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Socio-Economic Analysis of Cardiovascular Diseases

James Lee*

Department of Economics, Saint Louis University, Missouri, USA

Introduction

Cardiovascular diseases (CVDs), type 2 diabetes (T2DM), non-alcoholic fatty liver disease (NAFLD), chronic kidney disease (CKD), and overweight issues are all examples of cardiometabolic diseases (CMDs).In Africa, Latin America, and China, the prevalence of CMD among men and women of all ages has increased at an alarming rate. All of the financial resources involved and public health interventions implemented to contain this cluster of pathologies should also be mentioned, in addition to the relevant health implications. Patients with MetS, for instance, require more medical attention, resulting in a 20% increase in health care costs per risk factor. In point of fact, it is essential to emphasize that both CMDs and MetS impose a significant burden on society worldwide in terms of the economic impact; Their direct and indirect effects are difficult and have grown over time. They affect hundreds of millions of people and cost society and national health services billions of dollars to deal with. There is evidence to suggest that proper drug treatment and a healthy lifestyle, which includes regular physical activity, are essential for both prevention and treatment.

Description

Orlistat, metformin, thiazolidinediones, statins, ezetimibe, fibrates, sequestering bile acids, and antihypertensive are some important drugs used to treat cardiometabolic diseases in the traditional pharmacological approach. A non-pharmacological approach has gained attention alongside the use of the aforementioned drugs due to its effectiveness and affordability. The administration of nutraceuticals or functional foods, foods that contain substances that have the potential to improve our health is the non-pharmacological approach. Extracts or products based on substances of animal, vegetable, or microbial origin that have been found to be beneficial to human health, including the treatment and prevention of some diseases, are one alternative strategy. The total cholesterol level (CT), low-density lipoprotein (LDL) and high-density lipoprotein (HDL) levels, systolic blood pressure (DBP), diastolic blood pressure (DBP), Homeostasis Model Assessment-Insulin Resistance (HOMA-IR), pro-inflammatory interleukin 6 (IL-6) levels, Body Mass Index (BMI), and waist circumference (WC) were some of the nutraceutical products. As a consequence of this, an improvement in the outcomes that are associated with these diseases and conditions might lead to a decrease in the enormous costs that each nation bears.Patients, national health services, and society may benefit greatly from the savings that result, especially during a time when the COVID-19 pandemic has increased public debt and expenses.

As secondary metabolites, plants produce a class of bioactive compounds called polyphenols; There are approximately 8000 distinct kinds of polyphenols found in nature.Whole grains, tea, chocolate, wine, and fruits and vegetables are all good sources of polyphenols.The goal of Hausenblas et al.'s systematic review was to determine how a resveratrol supplement affected biomarkers in type II diabetes patients who were already receiving pharmaceutical treatment.The real disease burden of CMDs and the cluster of risk factors and conditions represented by MetS from an epidemiological and economic perspective must be emphasized if nutraceutical opportunities are to be fully appreciated.Regarding CVD, it suffices to note that it is the leading cause of death worldwide and will account for 23.6 million deaths by 2030, one of the numerous aforementioned findings.

The majority of the nutrients, bioactive compounds, vitamins, and lipids found in commercially available nutraceutical products have been examined in our investigation.Based on their potential and effectiveness in lowering biomarkers of cardiac and metabolic dysfunction, their properties have been evaluated and analyzed.We have demonstrated that some of these nutraceuticals performed better than others.The actual benefits of lowering biomarkers for MetS and CVD are listed below, broken down by the kind of substance in the nutraceutical product.Vitamin D, which occurs naturally as vitamin D3, also known as cholecalciferol, and vitamin D2, also known as ergocalciferol, are the first nutraceuticals analyzed.Calcitriol, the active form of vitamin D3, is made by the kidneys when prolactin and parathyroid hormone (PHT) levels rise or when intracellular calcium levels rise [1-5].

Conclusion

With a relevant pharmacological therapy that can cause side effects (like the statin, which can sometimes cause steatosis and damage to the kidneys) and low treatment adherence, a new therapeutic approach based on nutritional products would be beneficial.In addition, in terms of pharmacoeconomics and nutra-economics, patients may be able to save money by taking nutraceuticals because they have fewer side effects and are less expensive than standard therapy.More social awareness is needed because nutraceuticals are available not only in pharmacies but also in other small businesses like herbalist's shops and supermarkets.Customers need to be properly informed about these products' safety and care features.A closer relationship and dialogue between the patient, the general practitioner, and the pharmacist is essential if nutraceuticals are to be utilized to their full potential, resulting in improved disease management, improved clinical outcomes, and decreased costs.However, as previously stated, there are not enough economic studies examining the connection between the use of nutraceuticals and savings in both direct and indirect medical costs.In addition, the burden of CMDs and MetS directly related to nutraceutical therapies is the subject of few studies.

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***Address for Correspondence:** James Lee, Department of Economics, Saint Louis University, Missouri, USA, E-mail: leejames@gmail.com*

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