	There were 152 participants from the community. Setting: Residents of Martin County, Kentucky. All participants were adults, mainly females.	Research Question: How does the CDC's HOP impact the residents of Martin County? Findings: There was a statistical significance of P<0.001 concerning low physical activity levels due to barriers.	Physical activity levels. Perceptions of participants. Possible barriers that were impacting healthy living as recommended by the CDC. Healthy behaviors.	One limitation of this study is that the sample was predominantly female from the exact location. There was also a risk of bias due to self-reporting and causal inference.	Level III High-Quality A.

	<p>Kentucky: A mixed-methods study. <i>International Journal of Environmental Research and Public Health</i>, 18(14), 7646–. https://doi.org/10.3390/ijerph18147646</p> <p>Database: DOAJ</p>	<p>Recruitment</p> <p>Aim: To examine the impact of the CDC's High Obesity Program (HOB), which combines a healthy diet and exercise among Martin County, Kentucky, community members.</p> <p>Objectives: To study the community's barriers to exercise.</p> <p>To study the self-reported barriers around healthier choices.</p> <p>Explore new perspectives</p>		<p>Participants also had a statistical significance of $P < 0.002$ concerning more physical activity after the HOP intervention. A significant number of participants reported being inactive before the HOP intervention. Participants shared their frustrations with several barriers to healthier choices due to lack of resources, the community, and low socioeconomic status. The lack of motivation and community resources were the most common barriers to healthy eating and</p>			
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		to assist the community takes healthier choices.		exercise, as recommended by the CDC.			
9.	(Lindsay et al., 2018). Lindsay, A. C., Wallington, S. F., Lees, F. D., & Greaney, M. L. (2018). Exploring how the home environment influences eating and physical activity habits of low-income, Latino children of predominantly immigrant families: A qualitative study. <i>International Journal</i>	Qualitative Study. Type: A qualitative design with focus groups. Aim: To identify, through experimental focused groups, the perceptions and understanding of Latino parents regarding the importance of healthy diets and exercise. Objectives: To identify the barriers of	The participants were 33 families with small Latino children from low-income communities. Setting: The setting is low-income Latino families from a local childcare home in Massachusetts.	Research Question: What factors influence healthy eating and physical activity among low-income Latino families? Findings: The home environment influences diet and exercise habits. There is a need to increase health promotion and disease prevention among the low-income Latino population. Healthy eating and exercise patterns start in	Qualitative reports through focus groups observing personal experiences and perspectives.	The study highlights that some of its limitations included the small number of participants, the presence of a purposive sample, and the fact that the responses may not genuinely represent eating and exercise habits at home.	Level III High-Quality A.

	<p>of <i>Environmental Research and Public Health</i>, 15(5), 978–978–. https://doi.org/10.3390/ijerph15050978</p> <p>Database: PubMed Central</p>	<p>parents around healthy living. To explore cultural-related factors associated with diet and exercise.</p>		<p>childhood, and parents' behaviors and beliefs create adulthood's baseline.</p>			
10.	<p>(Shams-White et al., 2020). Shams-White, M. M., Cuccia, A., Ona, F., Bullock, S., Chui, K., McKeown, N., & Must, A. (2020). Lessons learned from the creating active communities and healthy environments</p>	<p>Qualitative Study. Type: This qualitative study uses surveys and toolkits to collect information regarding the participants' feelings, perspectives, and emotions. Aim: To evaluate</p>	<p>There were 34 participants from five different U.S. Army locations. Setting: Military families in the United States.</p>	<p>Research Question: To evaluate the effects of a healthy diet and exercise toolkit among military community members. Findings: Most participants agreed that diet, exercise, and positive, healthy behaviors such as no smoking are necessary to ensure healthy</p>	<p>The measures are the military members' perceptions and insights regarding the healthy toolkit to promote healthy eating, healthy activity, and healthy behaviors. There were individual interviews and focus groups.</p>	<p>Some of the limitations of this study are the small number of participants completing the post-survey -only eight, the lack of implementation of some areas of the healthy toolkit, and the impossibility of evaluating the entire kit.</p>	<p>Level III High-Quality A.</p>

	<p> toolkit pilot: A qualitative study. <i>Environmental Health Insights</i>, 13(1), 1178630219862231–1178630219862231. https://doi.org/10.1177/1178630219862231</p> <p>Database: DOAJ</p>	<p>the toolkit regarding diet, exercise, and healthy living.</p> <p>Objectives: To analyze the toolkit while learning insights regarding ways to support the military community regarding healthy choices.</p>		<p>living.</p> <p>In the same manner, participants verbalized the need for programs in the military setting that support such healthy behaviors. Lastly, the participants do not believe such educational/health programs can be a reality, considering their military leaders and superiors will not support projects in this regard.</p>			
11.	<p>(Powers et al., 2019).</p> <p>Powers, A. R., Brock, R. W., Funderburk, K., Parmer, S. M., & Struempfer, B. (2019).</p>	<p>Quantitative Study - Original Study.</p> <p>Type: Quasi-experimental design.</p> <p>Aim:</p>	<p>There were 737 adult participants.</p> <p>Setting: All participants were members of multiple faith-based</p>	<p>Research Question: To explore the impact of the CDC's HOP concerning healthy eating and physical activity as the foundation of a 9-week faith-based healthy</p>	<p>Observable measures included healthy eating practices, vegetable consumption, and physical activity tracking and journaling.</p>	<p>Limitations of this multi-level quasi-experimental study included the fact that there was no control group. Additionally, the results were self-reported, which could have created bias.</p>	<p>Level II High-Quality A.</p>

<p>Multi-level faith-based public health initiative in rural Alabama, 2017. <i>Preventing Chronic Disease</i>, 16, E117–E117. https://doi.org/10.5888/pcd16.190057</p> <p>Database: CDC's Database: Preventing Chronic Disease</p>	<p>To determine differences and influences of the CDC's High Obesity Program (HOP) across faith members of a multi-level faith-based community in Alabama.</p> <p>Objectives: To analyze the impact of healthy eating and physical activity, as recommended by the CDC, across faith members in a multi-level community.</p>	<p>communities across rural Alabama.</p>	<p>community program.</p> <p>Findings: After the 9-week implementation period, all faith-based communities reported healthier choices across all participants.</p> <p>Participants reported healthier lifestyles that included healthier eating and improved daily physical activity.</p> <p>All communities reported healthier environments and a better understanding of the CDC's recommendations around diet and exercise.</p> <p>Implications for Public Health</p>	<p>Pretest posttest to measure the impact of healthier eating and exercise.</p>			
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				<p>and Future Healthy Programs There are significant implications for Public Health and future health programs based on the CDC's HOP regarding the need to educate all communities on more nutritious choices, like those recommended by the CDC, and facilitate healthier eating and exercise.</p>			
12.	(Carter et al., 2019). Carter, W. M., Morse, W. C., Brock, R. W., & Struempfer, B. (2019). Improving physical activity and	<p>Qualitative Study-Original Study. Type: Qualitative through Focus Groups. Aim: To explore</p>	<p>There were participants from 14 communities as a focus group. Setting: There were 14 community coalitions</p>	<p>Research Question: To measure the impact, barriers, and facilitators of the CDC's healthy program, the HOP across Alabama. Findings: Most participants agreed that</p>	<p>Observable measures included the feelings and perceptions of participants from the community coalition regarding healthy living, healthy diet</p>	<p>Limitations of this single qualitative study based on the CDC's HOP included the fact that they used potential reach, making the design not as strong as possible and lacking resources to reach more participants in the community.</p>	<p>Level III High-Quality A.</p>

	<p>outdoor recreation in rural Alabama through community coalitions. <i>Preventing Chronic Disease</i>, 16, E116–E116. https://doi.org/10.5888/pcd16.190062</p> <p>Database: CDC's Database: Preventing Chronic Disease</p>	<p>possible limitations to the application of healthier living as recommended by the CDC regarding diet and exercise in different counties of Alabama.</p> <p>Objectives: To gather the participants' perceptions regarding the CDC's health program in their rural area while collecting all ideas about possible barriers and facilitators.</p>	<p>from 16 different communities in various counties in Alabama.</p>	<p>several limitations in their environments impede daily physical activity as recommended by the CDC.</p> <p>Participants agreed that there was insufficient education or support regarding the CDC's healthy programs, diet, exercise, and weight loss guidance.</p> <p>Participants also agreed that the weather in the city does not allow for physical activity outdoors most of the year, and they reported a lack of motivation and support around healthy living.</p> <p>Implications for</p>	<p>and exercise, and the CDC's High Obesity Programs through focus groups.</p>		
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				<p>Public Health and Future Healthy Programs</p> <p>This single original study adds to all other studies on the CDC's HOP and highlights the need for community-based support to mitigate obesity nationwide. All counties must implement healthy programs based on expert guidance regarding physical activity and diet to assist the population in maintaining healthy weight and lives.</p>			
13.	(Gustafson et al., 2019). Gustafson, A.,	Quantitative Study-Original Study.	There were 741 participants from the year	<p>Research Question:</p> <p>To survey participants of the</p>	Observable measures include intake of healthy	Limitations of this survey method quasi-experimental study included the	Level II High-Quality A.

<p>McGladrey, M., Stephenson, T., Kurzynske, J., Mullins, J., Peritore, N., Cardarelli, K., & Vail, A. (2019). Community-wide efforts to improve rural Kentucky's consumer food environment and physical activity resources. <i>Preventing Chronic Disease</i>, 16, E07–E07. https://doi.org/10.5888/pcd16.180322</p> <p>Database: CDC's</p>	<p>Type: Quasi-Experimental Survey Method -Non-Experimental Study</p> <p>Aim: To evaluate the effects of the CDC's HOP in rural Kentucky.</p> <p>Objectives: To analyze the effects of diet and exercise programs endorsed by the CDC in rural areas with high obesity rates.</p>	<p>2016 and 1,807 participants from the year 2017.</p> <p>Setting: Rural counties of Kentucky that implemented the CDC's HOP and now participants received a quantitative survey to analyze the impact of the CDC's health program.</p>	<p>CDC's HOP program to obtain numerical/quantitative data regarding the impact of the program on diet and exercise among participants.</p> <p>Findings: Most participants reported through the surveys healthier lifestyles that included healthy eating and exercise.</p> <p>The surveys also showed improvement in physical activity by using locations available since the healthy program started in the community.</p>	<p>foods as recommended by the CDC, physical activity level, and healthy living through surveys postintervention of the CDC's HOP.</p>	<p>unavailability to establish causation due to the quasi-experimental design versus experimental and the fact that the facilities for physical activity were reasonably new, limiting participants' access to these areas before the surveys.</p>	
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	Database: Preventing Chronic Disease			Implications for Public Health and Future Healthy Programs Other communities can role-model healthy programs like the one implemented in Kentucky to follow the CDC's recommendations and alleviate obesity.			
14.	(Kendall et al., 2019). Kendall, M., Broyles, S. T., Freightman, J., Cater, M., & Holston, D. (2019). Opportunities and challenges addressing access to healthy food in five rural Louisiana	Quantitative Study-Original Study. Type: Quasi-experimental Survey Method. Aim: To analyze the impact of the CDC's HOP intervention in rural areas of	There were 52 customer surveys intervention and 78 surveys post-intervention from all participants emerging from three different Louisiana nutritional programs endorsed by the CDC	Research Question: To evaluate the impact of the CDC's HOP patronage on rural areas of Louisiana with high obesity rates concerning healthier food and options. Findings: Most surveys showed improved healthy food options in the	Observable measures included the surveys pre- and post-intervention analyzing the impact of the CDC's HOP in rural Louisiana.	Limitations of this survey-method single study include the small size of the healthy food stores to offer to those communities under the patronage of the CDC's HOP and the fact that there were no experimental studies and only the survey method was employed.	Level II High-Quality A.

	<p>food stores. <i>Preventing Chronic Disease</i>, 16. https://doi.org/10.5888/pcd16.190118</p> <p>Database: CDC's Database: Preventing Chronic Disease</p>	<p>Louisiana regarding healthier choices as recommended by the CDC.</p> <p>Objectives: To analyze the impact of the CDC's HOP regarding awareness and implementation of healthier choices.</p>	<p>under the HOP.</p> <p>Setting: Rural areas of Louisiana.</p>	<p>areas under the CDC's HOP patronage.</p> <p>The CDC's healthy program participants reported being more aware of healthier living options and feeling more empowered about their weight.</p> <p>Implications for Public Health and Future Healthy Programs</p> <p>There is an undeniable need for all communities to improve obesity rates by improving the population's health and food security. The CDC's HOP offers a guide for</p>			
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				healthy programs targeting obesity in the United States.			
15.	(Stluka et al., 2019). Stluka, S., McCormack, L. A., Burdette, L., Dvorak, S., Knight, N., Lindvall, R., Pierce, L., Schoch, J., & Walkling, P. (2019). Gardening for health: Using Garden coordinators and volunteers to implement rural school and community gardens. <i>Preventing Chronic Disease, 16</i> , E156–E156.	Quantitative Study-Original Study. Type: Quasi-Experimental Survey Method Aim: To analyze via pre- and post-intervention via survey the impact of the CDC's HOP on healthier communities in South Dakota. Objectives: To survey participants of the CDC's HOP project regarding	Multiple surveys from 18,136 hours of gardening and community programs related to the CDC's HOP, where participants from different rural areas completed the CDC program from 2014-2018. Setting: Rural areas of South Dakota United States.	Research Question: To analyze, through survey method numerical data pre- and post-CDC's HOP in South Dakota, the impact of the health program on healthy eating and exercising. Findings: The survey showed improvement in healthier choices in the communities. More healthy foods were available due to the gardening and community efforts to apply the CDC's recommendations. In addition to the	Observable measures included the pre-and post-intervention (CDC's HOP) survey to all participants to evaluate the impact of the CDC's program.	One limitation of this quantitative survey methods study is that it does not mention any restrictions. Another possible limitation of the study is that it does not mention the total sample populations on the healthy program endorsed by the CDC. One last limitation is that there were no experimental designs in this study but quasi-experimental ones, decreasing the evidence level from I to II.	Level II High-Quality A.

	https://doi.org/10.5888/pcd16.190117 Database: CDC's Database: Preventing Chronic Disease	healthier eating and exercise through gardening in the community and schools.		healthier diets, participants also improved their physical activity levels and exercised as recommended by the CDC. Implications for Public Health and Future Healthy Programs The CDC's HOP recommends healthier diets and exercise, and gardening in the community can be a feasible way to ensure food security while improving physical activity.			
16.	(Wallace et al., 2019). Wallace, H. S., Franck, K. L., & Sweet, C. L. (2019).	Mixed Study-Single Study. Quantitative and Qualitative data	There were 67,400 participants from 67 different organizations in western	Research Question: To analyze the impact of the CDC's HOP in Tennessee after four years of	Observable measures include mixed methods data - quantitative surveys and qualitative	One limitation of this great community-based study is that the researchers did not mention any restrictions.	Level III High-Quality A.

<p>Community coalitions for change and the policy, systems, and environment model: A community-based participatory approach to addressing obesity in rural Tennessee. <i>Preventing Chronic Disease</i>, 16, E120–E120. https://doi.org/10.5888/pcd16.180678</p> <p>Database: CDC's Database: Preventing Chronic Disease</p>	<p>Type: Intercept Survey Design for the quantitative portion and qualitative answers in the surveys.</p> <p>Aim: To evaluate, via surveys, post-intervention, the impact of the CDC's HOP in Tennessee concerning education, diet, and exercise.</p>	<p>Tennessee. The intervention was four years.</p> <p>Setting: Four different rural counties of Tennessee.</p>	<p>implementation.</p> <p>Findings: Most participants answered in the surveys that they felt more confident about healthier choices around diet and exercise after the CDC's HOP in their rural areas.</p> <p>The surveys also showed a significant increase in healthier eating (59%) and more physical activity as recommended by the CDC (61%).</p> <p>Implications for Public Health and Future Healthy Programs This single</p>	<p>answers-</p>		
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				original study adds to all other studies on the CDC's HOP and highlights the need for community-based support to mitigate obesity nationwide. All counties must implement health programs based on expert guidance regarding physical activity and diet to assist the population in maintaining a healthy weight and life.			
17.	(Castillo et al., 2019). Castillo, E. C., Campos-Bowers, M., & Ory, M. G. (2019). Expanding bicycle	Quantitative Study - Original Study Type: Non-Experimental -Descriptive Design	All residents of Hidalgo County were innumerable participants in the CDC's community-based project. Setting:	Research Question: To report the impact of the CDC's program in this county of Texas. Findings: Because of the	Observable measures included evaluating public health in Hidalgo, Texas, before and after the CDC's HOP implementatio	One limitation of this great community-based study is that the researchers did not mention any restrictions.	Level III High-Quality A.

<p>infrastructure to promote physical activity in Hidalgo County, Texas. <i>Preventing Chronic Disease</i>, 16, E126–E126. https://doi.org/10.5888/pcd16.190125</p> <p>Database: CDC's Database: Preventing Chronic Disease</p>	<p>Aim: To report the impact of the CDC's HOP program in Hidalgo County, Texas, after implementing the healthier program.</p>	<p>Community of Hidalgo County, Texas.</p>	<p>implementation of the CDC's HOP in this county of Texas, improvements resulted at the public health level concerning healthier living and choices of the population.</p> <p>Public health in Hidalgo, Texas, has significantly improved since the CDC's HOP in 2015. Now, there are more spaces for physical activity and healthier living.</p> <p>Implications for Public Health and Future Healthy Programs</p> <p>There is an undeniable need for all</p>	<p>in regarding healthy living.</p>		
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				communities to improve obesity rates by improving the health and food security of the population. The CDC's HOP offers a guide for healthy programs targeting obesity in the United States.			
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