International Journal of Community Medicine and Public Health
Peter MB et al. Int J Community Med Public Health. 2023 Jul;10(7):2618-2625
http://www.ijcmph.com
pISSN 2394-6032 | eISSN 2394-6040

DOI: https://dx.doi.org/10.18203/2394-6040.ijcmph20232062

Review Article

Nutritional concepts of health promotion in sub urban community: focus on obesity and hypertension

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Received: 27 April 2023
Accepted: 31 May 2023

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ABSTRACT

Many obese and hypertensive individuals reside in suburban areas with poor health infrastructure and low levels of public awareness. The adult morbidity and mortality rates are currently being dominated by diet-related non-communicable diseases like obesity, hypertension, and metabolic syndrome in various countries. Applying both individualized and community-based health promotion strategies can result in the prevention and control of obesity and hypertension. This study examined the role of nutrition in promoting good health, preventing and treating obesity and hypertension in suburban areas. The prevalence of diet-related non-communicable diseases has been notably reduced as a result of health promotion programs. A diet high in dietary fiber, rich in fruits, vegetables, whole grains, lean meats, fish, legumes, non-tropical vegetable oils, and nuts (in moderation) has been promoted. This needs to be adjusted to take into consideration the required calorie intake, unique dietary preferences based on culture and individual, as well as nutrition therapy for various medical conditions.

Keywords: Nutrition, Health promotion, Sub-urban community, Obesity, Hypertension

INTRODUCTION

THE ALMA ATA DECLARATION: NUTRITION

At the international conference on primary health care held in Alma-Ata forty years ago, over a hundred delegates from all around the world gathered to affirm solutions for achieving health for everyone.[1] The Alma Alta declaration included a section on improving food and nutrition because of the severe levels of malnutrition in low-income nations.[2] In homes and communities with the highest death rates, the Alma Ata declaration urged collaboration with the local population. Additionally, it prompted interaction with and education about food production and feeding from the local population.[2] At that time, one or more chronic diseases that can be prevented and whose risk factors can be modified affect around 50% of all adults in the United States yet many of these nations are struggling with chronic disorders linked to nutrition, including obesity and hypertension.[3] These are influenced by phenomena including population aging, the spread of unhealthy lifestyles, globalization, unhealthy eating habits and inactivity, which can manifest in people as high blood pressure, high blood sugar, high blood cholesterol levels, and obesity.[4] Discussion of a coming worldwide obesity pandemic was regarded as heresy decades ago. In the 1970s, diets started to change, people becoming more dependent on processed foods, eating out more frequently, and consuming more edible oils and beverages with added sugar.[5] These came into being as a result of the "nutrition transition," which was primarily fueled by urbanization, economic globalization, and the promotion of prefabricated foods and beverages.[6] Over the past few decades, the change from active lifestyles and diets rich in cereal and fiber to increasingly sedentary lifestyles and diets rich in sugar, refined carbohydrates,

fat, meat, and prepackaged foods has taken place.[7] Today's successful management of obesity necessitates a long-term strategy that is adapted to a person's demands and way of life. Initial treatment should concentrate on lifestyle changes, including dietary treatments, increased physical activity, and complementary behavioral modification techniques; only people with severe obesity and major medical comorbidities or physical issues are candidates for surgery.[8,9]

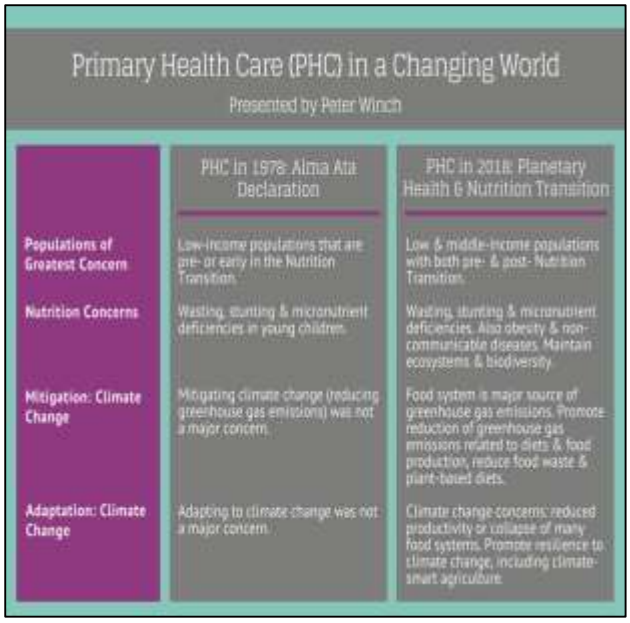

Figure 1: Alliance for a healthier world.[7]

Therefore, nutrition must be incorporated into current health care prevention, treatment and services to strengthen primary health systems. It has been demonstrated that disease treatment and management, dietary counseling and education, nutritional assessment, and monitoring all contribute to better health outcomes.[10] To effectively treat the symptoms of malnutrition that their patients experience, health professionals and workers must be trained in and possess these skills.[7] PHC can help patients change consumer demand for fair and equitable diets, which will help the demand side of sustainable food systems. In order to mitigate the negative effects, sustainable diets must be promoted. By advising patients to eat sustainably, the healthcare system might be a potent vehicle for patient education.[11] In high-income nations; many people have the choice to switch to diets that consume fewer resources and lower their risk of NCDs linked to dietary habits.[12] Many individuals in low-income nations do not have sufficient access to highly nourishing food, and as a result, they frequently do not acquire the nutrients they need to be healthy and resilient.[7] The challenges that lie ahead in ensuring that everyone has access to enough food and is well-nourished in an increasingly globalized world with integrated health and food systems are ones that no nation or people are immune to. Enhancing development in Africa must prioritize fostering food security and environmentally sound food systems.[7,13] Potential solutions are already apparent in the food and public health care systems, but to fully benefit from these elements, solutions must be cross-sectoral, sustainable, and inclusive of communities, practitioners, and experts in the fields of agriculture, environment, climate change, and public health. We can only transform how food is produced and distributed and advance universal health by working together.[7]

LITURATURE REVIEW

This study was a review. Peer-reviewed journals articles and publications from 2008 through 2023 were examined. PubMed, Google Scholar, Science Direct, and Cochrane were some of the search engines used. Nutrition, health promotion, sub-urban community, obesity, and hypertension were among the search phrases used. Only 56 of the 160 papers that were found throughout the search were used for the review, and of those 56, 47 dealt with nutrition and nutrition-related topics.

HEALTH PROMOTION (FOCUS ON NUTRITION)

One of the main issues facing contemporary society is health promotion. The majority of health issues are brought on by people's actions and inaction, as is the case with many issues of significant social importance.[14] Among many other factors, people overeat, exercise too little, and see doctors too seldom.[15] In order to prevent disease, postpone the onset of disease-related signs and symptoms, prevent early mortality, improve quality of life and reduce the financial burden on the healthcare system, it is essential to promote good health and prevent disease. It has been determined that encouraging a lifestyle that includes healthy eating habits is cost-effective for preventing diabetes and cardiovascular disease, and that maintaining a healthy nutritional status is essential for preventing obesity.[3]

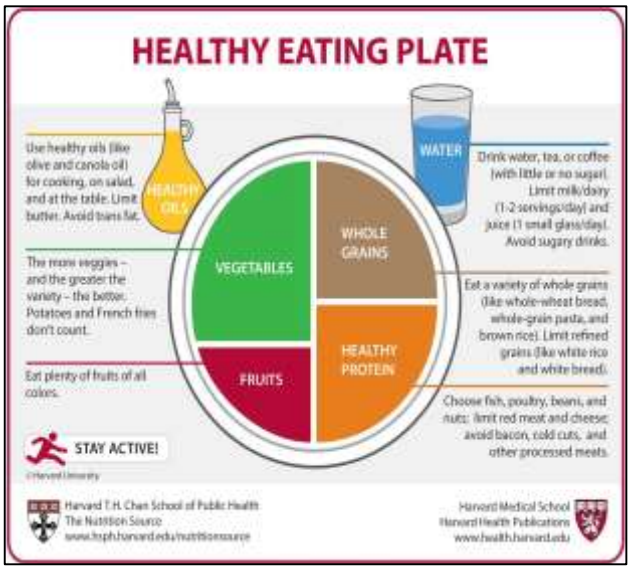

Figure 2: Health promotional tool: health eating plate guide.[16]

The formation of inter-professional teams, which may include registered dietitians nutritionists (RDNs), medical assistants, registered nurses, doctors, licensed practical nurses, and pharmacists, is crucial to implementing quality, results-focused healthcare.[3] The promotion and improvement of health and self-care, as well as the mitigation and management of patient risk factors for the emergence of chronic health conditions like overweight and obesity, require the coordination of preventive care and education for patients. This requires a highly effective team of professionals.[17] Clinical medical assistants play a significant role in some healthcare settings, particularly during the screening process. Clinical medical assistants are useful for evaluating patients for excess weight, obesity, and malnutrition and directing patient consultations to the RDN within the team.[3,18]

Some of the most typical conditions seen in primary care include obesity and hypertension.[19] Numerous randomized controlled trials and pair wise meta-analyses have evaluated the effectiveness of non-pharmacologic therapies that alter lifestyle in lowering blood pressure (BP). Which course of action would be the most effective is still unknown.[19,20] It has been demonstrated that nonpharmacologic methods can reduce blood pressure and weight. Therefore, patients with hypertension and obesity should make lifestyle changes.[21] Non-pharmacological approaches have a crucial role in the treatment of hypertension. It involves dietary modifications, reduced use of salt, alcohol, and saturated fat, as well as lifestyle adjustments. Additionally beneficial methods include weight loss, improved physical activity and following a diet regimen.[22,23] The American heart association/American college of cardiology lifestyle management recommendations call for a diet high in vegetables, fruits, and whole grains, a salt intake limit of fewer than 2,400 mg per day, and three to four sessions of exercise per week lasting, on average, 40 minutes each. Weight loss, quitting smoking, drinking less alcohol, biofeedback, and self-measured blood pressure monitoring are further nonpharmacologic treatments.[21,24]

Malnutrition (overweight, obesity) and chronic diseases are examples of complex health problems that call for a multidisciplinary approach and a network of services. Throughout a person's existence, effective chronic disease prevention should take place. The continuum of care networks must implement initiatives for disease prevention and health promotion.[3]

According to Sanjiv and Preetha, promoting health is really important; there is a widespread understanding that a variety of non-health factors, such as socioeconomic conditions, patterns of communication and food consumption, demographic trends, learning environments, family dynamics, the cultural and social fabric of societies, as well as sociopolitical and economic changes, such as those brought on by trade and commercialization, and global environmental change, influence people's health and social wellbeing. In such a situation, health issues can be effectively addressed by adopting a holistic approach, which includes encouraging leadership for public health, empowering individuals and communities to take action for their health, encouraging intersectoral action to build healthy public policies in all sectors, and establishing sustainable health systems.[25] The Alma Ata proclamation gave health promotion-though not a novel idea-a boost. It has recently changed as a result of a number of international conferences, the first of which was held in Canada and resulted in the creation of the renowned Ottawa charter.[25] It is possible to target specific health conditions through efforts to promote health that include measures at the individual and community levels, strengthening of the health system, and multi-sectoral partnerships. Additionally, a settings-based approach to promoting health in certain environments like schools, hospitals, businesses, residential neighborhoods, etc. should be included. All policies should incorporate health promotion, which will produce beneficial health outcomes if done effectively.[25]

The obesity epidemic is widespread in many nations and has a number of negative effects.[26] Consumption of low-quality carbohydrates, which include those rich in refined grains, low in fiber, and high in glycemic index (a measure of how much a given carbohydrate elevates blood sugar levels), has been linked to cardiovascular disease (CVD). These have been linked to increased mortality and cardiovascular disease risks; however the majority of studies did not distinguish between refined and unprocessed grains.[27] On the other hand, hypertension is the main contributor to the risk of cardiovascular disease and is influenced by a combination of genetic, environmental, and social factors. Overweight/obesity, a poor diet, an insufficient amount of potassium in the diet, insufficient exercise, and alcohol use are examples of environmental variables.[28]

TEN YEARS REVIEW OF LAND MARK ACHIEVEMENT

Healthy people is still committed to tackling the socioeconomic determinants of health and enhancing the health and wellbeing of the country. The fifth version of the effort, healthy people 2030, was unveiled by the US department of health and human services in 2020. This 10-year project offers a targeted set of scientifically informed, national goals with deadlines to meet by 2030.[29] The objectives for nutrition science as it appears were defined by the frontiers in nutrition editorial board five years ago. Several of the major directions were made known in the year 2020.[30] A few examples include the fact that the sustainable development goals (SDGs) for food and nutrition are on the global agenda and that they help to structure worldwide science and research. Numerous achievements have been made, and any future outlook must take into account the lessons from COVID-

19 and the sobering realization of the vulnerability of our food systems in guaranteeing global food security.[30]

Registered dietitian nutritionists (RDNs) having administrative responsibilities for food and nutrition services within an organization play a variety of functions under the umbrella of management of food and nutrition systems (MFNS) Jennifer et al.[31] RDNs in MFNS are frequently employed in acute care, but they also work in a wide range of other settings where management of nutrition and foodservice is necessary, such as foodservice departments in assisted living, post-acute care, and long-term care, colleges and universities, kindergarten through grade 12 and pre-kindergarten schools, childcare, retail foodservice operations, prisons, and businesses that produce, distribute, and sell food products.[31]

Week	Education themes	Education concepts
1	Understanding hypertension and importance of nutritional care	Understanding hypertension - Cause and complication of hypertension Lifestyle modification and medical care of hypertension Introduction to diet therapy for hypertension - Importance of balanced diet and low sodium diet at the hypertension Practice: Know how to keeping a health diary Individualized nutrition counselling
2	Diet therapy for hypertension - Low sodium diet	Adverse effect of excessive sodium intake to the hypertension Guidelines for sodium intakes Methods for choosing foods, cooking and eating to reduce sodium intakes Practice: Reading food nutrition labeling, Early taste assessment Individualized nutrition counselling with health diary
3	DASH(Dietary Approach to Stop Hypertension) diet	Understanding DASH diet - Importance of the proper intake of sodium, potassium and calcium - Importance of dietary fiber intake - Foods containing potassium, calcium and dietary fiber Practice: Smart choice of grains, fruits, vegetables and dairy products Individualized nutrition counselling with health diary
4	Diet therapy for hypertension - Body weight management	Obesity and hypertension - Importance of body weight management to maintain blood pressure - Knowing own ideal body weight and energy needs - Food choice for body weight management - Exercise for weight control at the hypertension - Behavior modification for weight control at the hypertension Practice: Calculating own ideal body weight and daily energy needs Individualized nutrition counselling with health diary
5	Cooking class I	Salt free kimchi with cabbage and sesame leaves Tofu salad with low sodium dressing Practice: Cooking class with low sodium recipe Individualized nutrition counseling with health diary
6	Diet therapy for hypertension - Low saturated fats and dietary cholesterol	Relation between hypertension, hyperlipidemia, and atherosclerosis Food Choice for reducing saturated fats and dietary cholesterol - Foods containing saturated fat trans-fat and dietary cholesterol Practice: Smart choice of meat, poultry, fish, dairy products and processed foods Reading food nutrition labeling Individualized nutrition counseling with health diary
7	Cooking class II	Chicken breast with chives Fried cod with low sodium sauce Practice: Cooking class with low sodium recipe Individualized nutrition counselling with health diary
8	Summary	Dietary approach and life style modification to lower blood pressure Practice: O · X quiz etc. Individualized nutrition counselling with health diary

Figure 3: Nutrition education program for obese and hypertensive individuals.[32]

The historic book healthy people: The surgeon general's book on health promotion and disease prevention, published in 1979 by surgeon general Julius Richmond, served as the impetus for the creation of the healthy people project. Reducing avoidable death and injury was the main focus of this report. It contained challenging, measurable targets to accomplish national health promotion and disease prevention objectives for the United States within a ten-year window (by 1990). In the decades that followed, the report was followed by the publication of revised, 10-year healthy people goals and objectives.[33] The United States has advanced significantly since the healthy people initiative's inception. Achievements include lowering risk factors like smoking, hypertension, and raised cholesterol, as well as reducing or eliminating major causes of death like heart disease and cancer, infant and maternal mortality, and significant risk factors like hypertension and elevated cholesterol.[34] Over the years, it has become clear how crucial it is to work together across departments and organizations at the federal, state, local, and tribal levels as well as with the commercial and public health sectors.[35]

The main takeaway is that a broadly disseminated plan with attainable goals and objectives can direct the actions of people, communities, and stakeholders to improve health. Diverse stakeholders from the governmental, commercial, and nonprofit sectors must be actively involved in order to attain universal health and well-being.[25,36] It is crucial to keep track of the aims and objectives for healthy people and to communicate with stakeholders and the general public high-quality data and feedback on the progress made. Additionally, we have discovered that although big changes (such lower smoking rates) may be challenging, they are nevertheless possible with consistent effort.[29] Even though the United States spends the highest percentage of its gross domestic product on health, despite significant progress, it still lags behind other developed nations (such as other members of the organization for economic co-operation and development [OECD]) on important health and wellbeing indicators, such as life expectancy, infant mortality, and obesity.[37]

The millennium development goals (MDGs) are a set of eight global development objectives that must be accomplished by the year 2015 in order to combat poverty, hunger, maternal and infant mortality, infectious diseases, lack of access to health care, gender inequality, environmental harm, and lack of global cooperation.[38] Less emphasis has been dedicated to environmental sustainability and the formation of an international partnership, while the majority of actions globally have concentrated on maternal and child health as well as communicable diseases. Several goals have so far been at least partially met, including the elimination of hunger, the halving of poverty, the improvement of living conditions for 200 million impoverished people, the decline in maternal and infant mortality, the reduction of communicable diseases, and the advancement of education. Nevertheless, a number of obstacles (such as the economic crisis, a lack of goal-to-goal synergy, etc.) will prevent some objectives from being achieved, especially in the poorest regions.[39] The MDGs have drawn attention to the needs of the world's poorest people and motivated nations and donors to commit to achieving shared objectives.[39]

Many people still view the MDGs as unfinished business even though a significant portion of them have at least partially been achieved. In order to adequately address the

expansive idea of sustainable development mentioned in the Millennium Declaration, a new set of goals is now being defined. To identify effective goals and make them a reality, a new framework, an inter-sectoral approach, and substantial pledges from governments and funders would be crucial. From the global to the local level, accountability needs to be improved.[39,40]

RESULTS

The review confirmed that adequate nutrition is related to stronger immune system, lower risk of non-communicable diseases (such as obesity, diabetes and cardiovascular disease), and enhance longevity. It was revealed that obesity and hypertension as non-communicable diseases are serious, chronic, and very common; they are linked to higher rates of morbidity and mortality. In order to benefit from treatment, obese hypertensive individuals aimed for a modest, gradual and sustainable weight loss.

Adults with hypertension benefit by cutting back on other aspects of their lifestyle, such as alcohol consumption and smoking, and reducing their sodium intake to no more than 2,400 mg of sodium per day (approximately 1 teaspoon of table salt). Both hypertensive and normotensive persons have a linear association between salt consumption and their systolic and diastolic blood pressures, with those who are already overweight or obese being at higher risk.

The review revealed that 30% of preventable morbidity and mortality from noncommunicable diseases, including obesity and hypertension, are caused by unhealthy nutrition and physical inactivity. A condition known as hypertension is linked to a higher risk of peripheral vascular disease, cardiac failure, renal failure, and stroke.

The risk of cardiovascular illnesses, including hypertension, is increased by a diet heavy in trans and saturated fatty acids, salt, and sugar. Blood pressure in a population has been shifted downward through the use of public health strategies, such as cutting calories, saturated fat, and salt from processed and prepared foods, as well as increasing opportunities for physical activity in the community.

DISCUSSION

Evaluation of the nutritional health of adults and older persons has become a crucial issue as the world's population ages. Interventional research is necessary to reduce malnutrition-related problems.[41,42] A correlation-based analysis by Ezemagu et al showed how a significant increase in body mass index, waist circumference, and waist-to-height ratio could cause hypertension and variations in systolic blood pressure, diastolic blood pressure, and pulse pressure.[43] In another recent study by Osama et al it was discovered that in Egyptian patients, the probability of developing a more severe form of COVID-19 is increased by obesity and its associated comorbidities.[44] According to Chukwu et al adopting a healthier lifestyle will probably lead to a decrease in the population of obese and hypertensive people in the community.[45]

Everyone should be encouraged to adopt healthy lifestyle choices, such as giving up smoking and increasing their physical activity, in order to prevent high blood pressure.[46] According to Black et al to lower blood pressure and unhealthy weight, adults should engage in moderate to intense aerobic physical exercise three to four times a week for an average of 40 minutes per session with at least 150 minutes per week of moderate-intensity exercise, such as brisk walking, the majority of physical condition benefits can be achieved.[28,47] Reduced rates of all-cause mortality, coronary heart disease, hypertension, stroke, type 2 diabetes, metabolic syndrome, colon cancer, breast cancer, and depression are among the health advantages of exercise.[47] There is abundant evidence that continual exercise prolongs life and delays the onset of 40 chronic illnesses and diseases.[48,49] High blood pressure, often known as hypertension, is harmful since it can cause heart attacks, strokes, heart failure, and kidney damage.[46,50] A study by Jinming et a demonstrated that a low-calorie diet, breathing exercises, isometric training, a low-sodium and high-potassium diet, holistic lifestyle changes and meditation obviously lower blood pressure (BP).[19] By enhancing anthropometric and biochemical indicators in people who are overweight, obese, and hypertensive, dietitian-provided dietary counseling can dramatically enhance the management of patients with obesity and hypertension.[51] It has been estimated that 60-70% of adult hypertension is caused by adiposity, and excess fat is linked to increases in arterial pressure. Peripheral body fat has less of an impact on blood pressure than central body fat, which is linked to insulin resistance and dyslipidemia.[52] Alcohol consumption and high-sugar beverages both have a significant negative impact on waistlines. For instance, estimates indicate that a big glass of red wine has about 260 calories, while a pint of beer has about 170 calories.[53] Drinks with fewer calories, such as those containing sugar substitutes, can aid in weight loss. In addition, the guideline recommends consuming eight glasses of water daily.[54]

Recent studies have revealed that the public has low levels of health literacy, making it challenging for consumers to determine whether something is healthy or not.[55] Based on high quality data, the current network meta-analysis reveals that the DASH dietary approach may be the most effective dietary measure to lower blood pressure among hypertensive and pre-hypertensive individuals.[56]

CONCLUSION

The numerous factors that contribute to obesity and hypertension, as well as the effects they have on people's

health, must be understood by nutritionists, dieticians, and other healthcare professionals. In addition to assessing excessive body weight in clinical and other settings, they should be able to instruct consumers and clients who are having trouble managing their weight about preventive measures that are both affordable and effective for preventing or reducing the incidence of obesity and hypertension. Health and nutrition education on the importance of adjusting to proper calorie requirements, individual and cultural dietary preferences, and nutritional therapy for other medical diseases, including diabetes mellitus, is also required. Consuming plant-based meals that are high in bioactive phytochemicals; antioxidants, phytonutrients, and potassium have positive health effects above and beyond basic nutrition and lowers the chance of developing chronic diseases.

Recommendations

People must be informed and counseled about the necessity of returning to our traditional diet, which is characterized by a high intake of fruits, vegetables, and whole grains rich in dietary fiber, low-fat dairy products, poultry, fish, legumes, non-tropical vegetable oils, and nuts (in moderation); and a restriction on intake of sweets, beverages with added sugar, and red meat.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

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Cite this article as: Peter MB, Nwose EU, Ofili C, Peters E. Nutritional concepts of health promotion in sub urban community: focus on obesity and hypertension. Int J Community Med Public Health 2023;10:2618-25.