

Nutritional epidemiology history, applications, needs and new horizons.

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Introduction

In the 1980s, nutritional epidemiology began as a sub discipline of epidemiology before becoming a fundamental discipline in epidemiology. It discusses the role of dietary exposures in the development of health problems. The heart of nutritional epidemiology is the measurement of these exposures and the research of the relationship between exposure and result. Early in the twentieth century, nutritional epidemiology was improved by a greater knowledge of how nutrients and vitamins affect deficiency and illness. When the function of exposure in chronic disease became well understood later in the twentieth century, it took on even more relevance. Since then, the use of nutritional epidemiology data has resulted in substantial scientific and societal advancements. For millennia, epidemiological approaches have been utilised to despite the fact that they looked at the link between diet and disease, they were not considered definitive. As the technologies for monitoring food exposures improved, the data became more reliable. Nutritional epidemiology is becoming a more interdisciplinary science as genetic risk factors are being incorporated in causal models [1].

Nutritional science is an interdisciplinary field of research that focuses on the function of nutrition in human health and illness throughout life. Nutritional epidemiology and nutritional science are two areas that exchange information on how nutrients, diet, and the human body interact. Grasp nutritional epidemiology necessitates an understanding of nutritional science fundamentals. The two professions investigate diet-disease links in order to develop public-health prevention strategies. Nutritional science research also serves as the foundation for food restrictions and dietary guidelines. Nutritional research has increased society understanding of the relationship between food intake and well-being. Some of the studies that nutritional science has contributed to include the relationship between folate deficit and a greater risk of neural tube abnormalities, vitamin D deficiency, and vitamin E deficiency. To mention a few, studies have linked vitamin C insufficiency to scurvy, trans fat consumption to a higher risk of cardiovascular disease, and excessive fish eating to a lower risk of premature delivery. With more scientific knowledge and data, these instances will continue to be uncovered, resulting in more potential for successful intervention and prevention [2].

Nutritional Epidemiological Studies

Nutritional epidemiology studies lay the groundwork for nutritional breakthroughs. The research focuses on the

aetiology of chronic illness and the link between diet and health. They present a complete picture of how nutrition influences or maintains health and well-being in people and groups. Because exposures are vulnerable to measurement errors and variance, there is a lot of debate over how to assess them consistently and properly. Nutritional epidemiological study designs are necessary to show a definite association between nutrition and disease so that treatments and policies may be developed for public health. Ecological, cross-sectional, cohort, case control, clinical, and community trials are examples of observational and experimental research with appropriate study designs [3].

In experimental studies, researchers have complete control over assigning exposures, but in observational studies, exposures are merely observed without intervention. As a result, experimental research can give more evidence for the influence of exposure on outcome, which would be unacceptable in an observational study because exposure could be detrimental. Observational studies, on the other hand, are easier to conduct and less expensive [4]. Observational studies can uncover odd or atypical findings over lengthy periods of time (diseases related to nutrition develop over time), which would otherwise burden individuals and be costly in experimental trials. Experimental research can be used to derive causal inferences about dietary exposures and health outcomes in nutritional epidemiology, however there are ethical problems for some diet-disease relationships.

To guarantee accuracy, reliability, and validity, nutritional policy and practise decisions are influenced by results from a variety of sources [5].

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