



# OBESITY AFFECTING LOW-INCOME COMMUNITIES IN AMERICA

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*ABSTRACT: This paper will explore the causes, consequences, and potential solutions for obesity in marginalized low-income communities in the United States. Obesity is a multi-layer health issue with diverse types of causes and barriers, particularly impacting certain minority groups due to the unique challenges they face. This paper goes through the interventions across interpersonal, organizational, community, and policy that are tailored to the health issue of the targeted population. Additionally, there are propositions of possible solutions that could be effectively implemented within low-income communities based on the information gathered in this paper. The main goal of this comprehensive writing is to bring together and analyze information and interventions based on the health topic and population in order to gain a wide range of knowledge to implement into future implications.*

## Introduction & Background

### Introduction: Unveiling the Complex Web of Obesity and Health in Low-Income Communities

Obesity extends beyond individual struggle, presenting an urgent community concern with wide-ranging consequences particularly in low-income areas within the United States, where preschool obesity rates are alarmingly high at 14.6% (Byrd, 2018). Even more concerning, the trend persists into adolescence and adulthood, with a 70% likelihood of lifelong weight issues (Byrd, 2018). Even with these statistics, there is a significant lack of recognition regarding weight concerns within low-income communities. This paper will navigate the complex landscape of obesity within these communities through examining critical issues, ranging from policy-driven initiatives to community-based efforts, organizational strategies, and individual-focused interventions.

## Methods

In researching sources to use for this collaborative paper, the group was assigned certain sections of the overall topic to bring together. Participants focused on finding factors relating to the topic and interventions based on the different levels of the social-ecological model: intra/interpersonal, organizational, community, and policy. In order to find these sources, the group used the databases CINAHL and PubMed to search for peer-reviewed papers. The search started with using the base keywords of “obesity” and “low-income” and then became more specific in order to narrow down results as the base keywords brought an abundance of results. Some examples of specific keywords added included: “interventions,” “factors,” “community,” and more. The group also decided to focus on the results of sources based in the United States in order to keep the topic consistent as other countries may have different levels of impact on the topic of obesity and its subtopics.



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## Literature Review

### Causes and Factors

The health topic of obesity is an issue that has multi-layered, interconnected, causes and factors that increase the risk of experiencing obesity. Assessing the health issue of obesity through the different levels of the social ecological model will provide pivotal insight on the factors within a certain community. The layers included within the model are intra/interpersonal, organizational, community, and policy. To connect these layers of the model, an important factor to consider when looking at the causes of obesity is the community and environment; they are a part of, in this case the focus is on low-income communities. There are many things that can contribute to obesity: genetics, diet, physical activity, and psychosocial factors are just a few of the bigger causes (Byrd, 2018). Low-income communities tend to be faced with issues that include “unavailable or expensive fresh fruits and vegetables, less access to safe settings for exercise, reliance on television for entertainment... proliferation of fast-food vendors, and economic pressures limiting time for family meals at home” (Candib, 2007). The prominent lack of access and availability within these communities encourages the type of lifestyle where obesity thrives. This shows the top layer of how complicated this health issue is, that it needs to be assessed at all different angles to be able to form a well-rounded assessment of an individual’s or community’s health. Specifically looking at low-income communities in the United States, the rate of obesity is 14.6% just among preschool-aged children in low-income communities (Byrd, 2018). This leads to the fact that “children with overweight or obesity have a higher chance of continued struggles with weight into adolescence and have a 70% chance of being overweight or obese when adults” (Byrd, 2018). These statistics show how prevalent this health issue is and how this needs to be addressed. However, according to a comprehensive review on obesity, “there

is less recognition of weight concerns in low-income families resulting in decreased efforts to intervene with healthy lifestyle modifications” (Byrd, 2018). This health issue goes beyond just the individual’s behavior and awareness needs to be spread to the communities that need it most.

### Intra/Interpersonal Factors

Obesity-based intra/inter- personal interventions focused on the individual or close family members to build a support system. In a study conducted by Messito and colleagues, there was a focus on an interpersonal intervention that worked on informing mothers based on primary care-based child obesity. This study was done in New York prenatal or pediatric clinics Messito et al. (2020) aimed to prevent obesity-causing factors by providing Hispanic or Latina mothers who were pregnant with a family-centered program. The program was called StEP; a social cognitive theory to promote healthy behaviors (Messito et al., 2020). This study implemented interpersonal intervention in four phases. These phases worked to inform mothers with demonstrations, hands-on practice, counseling, and goal setting. Messito et al. (2020) aimed to decrease obesity risk for the individual by informing the mothers of potential uncertainty or predisposed factors influencing their child’s health. This would prove useful in building a mental framework that the mother can use to decrease obesity chances for their children. Similarly, a study by Guerrero et al. (2023) also focused on family-centered systems in Hispanic or Spanish-speaking families. Guerrero implemented an app-based informative intervention for families from East Los Angeles WIC and Early Education Centers. This study specifically utilized the Familias Unidas Ninos Sanos, FUNS, hybrid program. The FUNS program is an intervention developed from social, cognitive, and family-based research. This program used peer-to-peer learning and observational strategies to build social support behavior changes (Guerrero et



al., 2023). Guerrero et al. (2023) concentrated on collectivism and family values of caregivers such as mothers, fathers, and grandmothers. This program aimed at behavior changes by sending out multimedia messages on supportive caregiver skills or behavior changes such as discouraging the use of food as behavioral control. Focusing on behavior changes can reorient the individual's relationship with food. By targeting close individuals and caregivers, interpersonal interventions can help build intrapersonal changes. Intra/interpersonal interventions that address the home environment and build effective frameworks that create positive preventative measures or help individuals later on when facing obesity diagnosis.

### **Organizational Factors**

Within the realm of organizational factors, workplaces emerge as pivotal settings that significantly influence health-related behaviors. An effective and positive workplace culture, cultivated through strong leadership practices, plays a crucial role in fostering employee well-being. Recognizing the profound impact of organizational settings on individual health outcomes, interventions implemented at the organizational level become imperative.

The study conducted by Deckro et al. (2002) delves into the evaluation of a mind/body intervention aimed at reducing psychological distress and perceived stress in college students, highlighting the relevance of organizational strategies in addressing mental health challenges. This intervention, situated within the organizational level of the social-ecological model, exemplifies how workplace health promotion initiatives can have a profound impact on psychological well-being.

Moreover, a systematic review conducted by Willis et al. (2016) assessing the effectiveness of health promotion interventions in the workplace on physical and mental health

outcomes related to chronic diseases provides valuable insights. Workplace interventions, particularly those targeting physical activity and/or diet, demonstrated strong evidence for favorable effects on weight-related outcomes. The strategies discussed in the reviewed article, including interventions on physical activity, diet, and psychological well-being, are strategically designed to create a healthier organizational environment. The positive outcomes observed in the workplace interventions have broad implications, not only for individual employees but also for organizations as a whole. A healthier workforce contributes to increased productivity and reduced healthcare costs. Policymakers and public health professionals can leverage this evidence to inform and tailor health promotion programs, thereby addressing chronic diseases and enhancing overall population health. The multifaceted impact of organizational-level interventions underscores their significance in the broader social-ecological framework.

### **Community Factors**

Obesity is a disease that plagues the communities. It would be understandable to focus the format of interventions on these communities affected the most, specifically low-income communities. In Baltimore, a store manager and a group of researchers implemented a multicomponent intervention focused on a local supermarket in order to improve the food environment and attempt to reduce the rates of obesity in low-income communities (Lee, 2015). The grocery store is a place that everyone frequents, a community hot spot, so targeting a store for an intervention is going to create a good outreach. In the results of the intervention, the authors discuss the fact that they were able to have a high reach within the community, having an average of at least 100 people participating in the educational community events per month (Lee, 2015). By having an extensive outreach there is going to be a rise of awareness about obesity, people are going to become more educated, ideally use this



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new knowledge to assess their own lifestyles and spread what they learned to others.

To expand on this intervention level, there are two main types of strategies for the community interventions: micro-level, directly targeting families, and macro-level, targeting the physical environment access and activity (Nianogo, 2022). In the supermarket study previously mentioned, that would be a macro-level strategy because they focused their intervention on the physical environment of a grocery store. The author of an evaluation of community intervention strategies stated that “interventions targeting obesity-related behaviors in general were effective for two strategies, home visitation and business practices” (Nianogo, 2022). Those two strategies are examples of micro- and macro-level strategies. Addressing a health issue is a topic that is quite vulnerable for the person, so spreading awareness and creating an environment where the individual feels understood or related to will help with effectiveness. In order to do this, there need to be multiple layers to these interventions, like the micro- and macro-levels mentioned above, to be able to reach a certain emotional environment within these communities where change can occur.

### Policy Factors

While there have been several ways to combat obesity, policymakers have tried to find the most efficient way to either prevent or work around obesity. It is known that healthier choices tend to be more expensive and may be difficult to implement for these low-income communities. This leads to how households should consider investigating certain policies and programs that would apply to the situation. Many food-related policies have been implemented in the past, especially regarding schools. However, policy interventions are not as effective compared to other interventions. In a study conducted in Connecticut, two main conditions were observed: nutritional and physical, which are

both key elements in combating obesity. After the study had finished in three months, they noted “no significant interaction between the nutrition intervention” as well as “no significant interaction between the physical activity intervention” (Ickovics, 2019). Before this study, they surveyed the participants and asked how often they consumed healthy and unhealthy products. With the school even implementing healthier foods and physical activities, there has been little to no change. The group with the intervention had their BMI percentile increase just less than 1% (Ickovics, 2019). The main problem with policy interventions like this one is there is no guarantee that either the participants are telling the truth, are actually consuming healthy foods, or putting in good effort into the physical activity. Because of this, the results are not accurate and because of no guarantee that the participants will be consistent in their activity.

To provide additional evidence, in a study using a program intervention to improve children’s lifestyle and choices, there was “no significant effect on weight development, obesity incidence, or changes in diet quality” (Gomez, 2018) after it was conducted. Combating obesity is most effective when the individual is the direct or primary decision maker. While policy interventions are a great way to help the community as a whole, it is difficult to maintain and study any improvement without consistency.

### Major Contributors: A Summary

The Health Belief Model (Figure 1) guides our understanding of individual and collective health behaviors, emphasizing the interconnectedness of factors at various levels. Family influence, access to resources, and policy advocacy emerge as key contributors, requiring targeted interventions to address barriers and disparities. The comprehensive social-ecological model serves as a roadmap for developing effective strategies across multiple





dimensions of influence. These strategies can be effectively adopted to build group collaboration and social support networks. These systems can help strengthen a community and create positive behavior changes that can serve as a preventative measure or supportive measure for individuals who are predisposed to higher rates of an obesity diagnosis. As mentioned before, policy-based interventions don't have an efficient action compared to the other interventions. The

perceived benefits are not always accurate, as it is based solely on the individual abiding by the policy. Because there is no guarantee that the individual will follow-suit with the policy, there is very little action regarding the model. While all types of factors are beneficial to our understanding and improvement, different communities benefit differently depending on the intervention implemented.

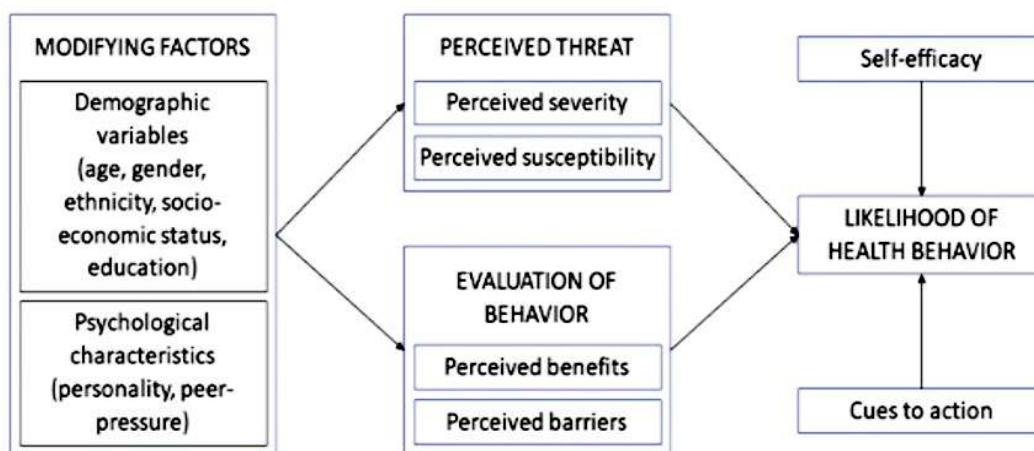


Figure 1: Health Belief Model  
Rosenstock IM, Strecher VJ, Becker MH. Social learning theory and the health belief model. Health Educ Q. 1988;15(2):175–183.

### Potential Solutions

#### Proposed Program or Intervention

While going through the different interventions, it was evident that the community interventions would best address the health topic of obesity in low-income communities. Obesity is a vulnerable topic, a topic that has the trend of lack of knowledge or misinformation. To combat that, intervening at the community level had a trend of working. Connecting to the trends seen in community interventions, it would seem that having interventions focused on community hotspots would create the best outreach. On top of that, having the support of community leaders within the hotspots would aid in outreach as well. These aspects would be effective because the intervention communication would be on

the level of the community, it would be in places that would not be out of the way and convenient for the individuals.

To analyze interventions based on these concepts, there needs to be engaging community programs implemented that are little to no cost. This could include having community gardens to provide access to fresh produce, cooking classes to increase skills to prepare healthier options, or workshops and fairs targeting different health topics to educate and raise awareness. It is important to address these interventions through several different mechanisms to provide a broader outreach. These programs can be effective by creating an environment that is supportive in order to facilitate and foster healthier lifestyle choices.



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### **Considerations for Implementation**

To have an effective intervention, there needs to be some important considerations during the implementation of the intervention. For an intervention related to educating people about obesity in low-income communities, it is important to format the intervention within the context of the community. To connect to the context of low-income communities, implementations should assess the locations that tend to be a hotspot. Some examples of community hotspots include, but are not limited to, grocery stores, schools, and post offices. It is also important to get input from people within the communities because they are going to provide pivotal insight for forming the intervention. The PRECEDE model involves predisposing, reinforcing, enabling constructs in educational/environmental diagnosis, and evaluation in order to represent the activity that leads up to an intervention. Following the PRECEDE steps of the PRECEDE/PROCEED framework of forming interventions would provide helpful steps in gathering a wide range of information for the considerations of the intervention.

On top of the models, it is also important to consider implementing quantitative, statistical, data and qualitative, non-statistical, data. To connect to an intervention related to educating the community, quantitative data could include having a “yes” or “no” questionnaire to collect information about basic trends of lifestyles. Not only questionnaires can be done, but open-ended interviews could be conducted as well. These open-ended interviews would bring in qualitative data about the inside view of the community. In having both types of data considered, more perspectives and information will be considered when planning and implementing the intervention.

### **Review of Program Effectiveness**

While bringing in information and forming the intervention is pivotal, the evaluation of

effectiveness needs to be assessed as well. All results, whether good or bad, are vital results that are needed to adapt the current intervention and format future interventions. In order to know whether the intervention works, the PROCEED phases of the PRECEDE/PROCEED framework is a helpful aid in evaluating the effectiveness of an intervention. Some steps that could be taken to help evaluate the effectiveness of the intervention would be to track attendance at community events and talk to people within the community, and provide a follow-up with them to get their input. Overall, the intervention would focus on educating the community, so having good outreach is important to creating the first steppingstone to a healthier community.

When implementing an intervention, researchers must also consider the culture and environment of their targeted communities. An intervention should be both result-oriented and collaborative with community workers. The intervention should implement a balance between the designed concept and its relevance to the community. By considering different factors such as culture, and environment, interventions can engage the target community. This will encourage continued use if the intervention proves effective. Data collected should also be evaluated by both researchers and community workers. To assess the effectiveness of the intervention and whether the resources required to continue the intervention are worth the results. Community communication and collaboration will help adapt the intervention to improve effectiveness and implementation.

### **Potential Impact**

The final aspect to consider when implementing an intervention is the potential impact, the impact is the whole reason for the intervention in the first place. If there was an intervention launched that contributed to educating the community, it would matter because education is extremely powerful. Education is the first steppingstone, the foundation, of many things



which is why the intervention is important. Regarding whom it would help, an intervention related to education would help many people within the communities. Once one person gets a piece of information, it tends to be spread to those people around them and then spread again. Information is a powerful thing that can spread like wildfire in a thriving condition. In gaining knowledge, individuals could feel more empowered to implement change, make informed decisions, and navigate through life more aware.

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