

Impact of Nutrition Intervention on Public Health

Pary Hadi

Tishk International University

Faculty of Nursing Nursing Department

Pary.ameer@tiu.edu.iq

i. ABSTRACT:

The influence and importance of Nutrition intervention on public health and its impact on the establishment of policy to manage diseases related to nutrition have been summarized in this review including the purpose of Nutrition Intervention and programs of Nutrition intervention to resolve health issues with the improvement of Nutritional diagnosis or Nutrition issues as well as providing guidelines and educational programs including meal planning to the patients or Clients. Determination of the studies that are related to the Nutrition intervention and Public health aspects such as global intervention, Nutritional Epidemiology, Governmental policy and food security of nutrition, overnutrition, commercial issues, and undernutrition. The contribution of Nutrition intervention in preventing or managing chronic diseases and other diseases related to Nutrition deficiency based on Public Health worldwide.

Keywords/

Nutrition Intervention, Public Health, Food Policy, Nutritional Diagnosis

1. Introduction

Many factors have been determined in measuring the nutritional status of individuals such as diet and nutrient intake parameters, Physical conditions related to the specific diseases and disorders, History of health and medical, Physical examination, body weight and fitness of the individuals, biochemical abnormalities including Medication and botanical products intake (Mahan and Raymond 2016).

Nutrition care has two essential parts that are screening and assessment. the Nutritional care process “ NCP” have been developed in 2002 by the (Academy of Nutrition and Dietetics) which is an American Dietetic association, the purpose of establishing the Nutrition Care Process is to improve public health and reduce the diseases that are related to nutrition (Munoz and Bernstein, 2018).

The Nutrition Care Process consists of 4 steps that are complementary steps and should be available in the NCP, the first step is Nutrition assessment, the second step is followed by the Nutritional diagnosis, the third step is Nutritional Intervention which is the most important step of NCP that set targets, delivery of food and nutrient delivery, concealing with patient/clients, tutoring as well as coordinating of the care process. Finally, the last step is evaluation and monitoring of the intervention effectiveness (Mahan and Raymond 2016).

The purpose of this review is to summarize and represent the evidence and studies about the influence of nutrition intervention based on public health. the importance of the nutrition programs in managing diet and diseases with raising awareness of the communities and coaching of the individuals to have a healthy lifestyle with a good nutritional status.

2. An overview about nutrition intervention:

Nutrition intervention is determined as the 3rd step of the Nutrition Care Process and the most significant step of it. The essential target of Nutrition intervention is to improve or solve the nutrition problems of individuals as well as Patient/Clients by the implementation of particular strategies and plans that will help the behavior change, environmental factors that affect the nutrition, nutritional status, nutritional knowledge including providing supportive care services(ADA,2009).

The nutritional intervention is determined by the Nutritional Diagnosis and etiology of the diseases. The purpose of the intervention is to help the bases of measuring the outcomes of nutrition intervention and checking the progress of patients and clients. Nutrition Intervention's basic mechanisms are planning and implementation. Numerous nutritional diagnoses should be observed during Planning based on the nutrition problems. etiology is the most important point that helps nutritionists to change the signs and symptoms to solve nutrition problems (Skipper, 2008).

The Nutrition and Dietetics Academy had also formed standardized requirements for nutritional interventions. Food and/or nutrient delivery, education in nutrition, nutrition counseling, and nutritional coordination are divided into four categories. The main objectives of the procedure should be patient-oriented, reasonable, possible to achieve, quantifiable, and gradual. Relevant information on the nutrition condition of the person is collected and then used to observe and evaluate the efficacy and improvement of the intervention (Skipper, 2008).

3. Nutrition Intervention association with diseases:

The studies determine the evidence linked with the nutritional factors of the essential chronic diseases with consideration of the primary and secondary preventions of such diseases of diabetes, some kinds of cancer and heart disease including some types of function improvement such as functions of muscle and immune system, it is an important point for awareness of Public health communities with providing dietary recommendations. (Brunner et al., 2007).

The correct scientific evidence must prove such messages and components of guidelines. This research aimed to guide the development, represent performance, and trying to report human nutrition intervention programs. All such recommendations must also support study results to promote nutrition in the wide meaning and this should help health accomplishments for food (Aggett et al.,2010).

The definition of food in the current study refers to foods, nutritional supplements, and dietary components, but it does not handle all nutritional habits. Such requirements have been concluded after the transactions between representatives of industry, academic research as well as regulatory agencies, throughout the perspective of the Global Health Science Research center Europe Expert Committee (Aggett et al.,2010).

The Expert Committee performs a comparative questionnaire of applicable research articles published in various guiding international journals within which was before durations. Consequently, this dataset has been decided to expand by targeted scientific studies aim of providing descriptions not even in the identification process. The whole questionnaire helped to identify its scope, strengths, and limitations of both the presently published research methods and cites selected articles as instances of current practices (Aggett et al.,2010).

4. Nutrition intervention programs effectiveness based on the studies:

Community-based intervention strategies and programs had also received considerable attention because such researchers and clinicians in population health understand the importance of an environment that makes a healthy choice easy. All applicants, including the target community, are involved in changing laws, the social and physical environments of individuals, and the individual differences which encourage healthy foods as well as other lifestyle choices (Verheijden and Kok, 2005).

Future community-based intervention studies would benefit from clearly defined target community descriptions and major results. Resources to help with descriptions of the desired outcome measurements would be helpful, although the design elements for all these treatment effects will also contribute to population proportion. Some many implementations are readily accessible for community health interventions to be designed, implemented, and assessed (Verheijden and Kok, 2005).

4.1. Effect of Nutrition Education Program on Childhood Obesity:

The increased rates of overweight and obesity among children are becoming a significant global consideration throughout this world. The percentage of school-age children over the past three decades has risen, Furthermore, statistics data from a representative sample of both the National Health interview Questionnaire observed that children from ethnic minority groups have had a greater risk of being overweight and obese among children from poorer families. Numerous government organizations, along with the American Psychiatric Association, have aware of the fact of the impact of the school's part in strengthening healthy eating practices and nutrition education programs among school-age children (Talley and Short,1995).

The research had been an observation of results of such an African American kindergarten as well as the first-grade Nutrition Educational Programs for the under urban school children. The program is designed to increase the knowledge and intake of fresh fruits and vegetables during lunch at school. It has included components of classroom knowledge transformation, a lunch hour ingredient for behavior interventions, and a family ingredient. This became distinctive because natural support staff at the school (e.g paraprofessionals) have always been enlisted as operatives to change their habits. Results revealed that from the students' point of view, educators, and

paraprofessional community support staff, the program has been considered completely credible (Blom-Hoffman et al.,2004).

Application of credibility for the classroom intervention had been appropriate and besides extremely unpredictable for such lunch hour intervention. The results of the program showed that

changes in awareness were significant but behavioral changes were changeable (Blom-Hoffman et al.,2004).

Inaccurate psychological symptoms would seem probably in part associated with the changeable standards of credibility of the intervention. Addresses the implications of helping to promote the credibility of interventions with assistants and strategies to improve integrity The study shows the role physical educators can play in promoting health. School psychology can help about there classmates to choose, evolve, and evaluate educational programs as well as other health-promoting applications (Lipsey and Wilson, 1993).

School psychologists also can communicate with educators upon this implementation of the system. In view of the epidemic percentage of childhood obesity throughout this global community (Leff et al.,2004) schools must play a significant part in encouraging healthy eating behavior. School psychologists could really make a significant contribution to their understanding of behavioral organizational change, progress monitoring, and assessment towards this initiative (Blom-Hoffman et al.,2004).

4.2 Impact of Nutrition Intervention and Fitness programs on cardiovascular diseases

In the United States, cardiovascular disease (CVD) continues to remain the main cause of death. CVD deaths are strongly associated with cholesterol levels. The recommendations of both the Patients Over the age Panel recommend eating habits and training as the key components of management of hyper cholesterol. In several earlier studies, nutritionists had diet recommendations. The aim of the randomized control trial would have been to investigate the effect of the non-dietitian Food For Cardiovascular Program on lipid profile and body weight throughout hypercholesterolemic patient populations (Allison et al.,1999).

Diet, as well as physical rehabilitation, are recommended as a core component for effective management of hypercholesterolemia throughout the National Cholesterol Education Program, Policies, and procedures. Eating patterns will not take more risks associated with medical and seems to be available to all. Long-term diet habits to complex and expensive professional intervention seem to be more probable. The National Cholesterol Education Program recommendations expressly recommend that registered dietitians be attributed to (Cleman et al., 2001).

The Nutrition for Heart program was initially designed and implemented by nutritionists at Community college of North Carolina besides low-income population and low literacy patient populations and is incredibly simple healthy eating education. The purpose of this study would have been to evaluate a dietary and lifestyle educational tool, and that might be helpful for peoples with no access to formal nutritional therapy. Food for Heart is a reliable and cheap nutritional component of an organization for patient populations with hyper cholesterol. The retrospective investigation will be of involvement to validate efficiency in practical terms (Cheng et al., 2004).

4.3. Nutrition Intervention Program effect for Diabetes Diseases:

There has been strong evidence that the well eating habits and regular physical activity can avoid or maybe even postpone t2dm, usually leading to weight loss. The 27-center randomized controlled clinical study has already shown a 58% significant decrease in diabetes in individual

people with impaired fasting glucose in several of the studies conducted, especially in comparison to metformin, with such dietary interventions (DPPRG, 2009).

The study conducted in the USA has been the first significant clinical study to start comparing a complex and expensive losing weight intervention with the supportive and instructional team for overweight and obese type 2 diabetic patients. The past look is decided to carry out in sixteen centers are located in the United States of America. Around one year, the overall average total body weight was 8.6 percent of total and cardiovascular fitness has been 21% percent better, due to the increased physical activity objective (ADA, 2007).

Extra extensive diet and lifestyle intervention, including not just a reduction in fat and calories but also structured snacks that have been linked directly to effective weight loss and maintenance (ADA, 2007).

The research of "Da Qing" study compared eating habits, diet, and exercise plus physical activity with an experimental group, ended up finding that all 3 techniques of lifestyle lower the incidence of diabetes by 31- 46% percent (Pan et al., 1997).

More recent researches observed the effect of a nutrition intervention program on the prevention of diabetes by changing lifestyle, the study "Finnish" Prevention Study on Diabetes has also shown that lifestyle modifications for physical losing weight decreased the risk of diabetes through overweight people with impaired glucose tolerance " IGT" through about 58% percent (Tuomilehto et al., 2001).

Moreover, a risk reduction and nutrition program trial for intervention, such as Diabetes mellitus patients with diabetes as well as people with important risk factors but still no obvious diabetes, demonstrates an unmitigated decreased risk of roughly three cardiovascular diseases for every 1000 persons for every Thousand years with such an energetic Mediterranean diet complemented by extra pure olive oil as well as nuts intake (Estruch et al., 2013).

Nutritional recommendations for type2 diabetes in adults are probably low fat and high unprocessed carbohydrates, which also end up taking about 25–30 percent of both the fat calorie consumption and around 50.0% of both the unrefined carbohydrates calorie consumption as well as low glycaemic index diet plans, which also include low glycaemic Index food products such as (beans, pasta and nuddles, oats, and some types of fruit and vegetables) and carbonated soft drinking products (Ajala et al., 2013).

The vegetarian and vegan, normally-caloric plant-based healthy eating type 2 diabetes mellitus has also been shown to continue improving the metabolic management and reduce cardiovascular risk of adults with type 2 diabetes. Functional features of the eating habits include synthetic fibers rich, refined carbohydrates as well as the whole refined carbohydrates, fruit, vegetable as well as leguminous plants products, fermentation foods, sea salt as well as green tea, without any animal

protein and fat (which include dairy products and milk) as well as basic sugar products (Abubakari et al.,2012).

The impact of dietary habits (based on consumption of raw vegetables, grains and nut, fruit, cooked fish, and olive oil, including cooked vegetables) on preventing diabetes of type 2 has recently been evaluated and the danger of development total decrease has been reduced significantly by a recent systematic review as well as a meta-analysis of additional research. The management of type 2 diabetes has been found (Esposito et al., 2010).

The nutritional habitat seems to be different culturally between and among European countries and diet and lifestyle choice is intimately associated with social and economic status through

population sub-groups. It is well known that individuals with low incomes and unhealing behaviors such as smoking as well as sedentary use of saturated fatty acids or processed carbohydrates have much more lipids (Wardle et al., 2004).

Mostly in the evaluation of social and economic differences through healthy food exercise, academic achievement has been noted to be the strongest positive predictor. A representative sample of younger people from 23 countries has shown that it is 22 percentage gender differences in the options available in fat, 23% percent in fiber, and 75 % percent in fruit and no sex difference in choosing sodium chloride seems to be. There is definitely a sex difference in dietary choices (Wardle et al., 2004).

4.4. Influence of Nutrition Intervention programs for undernutrition individuals:

Chronic undernutrition is commonly acknowledged as one of the greatest starvation as well as pain and suffering struggles wherein large parts of the population also currently reside in several regions of the world. Even so, malnutrition is not only a result of poverty but it's a cause. Because even though rarely measurable with both the highest specification, undernutrition direct or indirect decreases people's choices productivity and making it much more susceptible to infection (Svedberg,2002).

The hazard of premature mortality also was increased by undernourishment, particularly among young kids. Furthermore, for people who survived, childhood malnutrition is associated with chronic adult health complications. Undernutrition could also directly impact children's learning and development and therefore affect the quality of human capital, which would be essential for economic growth and poverty reduction (Pelletier, 1994).

The FAO's worldwide Publicly Owned Utility. estimates also provide evidential support and for the newest policy to halve the amount of malnourished before 2015. Such assumptions are based on models with a designed preference, that have long become highlighted, as well as the FAO explains the use owing to the unavailability of essential information (Svedberg,2002).

The first participation of such a study is to discuss that, even before establishing its limits, the FAO also has reality designated a number to that same crucial (absent) variable. It's also been seen that the FAO might have used an alternate solution conditional probability estimation technique with such a number for that kind of parameter, that also generates "nonbiased" predictions with Publicly Owned Utility (Svedberg,2002).

It's also been seen that the FAO might have used an alternate solution conditional probability estimation technique with such a number for that kind of parameter, that also generates "nonbiased" predictions with Publicly Owned Utility. The use of such an alternative theory, while also following the FAO attitude towards food supply as well as raw information, assumes that the occurrence of undernourishment is significantly higher than that reported by FAO. It could thus put figures on the (descending) bias in the world's largest estimated Publicly Owned Utility., caused by the FAO estimation technique (Svedberg,2002).

5. Association of Nutrition Policy and cost-effectiveness:

When evaluating whose been paying for healthcare interventions, this can claim that social expenses of the disordered diet must not be taxed without paying individuals, but that's not easy to come up with a system that recognizes and expenses unhealthful foodstuffs even when trying to avoid the burden on good health dieters as well as will be at the same time useful to implement (Traill,2012).

Close to dramatic healthcare services modernization, for which people are paying because of their own health care system instantly, is wanting to eat is probable behavior? Saturated fat and salt could have been taxed through concept with regards to nutrients or even fruit and green leafy vegetables can be promoted when administratively as well as politically possible. Due to the challenges of overweight trying to charge, obesity is more problematic (Traill,2012).

The most relatively close intermediary to an overfishing way of measuring, and though operationally intractable, seems to be a caloric intake tax: the (overall calorie) soda tax is a somewhat good indicator, and though soda is often involved with obese people. This would be a

more specific way of paying the amount of pollution, even though it had little impact on human health than general revenue and taxation (Traill,2012).

Authentic income taxes might not cover the healthcare cost sufficiently but it starts raising approximately enough revenue to cover the costs of healthcare of poor eating habits, and therefore it might be regarded to remove the VAT exemption for all food and can cover the external healthcare-related to unhealthy food in a better way, or extra might be used to lower taxable income or enhance its effectiveness to the negatively impacted poverty (Traill,2012).

The health promotion and financial professional groups start negotiations with different goals and methodologies to evaluate the program's effectiveness. Economic experts guarantee optimum solution distribution of resources, while community health intervention has been focused on improving health and quality of life of public health. And since healthcare professionals recognize a financial limit, about there objective goal is to maximize health per unit of public expenditure, while the economist's purpose is to achieve maximum public services of the community (Traill,2012).

6. Nutrition Recommendation and Guidelines:

The food-based nutritional recommendations are an intent to incorporate an extended (but always inadequate) basic framework of substantiation on relationships among types of food, nutritional status, and health into the policy guidelines that are socially acceptable and practical. These recommendations are designed to influence Individual preferences and advise a group of different food, health, and nutrition policies and practices in certain areas of the world as well. Mainly on the role development of both a social and policy system that uses a variety of information as well as theory was proposed (Albert et al.,2007).

Food and nutrient consumption evaluations, food system, pervasiveness, and community education relevance of nutrition-related nutrition and health interventions, lifestyle choices, and other concerns are some of the kinds of evidence that used to educate nutrition recommendation, numerous nations around the world have implemented various recommendations, mostly in cooperation with or through support from the international organizations and agencies (Recommendations, 2014).

In the healthcare sector, advanced recommender systems devices are increasingly have been used to lead to an increased in the strategic decision. Within that article, the study has been evaluated the assessment of the thought experiment health recommender system by the customer which provides individualized dietary advice. The study considered the purpose of customers to get such a counselling program following the choices relating to the reference implementation (e.g. type of organization giving advice) and also counterparties (e.g. physical therapist) which could help with the system. We further examine if either customer's cognitive effort, privacy concerns,

effectiveness, and satisfaction reflect the relationship of both the framework and of intermediation mostly on specific intent of using a health recommender system (Wendel et al., 2013).

Researchers had also developed and implemented a consumer model intended to be using health care system guidelines. Researchers found financial institutions to play an essential part in evaluating a such framework beyond the choices of the reference application that was used to start generating the guideline and recommendations. Healthcare information service providers as well appear to depend on professional treatment. All have important consequences for both the consumption and support services of the health recommender system, which may be very hard to implement outside of conventional therapeutic services (Wendel et al., 2013).

7. Conclusion:

To sum up the article, the review was about the studies that have been done about the influence of nutrition intervention as well as programs on public health. the importance and role of nutrition intervention in the nutrition care process steps.

The evidence of the importance of implementation of nutrition intervention programs and education programs to improve public health as well as setting a good food policy and security to manage and reduce the chronic diseases and diseases that are related to nutrition such as (childhood obesity, cardiovascular diseases, diabetes, undernutrition...etc).

The establishment of nutrition policy and the effect of reducing medical intake costs which is nutrition intervention and nutrition policy has an important in reducing the total medical costs of a community including nutrition recommendations and guidelines effect on the awareness of individuals.

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