Involvement of Nutritional Epidemiology in Public Health

ABSTRACT~~:~~

The purpose of this review is to demonstrate the significance and involvement of Nutritional Epidemiology in public health. The investigation of solving health issues that are linked to the Nutrition-related Diseases that are used by Physicians, Nutritionists, Dietitians as well as other Health Providers and Professionals of Public Health. Representing applied Researches that show the involvement of Nutritional Epidemiology in Public Health and the accomplishments of Nutritional epidemiology related to nutrient intake and healthy diet. Transformation of the diet-related diseases by Nutritional Epidemiologists into a Platform of Practice to Prevent these Diseases and Raise Individual or Public Awareness by nutritional recommendations. To show the influence and importance of Nutritional Epidemiology on Public Health, with a focus on the impact of the healthy food and lifestyle on diet-related diseases, decrease the risks of Morbidity and Mortality Diseases, identification of the Nutrient deficiencies between Childhood to Adulthood groups.

Comment [N1]: This needs to be recast. I have suggested a review of the abstract to read as follows:

The purpose of this review is to demonstrate the significance and involvement of nutritional epidemiology in public health by examining solutions to health issues that are linked to nutrition-related diseases detected by Physicians, Nutritionists, Dietitians as well as other Health Providers and Professionals of public health. Similarly, this paper examines the involvement of nutritional epidemiology in public health and the accomplishments of nutritional epidemiology in relation to nutrient intake and healthy diet. The transformation of diet-related diseases by nutritional epidemiologists into a platform of practice to prevent these diseases and raise individual or public awareness by nutritional recommendations is also discussed. Lastly, the influence and importance of nutritional epidemiology on public health, with a focus on the impact of the healthy food and lifestyle on diet-related diseases, decreasing the risks of morbidity and mortality, and the identification of the nutrient deficiencies from childhood to adulthood groups.

Keywords~~/~~

Nutritional Epidemiology, Public Health, Diet-related Diseases, Nutrient intake, Lifestyle

1. Introduction

The Literature of the Science of Nutritional Epidemiology ~~starts~~ started to occur and develop in the 1980~~s~~S based on ~~the~~ many ~~Quantitative~~ quantitative sources. The significant difference in

~~Diet~~ diet ~~with~~ between ~~Individuals~~ individuals and the community was computed in numerous populations. Standardized ~~Questionnaires~~ questionnaires of ~~Dietary~~ dietary types were established ~~to be used~~ for use in ~~the~~ large ~~studies of Epidemiology~~epidemiological studies.~~,~~ ~~the~~ The ~~Capability~~capability~~,~~ ~~and facility~~ of these dietary questionnaires in the measurement of diet was recognized, but many problems related to ~~the Diet~~ diet and ~~Diseases~~ diseases were not solved (Willett, 2012).

In the 1990s, the ~~First~~ first ~~Edition~~ edition of "Nutritional Epidemiology" was ~~Published~~ published. ~~that~~ That challenged the connection ~~of~~ between the new formulations of study methodologies and started to develop and cover the fields of investigation of new attributes of diet in different communities ~~among~~ around the world (Willett, 2012).

The different ~~topics of Methodology about~~methodological aspects of ~~Nutritional~~ nutritional ~~Epidemiology~~ epidemiology were developed greatly in detail and a large number of ~~Cohort~~ cohort studies began to provide data about the relationship between ~~Diet~~ diet and ~~Disease~~ disease, and focusing on the important methods of analysis, presentation, as well as, interpretation of the "Nutritional Data" that is known as the "~~complex~~ Complex Nutritional Data" (Boeing, 2013).

Nutritional Epidemiology has a ~~good implication~~positive impact on ~~Public~~ public ~~Health~~health, since it assists in ~~contributes to~~tracking the monitoring of ~~the Food~~ food ~~Consumption~~consumption, ~~Nutrient~~ nutrient ~~consumption~~ intake, and ~~Nutritional~~ nutritional ~~Status~~ status of a ~~Particular~~ particular ~~Population~~population. It formulates ~~formulation of~~ ~~the new~~novel hypothesis related to ~~Nutrition~~ nutrition and ~~Diseases~~ diseases in order to generate evidence to ~~accept~~ support or ~~refuse~~ refute the current ~~hypothesis~~concept, and to evaluate the ~~strength~~ severity of diseases ~~related~~ linked to ~~the Diet~~diet. Nutritional Epidemiology involves the

Comment [N2]: You may paraphrase these two sentences as:
In the 1980s, the Literature of Nutritional Epidemiology began to emerge and expand, based on a variety of quantitative sources. In a variety of populations, the significant difference in diet between individuals and the community was calculated.

prevention of diseases and the improvement of ~~Communities~~ community ~~Health~~ health (~~WILLETT~~Willet, 1987).

~~The~~ This ~~Review~~ papaer aims to represent the role of ~~Nutritional~~ nutritional epidemiology in the improvement of the ~~Nutritional~~ nutritional status of ~~Public~~ public ~~Health~~ health in ~~the~~ different countries around the world concerning the ~~Studies~~ studies that have been done about various diseases that can be healed by diet and limitation of medical consumption.

Comment [N3]: I think you should replace examine with replace.

2. Terminology of Epidemiology and Nutritional Epidemiology

The Science of Epidemiology is recognized as the exercise of hypothesis generation, which is the study of the distribution related to the "frequency, pattern" and causes ~~with~~ of risk factors of ~~the~~ diseases related to the health conditions and places in a particular population. ~~that is~~These are known as the determinants, and determine the ~~Natural~~ natural history of disease within the prognosis of diseases~~.~~ (Rothman, 2012).

Epidemiology ~~figures~~ considers the decision of ~~Policy~~ policy and ~~Practices~~ practices that are based on evidence, by ~~identification of~~ identifying the risk factors and aims of the practices to prevent risks ~~factors and~~while ~~establishment of~~establishing preventive healthcare and identification of the diseases that are found in a community (Ananthakrishnan, 2015).

Nutritional ~~Epidemiology~~ epidemiology is a new area of ~~Medical~~ medical ~~Study~~ study and a branch of ~~Epidemiology~~ epidemiology that ~~Study~~ studies the connection between ~~Health~~ health and ~~Nutrition~~nutrition~~.~~. ~~in~~ In addition, it provides specific data and knowledge about the science

of ~~Nutrition~~ nutrition and information about ~~Diseases~~ diseases that are associated with ~~Diet~~ diet and ~~Malnutrition~~ malnutrition (Michels, 2003).

3. Study Design of Nutritional Epidemiology

~~The study designs of the Nutritional~~ Nutritional epidemiology study designs need to create an absolute relationship network between diet and disease to have the ability to recognize and ~~improving~~ improve policies and interventions that can be implemented for the determination~~s~~ of the ~~Health~~ health of the ~~Community~~ community, and to prevent the spread of diet-related diseases and detection of the aetiology of the various diseases that lead to death (Satija et al., 2015).

Nutritional Epidemiology has two types of investigations, which are experimental and observational investigations that can be applied in the ~~study design~~ following study designs~~the type of study~~, such as cross-sectional ~~study~~studies, cohort ~~study~~studies, ecological, clinical, ~~Case~~case-control as well as community trials. The ~~Observational~~ observational investigation studies ~~that applied~~ have been observed with none-intervention, while the Nutritional ~~Epidemiologists~~ epidemiologists have ~~the~~ control in the ~~Experimental~~ experimental studies to assign exposures (Chidambaram and Josephson, 2019).

Nutritional Epidemiology has more challenges designed for nutritional intervention, such as the effectiveness of diet that can be used as an agent of prevention against diseases ~~pattern~~ and amount of intake among a particular population (Boeing, 2013).

~~The~~ Studies of retrospective case-control and past diet of recall bias are other issues that should be considered because it is not like smoking or other screening tests where its exposure can be completely prevented and stopped or started, such as individuals' ~~Diet~~diet, and ~~Physical~~ physical

~~Activity~~ activity including change in weight, which cannot be zero during the lifespan (Margetts and Nelson, 1987).

4. Biomarkers of Nutritional Epidemiology~~:~~

The Biomarkers are one of the indicators of analysis in ~~Nutritional~~ nutritional ~~Epidemiology~~ epidemiology that determine the ~~Nutrient~~ nutrient Intake as (Beaton et al. 1997) study mentioned, ~~about~~ the continual errors during assessments of ~~Dietary~~ diet, but the main challenge is to comprehend and evaluate ~~as well as using~~ the structure of errors through the analysis process and with the capability of using.

Comment [N4]: Using what Incomplete sentence?

The Nutritional ~~Epidemiologist~~ epidemiologist can get the biological ~~Markers~~ markers from specimens of blood, hair, and ~~Urine~~ urine, which is a good indicator that can guide individuals about the true intake of the ~~Nutrients~~nutrients~~,~~. Biomarkers based on ~~the~~ traditional methods can substitute the estimated intake of ~~the Nutrients~~nutrients. Intake of ~~Biochemical~~ biochemical markers may cause errors that are related to the ~~Dietary~~ dietary ~~Survey~~ survey ~~Methods~~ methods (Beaton et al., 1997).

~~The~~ Biomarkers have been developed for the validation of the ~~Techniques~~ techniques that are used for evaluating dietary intake. Various and a greater number of dietary biomarkers should be developed to get better characteristics of ~~Nourishment~~nourishment. In the validation research~~s~~ ,the “doubly labelled water technique” as well as “24-~~Hour~~ hour urine, ~~Nitrogen~~ nitrogen, and potassium” are used mostly and routinely~~,~~. ~~it~~ It has been revealed that loss of ~~Statistic~~ statistical power and focusing on the effectiveness of the ~~Diet~~ diet can be a significant decrease. The health of the community can be improved by using a suitable biomarker and directing a thorough analysis (Bingham, 2002).

5. Nutritional Epidemiologic involvement in Developing Policy to improve Public Health~~:~~

The grading systems to evaluate the rate of evidence of specific study types ~~has~~ have been used by ~~National~~ national ~~Organizations~~ organizations like "American Diabetes Associations, FDA, AHA, American College ~~/~~ Cardiology, and American Preventive Services Task Force" to rate the ~~Quality~~ quality of ~~Strength~~ strength of ~~Evidence~~ evidence in developing ~~Policy~~ policy and its effect on ~~the Public~~ public ~~Health~~ health (Ellwood et al., 2010).

In the ~~Randomized~~ randomized ~~Controlled~~ controlled ~~Trials~~trials (RCT), studies that were conducted with the endpoint of diseases ~~is~~ are recognized as the ~~most strength~~strongest scales approaching the ~~Cohort~~ cohort ~~Studies~~ studies ~~that is~~which are one step below the RCT ~~Randomized Controlled Trials, .~~ ~~during~~ During ~~missing of~~ the absence of large quantities in RCT with the endpoint diseases, the ~~Cohort~~ cohort studies are considered in authenticating ~~of Nutritional~~ nutritional ~~Claim~~ claims as well as ~~establishing and Developing~~ developing ~~Policy~~ policy with the collaboration ~~with~~ of ~~Smaller~~ smaller RCT and halfway endpoint diseases (Satija et al., 2015).

In most cases, ~~the~~ "~~-~~Prospective Cohort Studies" ~~has~~ have been used widely as evidence by the Committee of Dietary Guideline Recommendation in developing Policy~~-~~. ~~however~~However, in the case of RCT ~~Studies~~studies, the evidence is used to evaluate and assess the relationship between specific ~~Dietary~~ dietary issues and the risk of ~~Chronic~~ chronic ~~Diseases~~ diseases that ~~lead~~ led to the foundation and ~~developing~~ development of the ~~Dietary~~ dietary ~~Recommendations~~ recommendations for the population in developed and undeveloped countries, ~~in~~ which is a factor ~~of~~ in improving ~~Public~~ public ~~Health~~ health (Spahn et al., 2011).

Comment [N5]: Please write FDA in full

Comment [N6]: Write AHA in full as well

6. Nutritional Epidemiology accomplishments are being studied~~:~~

This section ~~Outlining~~ outlines and ~~representing~~ represents the accomplishments of ~~Nutritional~~ nutritional ~~Epidemiology~~ epidemiology studies with evidence ~~in~~ of diseases and ~~its~~ their contribution to improving health. In one of such studies, ~~The~~ the effect of lifestyle and diet, especially the intake of vegetable-based meals, with the restriction of meat, fat, sugar, and its impact on population health, including ~~Intervention~~ intervention ~~Studies~~ studies was investigated (Willett, 2015).

6.1. Plant-based food and Cancer diseases~~:~~

Based on ~~the~~ case-control studies and a 1997 report ~~of~~ by the "World Cancer Research Fund (WCRF)" ~~in 1997,~~ ~~about highlighting~~ the relationship ~~of~~ between higher consumption of plant-based foods "~~–~~Vegetable and Fruits" and a lower risk of particular types of cancers were highlighted. These cancers ~~such as~~include mouth, pharynx, stomach, and lungs, as well as cancers of ~~Breast~~the breast, ~~Bladder~~bladder, ~~Larynx~~larynx, and ~~Pancreas~~ pancreas. ~~with considerable~~ Considerable evidence and similar relationship with ~~the~~ a higher consumption of ~~the~~ only vegetables ~~with~~ and a lower risk of ~~the Colon~~ colon and ~~Rectum~~ rectum ~~Cancer~~ cancer was also ~~(~~reported (~~–~~American Institute for Cancer Research and World Cancer Research Fund International, 1997), as well as,~~-~~

~~Based upon the data in the report of "WCRF" in 2017 that more cohort studies are mentioned, with evidence of the possible relation between higher consumption of vegetables and lower risk factors of specific types of cancer such as Stomach~~ cancers of the stomach, ~~Esophagus~~esophagus, ~~Larynx~~larynx, pharynx, and mouth. ~~Likely~~Similarly, ~~an inverse association of lowering the risk of colon, rectum cancer, and stomach cancer regarding garlic and allium vegetable consumption,~~ an inverse association ~~within the~~with higher fruit intake, and a

Comment [N7]: I suggest you should cite this as Glade, 1999. I think this is the complete reference:
Glade MJ. Food, nutrition, and the prevention of cancer: a global perspective. American Institute for Cancer Research/World Cancer Research Fund, American Institute for Cancer Research, 1997. Nutrition. 1999 Jun;15(6):523-6. doi: 10.1016/s0899-9007(99)00021-0. PMID: 10378216.

lower risk of ~~the~~ esophagus, stomach, mouth, larynx, and pharynx cancers was reported. Also, the report mentioned and determined ~~concerning the possible emphasized~~ associations between ~~higher consumption~~higher consumption of foods containing lycopene and foods that contains selenium with a lower risk of prostate cancer (~~Van't~~ van't Veer and Kampman, 2007).

Many studies have been done in recent decades about the effect of higher vegetable and fruit intake ~~in~~ on reducing the risk of various types of cancer, especially reduction of the risks of epithelial cancer types, particular types of breast cancer, but maybe not prostate cancer. ~~but~~ But in general, cancer has not been determined ~~as the correspondinglyto~~ be associated with ~~the~~ plant food intake (Potter, 2015).

The evidence and health instructions change over time regarding community health and the researchers working on it. ~~and still~~Still, there is an area for research to have a clear message for public health and to prevent the risk of cancer and improve overall health. ~~the studies~~ Studies show ~~the~~ a dependable and considered relationship between vegetable and fruit intake ~~with~~ and reducing the risk~~s~~ of cardiovascular diseases as well (Sun, 2021).

6.2. Studies about the association between ~~Fat~~ fat intake and ~~Breast~~ breast ~~Cancer~~cancer~~:~~

Many kinds of research have been studied about the risks of ~~Dietary~~ dietary ~~Fat~~ fat intake and its association with the risks of breast cancer~~,~~. This is still ~~has been~~a debatable subject~~,~~. ~~in~~ In recent studies, ~~Nutritional~~ nutritional ~~Epidemiologists~~ epidemiologists have had the role and contribution to ~~have~~ some outcomes ~~about~~ of this association (Cho et al., 2015).

Regarding the studies that have been done by ~~the Health~~ health professionals as well as ~~from Nurses~~nurses, have shown evidence ~~about~~ of the association and role of dietary fat intake ~~and increase~~in increasing the risk of breast cancer. ~~-~~Following the cohort study that has been done for 8 years, 90,000 women and more ~~and~~ have been followed up, ~~with developed~~developing 714

incident cases of invasive breast cancer. The cases from the highest have been compared with the lowest of the equal 5 groups of dietary fat intake had a boundary increased risk of ~~Breast~~ breast ~~Cancer~~cancer. The intake of ~~Dietary~~ dietary fat ~~of~~ from red meat and ~~Dairy~~ dairy products, including both unsaturated and saturated fat, ~~intake~~ is associated with a higher risk of ~~Breast~~ breast cancer (Cho et al., 2015).

Moreover, ~~about~~ in the data of the cohort study that has been done by the European Prospective Investigation into Cancer and Nutrition ~~"(~~EPIC~~",~~), 320,000 females ~~have been~~were followed for about 9 years with nearly 7000 cases of cancer developed ~~cancer,~~ . ~~an~~ An association between high saturated dietary fat intake and a higher risk of breast cancer was realized, but no association with ~~the~~ other ~~Dietary~~ dietary ~~Fat~~ fat intake (~~-~~Sieri et al., 2018).

6.3. Nutritional Epidemiology involvement in Preventing Obesity~~:~~

Obesity is a common and epidemic ~~Diseases~~ disease in the world~~,~~ . ~~most~~ Most ~~Obesity~~ obesity diseases begin ~~from~~ in ~~Childhood~~ childhood, which is a serious health issue for developing other chronic diseases~~,~~ . Nutritional ~~Epidemiology~~ epidemiology works on controlling and preventing the factors that control childhood obesity~~,~~ . ~~the~~ The studies identified that ~~School~~ school is the ~~most~~ key point ~~of~~ in ~~Public~~ public health strategy to lower the ~~Risks~~ risks and prevent the ~~Overweight~~ overweight and ~~Obesity~~ obesity prevalence. Children spend most of their time in school and school alone cannot prevent or control the ~~Obesity~~ obesity epidemic, but based on ~~the~~ health policy and setting strong programs to support and guide children to healthy eating and regular physical activities can be a factor in preventing or controlling this epidemic ~~Disease~~ (Frumkin et al., 2006).

~~The studies~~ Studies have found that ~~the Schools~~ schools are not providing the recommended amount of ~~Nutrients~~ nutrients and junk foods are commonly available in schools, especially in

~~High~~ high ~~School~~ schools and ~~Secondary~~ secondary ~~School~~school~~,~~. ~~the studies~~ Studies have linked these junk foods and snacks, including ~~Soft~~ soft drinks that are sold in schools, to ~~Students~~ students as a factor ~~of~~ in the prevalence of ~~Obesity~~ obesity and overweight which contain a high amount of

total calories, total fat, saturated fat, and non or lower availability of fruits and vegetables in ~~Schools~~ schools (Story et al., 2009).

The ~~Studies~~ studies identified that by making some plans ~~in improving~~to improve the environment of the school and setting stronger policies to improve ~~School~~ school food and increasing the intensity of ~~Physical~~ physical ~~Activities~~ activities in the ~~Curriculum~~ curriculum of the ~~Study~~ study plans with the limitation of ~~the Junk~~ junk foods and high~~- dense~~ density foods throughout the school day~~s~~, and adding more healthy foods ~~in~~to meals can be a strong key factor for preventing ~~Obesity~~ obesity among ~~Students~~ students and providing a ~~healthful~~ healthy environment (Story et al., 2009).

6.4. Nutritional Epidemiologic studies about ~~Rice~~ rice intake and Type 2 Diabetes~~:~~

The main food in most countries of the Asian population is Rice~~,~~. ~~it's~~ It is an essential and heavily consumed food~~.~~. ~~the~~The health impacts of rice compared to ~~Plant~~plant-based foods have been less observed in nutritional epidemiologic studies. ~~Concerning~~ Meta-analyses ~~composed~~ of ~~the~~ prospective cohort studies ~~that~~ have ~~been~~ identified the association between rice intake and the risk of type 2 diabetes and other chronic diseases, which ~~is~~ increases ~~an~~ the incidence of mortality from these diseases. The effect of ~~Brown~~ brown ~~Rice~~ rice "unpolished" and white rice "polished rice" ~~was~~ were different ~~strangely~~. Many epidemiological studies, especially high-quality types of research, are required, particularly among the Asian population (Sasaki, 2019).

6.5. Nutritional Epidemiology involvement in cardiovascular diseases~~:~~

Cardiovascular diseases, including coronary heart disease "CHD" and stroke, are identified as the major ~~Health~~ health problems in the world~~,~~. ~~the~~ They are the main cause of leading mortality ~~in the~~ globally, about 30% of the total deaths annually. The etiology of CVD has been studied by ~~Nutritional~~ nutritional ~~Epidemiologists~~ epidemiologists to prevent and manage these diseases because the main cause of CVD is ~~the~~ unhealthy diet and incorrect choices of food, identification of the recommended consumption of each nutrient can help to prevent or reduce the risk of these diseases, analysis ~~for~~ of some ~~other contributed~~ contributing factors, such as sedentary lifestyle and ~~Physical~~ physical activities (Nichols et al., 2012).

The association between dairy consumption and CVD has been observed~~,~~. ~~a~~ A meta-analysis study determined that dairy product consumption ~~in~~ at a high or low intake amount possibly reduces the risk factors of CVD, CHD, and stroke diseases. Still, ~~depended~~ depending on the prevailing evidence of dose-response association is not evident and more studies are required to focus on the impact of particular types of dairy products intakes on the outcomes of particular CVD (Alexander et al., 2016).

Based on the ~~Nutritional~~ nutritional epidemiology and clinical studies that provided evidence about the relationship between ~~Nut's~~ nuts intake and reduced risk~~s~~ of CVD. Nuts contain bioactive phytochemicals, ~~and~~ are rich in micronutrients and macronutrients, and are recognized as the seeds of high energy with beneficial nutrients. Adding nuts to the diet is recommended against CVD~~,~~. ~~the~~ The healthy components of nuts observe the relationship of reduction of CVD risks as well as prevention of ~~the~~ other chronic diseases such as cancer and neurological disorders (Ros, 2015).

7. Nutritional Assessment in Nutritional Epidemiology

In the 1980s~~–~~1990s, epidemiological studies of ~~Nutrition~~ nutrition ~~begin~~ began to inspect the relationship between diet and diseases~~,–.~~ ~~then~~ Then planned dietary questionnaires were developed, such as the Food Frequency Questionnaire (FFQ), ~~and~~ which has been ~~sent in the form of paper~~utilized in about "48000 topics" ~~to~~ in large cohorts and ~~realized~~ suggested as a cost-effective way for personal assessment use (Schatzkin et al., 2001).

The accuracy of FFQ in ~~Nutritional~~ nutritional assessment has been debated largely concerning ~~Nutritional~~ nutritional intake. Limitations of FFQs in the association of diet-disease lead to ~~Bias~~ bias in ~~Nutritional~~ nutritional revealing measurements. ~~The~~ Nutritional epidemiology studies have applied the ~~Nutritional~~ nutritional assessment of ~~Short~~ short term period and used it as a reference calibration technique, especially as a major ~~Nutritional~~ nutritional assessment method for the community. The collected data and evidence show that food records and 24-hour dietary recall methods may assess the accurate result of the usual intake of ~~the~~ individuals. Modern technologies were established to assess specific short-term ~~Nutritional~~ nutritional assessment methods (Thompson et al., 2008).

~~The nutritional~~ Nutritional assessment is improved by innovation and the application of technologies. The evaluation of estimated accurate quantitative is required to determine the usual nutrition intake by individuals. The new technologies of nutritional assessment have been compared with the other methods of assessment and the errors of the results in web-based surveys with paper-based surveys. FFQs methods were observed to be the same ratio of error, the methodology determined to be same by using technology, both methods can be used in ~~the~~ nutritional assessment and ~~the~~ studies of nutritional epidemiology (Illner et al., 2012).

Comment [N8]: Please croos-check this. It doesn't seem to fit in this sentence.

The Nutritional assessment study observed that systemic bias was associated with the specific bias of individuals in FFQ by using nutritional report techniques as proposal evidence of instruments

to determine the correlation between intake of the nutrients that produced a considerable over evaluation with true and usual intake as well as under evaluation~~,~~ ~~–~~. ~~the~~ The influence of ~~Nutritional~~ nutritional assessment measurement of errors on analysis, planning, and interpretation of ~~Nutritional~~ nutritional epidemiologic studies had a greater impact than earlier estimation~~,~~. Nutritional epidemiology determined that it ~~gives~~ gave a greater structure of Nutritional measurement errors and the studies of ~~Nutritional~~ nutritional epidemiology should be interpreted carefully (Kipnis et al., 2001).

8. Lifestyle role in Nutritional epidemiology studies~~:~~

Lifestyle is the most important factor in the prevention of ~~the~~ most diseases or close to the elimination of ~~the~~ most health issues related to nutrient deficiency. Nutritionists and health professionals skipped some questions to answer regarding the area of the study. Scientists in the field of medical technology were unsuccessful ~~to~~ in controlling and ~~influence~~ influencing the prevention of chronic diseases. Chronic diseases became epidemic diseases and big health issues that ~~have been~~were solved by medicine by Medicare in 1965. The increase in price is directed ~~to~~ at a rise in the ~~outcomes~~ cost of healthcare and attempts to control the cost~~s~~ of medicine (Hoffman, 2018).

~~The nutritional~~ Nutritional intervention had developed, and nutritional intervention was not only able to be used as a method to prevent chronic diseases, but also was a reason ~~to open~~for opening

a new area of research for ~~Nutritionists~~nutritionists. Health policies improved with a method to spend on heart disease, stroke, and cancer including diabetes. The goal of public health ~~was~~ is determined by mutual development through personal behaviour (Hoffman, 2018).

The growth of public health hypothesis that included change in human behaviour, as both a means of prevention and early intervention, as well as the development of reporting requirements, which seem to be the conceptual model of smoking and health that also presented a scientific basis for ~~–~~how much these changes should always be. These other developments made wellbeing an entity, instead of just collaborative, liability and diseases assumed a natural extension of the process of aging (Hoffman, 2018).

A report directed by the Canadian Minister of National Health and Welfare, Marc Lalonde, ~~has~~ was ~~been~~ published in 1974 entitled “A New Perspective on the Health of Canadians”. ~~The above represented~~It represents an important condition and takes preventative measures ~~of~~ for chronic disease a primary responsibility for population health through lifestyle changes (Hancock, 1986).

The Lalonde Report contains obesity and overweight, high-fat dietary habits, workout abusive behavior, hypersexuality, and depression, including the use of "mental state" prescription medications as "self-imposed" health hazards, along with other issues (Hancock, 1986).

While the report identified that the scientific evidence supports connections ~~of~~ between causal relationships between both the environment and lifestyle, on the one ~~side~~hand, as well as death and suffering, ~~and from~~on the other, are contentious to dissension, everything just did not forget~~,~~ that a large number of Canada's health challenges are ~~enough~~ urgent enough to take measures against people, even when all scientific proof isn't really available (Hancock, 1986).

The ~~above mentioned~~ "new perspective" report ~~is~~ not just ~~to~~ decided to make people responsible for disease prevention and management, but it also established professional opinion on how it can be actually achieved. Between 1975 ~~as well as~~and 1985, numerous middle-class ~~Family's~~ families ~~needs~~ needed to seriously check for medical information, as well as television ~~starts~~ started to support or even recommend health conditions comprehensively (Hancock, 1986).

There ~~has~~ have been plenty of recommendations to choose from for the: Advisories have been received from the American Heart Association on dietary cholesterol, this same to the Ancel Public key on saturated fat, the Ralph Nader committee on chemical additives, John Yudkin on carbohydrates, and Robert Atkins general on carbohydrate consumption (Hite, 2018).

Much of this knowledge had been based on the available scientific proof and it was in numerous ~~manners~~ ways contradictory to the ~~Worldwide~~ worldwide FOOD Background. For instance, in regards to the wide-ranging discursive practices which connect food intake as well as other key elements of "lifestyle" with chronic disease, scientists continued to argue ~~about~~ that the dietary cholesterol, cigarettes, sweeteners, obesity, sedentary lifestyle, and stress weren't really important elements in cardiovascular improvement. The prevalence of conflicting advice tried to give the McGovern Review panel the potential to capitalize as refereeing authority for incompatible claims regarding nutrition-chronic diseases (Hite,2018).

Comment [N9]: Please check this sentence. It appears to be incorrect or incomplete.

9. Causative Criteria of Nutritional ~~epidemiology~~Epidemiology~~:~~

Attempting to make recommendations on nutrition and healthy food includes making composite decisions about the homeostasis of nutrients or food advantages and disadvantages. Causative characteristics seem to be fundamental but still not adequate characteristics of these decisions. Many scientific implications involve design concepts of research findings, statistical analysis, bias, uncertainty, and evaluating problems. This same set of parameters at least corresponding

analysis, organization power, medication response, validity, and reliability (Potischman and Weed, 1999).

The common strategy, methodologies, and hypothesis of theory development encourage advantages for establishments' specifications, with their corresponding benefits, or even about their guidelines of assumption. The coherence of research findings would be extremely important when researches are is also of great quality or are is not relevant to intolerance. Its is statistically important independent relationship seems to need to be accessed, with only a 20 percent percentage change in hazard. The predictable or growing exponentially statistically relevant pattern helps to strengthen the viewpoint in favor of new guidelines (Potischman and Weed, 1999).

A probable hypothesis as well strengthens the guidelines even though the standards on for scientific samples seem to be extremely probable to vary depending upon the circumstances. Solidity is really a factor to be considered of both the large extent that of a nutritional influence policy on and disease progression for dietary guidelines. Evidence that supports those other requirements is indeed a powerful reason for determining the dietary guideline, considering the stability of supposed advantages as well as suspected damage (Potischman and Weed, 1999).

Guidelines must start making about their range evident; the a limited guideline tends to involve a singular medical condition; a wide-ranging guideline usually includes most other appropriate medical conditions (Potischman and Weed, 1999).

Causative requirements seem to be fundamental to epidemiologist's evidential methodologies being used to give guidance on healthy food and nutrition, and it's not just the implementation of these guidelines. Significant There might be other science-based aspects to consider, including

~~such~~ previous research categories, statistical analysis, bias and uncertainty, as well as the reliability of measurement techniques (Weed, 1996).

Ethical considerations ~~also~~ are also crucial for ~~going to recommend~~recommending nutritious food, as they would with all aspects of guidelines throughout the field of public health. The fundamental important consideration here is that an advantageous equilibrium between advantages as well as damage in a community is predicted unless guidelines ~~were~~ are also taken. If either narrowly focused ~~like~~ on a particular condition or generally considered ~~inside~~ in the view of any relating nutrient illness and state of health, nutrition guidelines are prescriptive as well as socially responsible statements on where to go for population health (Weed, 1996).

10. Conclusion~~:~~

This review ~~has~~ summarized the role of ~~Nutritional~~ nutritional ~~Epidemiology~~ epidemiology ~~to~~ in preventing the diseases related to nutrition and its involvement and impact on public health, and also referred to the studies and researche~~s~~ that have been done about the relationship between diseases and nutrient~~s~~ intake with the nutritional recommendations.

The role of ~~Nutritional~~ nutritional epidemiology in establishing policy in the community, the importance of ~~Nutritional~~ nutritional biomarkers in the intervention of nutrient deficiency, and the development of ~~Nutritional~~ nutritional Assessment in the determination of risk factors ~~of~~ for diseases that are related to food consumption.

The importance of lifestyle and causative criteria of ~~Nutritional~~ nutritional epidemiology and its role in the management of diseases and improvement of public health, raising awareness of the community ~~with~~ about the ~~studies about~~ accomplishments of ~~Nutritional~~ nutritional epidemiology.

COMPETING INTERESTS DISCLAIMER:

Authors have declared that no competing interests exist. The products used for this research are commonly and predominantly use products in our area of research and country. There is absolutely no conflict of interest between the authors and producers of the products because we do not intend to use these products as an avenue for any litigation but for the advancement of knowledge. Also, the research was not funded by the producing company rather it was funded by personal efforts of the authors.

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