

# A development of dietary hygiene nutritional science, food consumption, and human anatomy research all empathise.

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## Introduction

Nutritional epidemiology examines dietary and nutritional factors in relation to disease occurrence at a population level. Nutritional epidemiology is a relatively new field of medical research that studies the relationship between nutrition and health. It is a young discipline in epidemiology that is continuing to grow in relevance to present-day health concerns. Diet and physical activity are difficult to measure accurately, which may partly explain why nutrition has received less attention than other risk factors for disease in epidemiology. Nutritional epidemiology uses knowledge from nutritional science to aid in the understanding of human nutrition and the explanation of basic underlying mechanisms. Nutritional science information is also used in the development of nutritional epidemiological studies and interventions including clinical, case-control and cohort studies [1]. Nutritional epidemiological methods have been developed to study the relationship between diet and disease. Findings from these studies impact public health as they guide the development of dietary recommendations including those tailored specifically for the prevention of certain diseases, conditions and cancers. It is argued by western researchers that nutritional epidemiology should be a core component in the training of all health and social service professions because of its increasing relevance and past successes in improving the health of the public worldwide. However, it is also argued that nutritional epidemiological studies yield unreliable findings as they rely on the role of diet in health and disease, which is known as an exposure that is susceptible to considerable measurement error [2].

## History of nutritional epidemiology

Nutritional epidemiology started as a sub discipline of epidemiology in the 1980s before advancing into a core discipline in epidemiology. It deals with the role nutritional exposures play in the occurrence of impaired health conditions. The assessment of these exposures and the investigation of the association between exposure and outcome form the core of nutritional epidemiology. It is through the understanding of how nutrients and vitamins affect deficiency and disease early in the twentieth century that nutritional epidemiology became better established. Later in the twentieth century it gained further significance when the role of exposure in chronic disease became well understood. Since then, the application of information from nutritional epidemiology

has led to significant scientific and social breakthroughs. Epidemiological methods have been used for centuries to study the relationship between diet and disease, yet were not considered definitive. Advancements to the ways in which dietary exposures were measured gave rise to the reliability of data [3]. The inclusion of genetic risk factors in models of causation have made nutritional epidemiology an increasingly interdisciplinary field.

## Nutritional science

Nutritional science is a multidisciplinary study area concerned with the role of nutrition in health and disease across the human lifespan. Nutritional epidemiology and nutritional science are two fields that share knowledge about the interactions of nutrients, food consumption, and the human body. An understanding of the principles of nutritional sciences is required to understand nutritional epidemiology. The two fields explore diet-disease relationships to provide preventative measures for the public. Research in nutritional science also provides the basis for food regulations and dietary guidelines. Knowledge from Nutritional science has raised societal awareness about links between food consumption and wellbeing. Examples of some of the successes nutritional science has contributed to findings which include linking folate deficiency to a higher risk of neural tube defects, vitamin C deficiency to scurvy, consumption of trans fat to a higher risk of cardiovascular disease and linking excess consumption of fish to reducing risk of preterm birth to name a few. These occurrences continue to be discovered with increasing scientific information and evidence, leading to more opportunities for successful intervention and prevention [4].

## Nutritional epidemiological studies

Nutritional epidemiological studies form the foundation for nutrition-related discoveries. The studies reveal the relationship between nutrition and health, with a focus on aetiology of chronic disease. They provide a comprehensive view of the way in which diet affects or maintains health and wellbeing in individuals and populations. A prominent controversy lies within the ability to reliably and accurately measure exposures as they are subject to measurement errors and variation. Nutritional epidemiological study designs are required to establish a definitive relationship between diet and

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Received: 14-Mar-2022, Manuscript No. AAJNHH-22-115; Editor assigned: 16-Mar-2022, Pre QC No. AAJNHH-22-115(PQ); Reviewed: 22-Mar-2022, QC No. AAJNHH-22-115;

Revised: 25-Mar-2022, Manuscript No. AAJNHH-22-115(R); Published: 31-Mar-2022, DOI: [10.35841/aaajnhh-6.3.115](https://doi.org/10.35841/aaajnhh-6.3.115)

disease to be able to develop interventions and policies that will be implemented for the health of the public [5].

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