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Heart Attack: An Insight Review in the Indian Context

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Abstract

India is a big nation developing fast in each sector. The development also led to changes in lifestyle and associated diseases among the Indians. There are extensive uses of contaminated food, tobacco uses, increasing tensions in life, consumption of diet having low vitamins, and alcohol abuse, all directly or indirectly resulting in the genesis of heart diseases. The lack of exercise as a daily routine and consumption of junk foods like pizza burger instant noodles increase the prevalence of heart disease among Indians. The review will link the various factors with their association with the genesis of heart disease. As it's rightly said that prevention is better than cure, so everyone needs to look after maintaining good health. The Indians have nice preventive therapeutics in yoga and ayurveda, which is now the need for society to adopt at a fast pace to prevent cardiovascular disease. It is recommended that they do not open their hearts they are in front of surgeons but rather open their hearts to friends and relatives for happy living, reducing tensions. The review assesses factors interrelated to heart disease onset with available preventive options and recommendations for the government for policy changes about heart disease in India.

Keyword: Diabetes; Cardiovascular Diseases; Estrogen; Heart Attack; Homocysteine.

INTRODUCTION

Heart attack is becoming the leading cause of the increase in death rates in India. As per the report published in 2016 total 63% of deaths are due to non-communicable diseases, i.e. NCDs, and 27% are due to cardiovascular diseases, i.e. CVDs. CVDs are responsible for about 45% of deaths in the age group of 40-69. The risk of CVDs increases with raised blood pressure, high glucose levels and obesity.

Atypical homocysteine levels may indicate a person has a deficiency in specific vitamins. It is also associated with a higher risk of cardiovascular disease.

Homocysteine is an amino acid produced typically by our body. Many peoples have low homocysteine levels. The reason is that the amino acid breakdown is faster than other compounds. The elevated homocysteine levels are known as hyper homocysteinemia. It could indicate a person has a vitamin deficiency, as the body needs certain nutrients to break it down.

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Hyper homocysteinemia can occur less commonly due to homocystinuria, a genetic disease. Homocystinuria means that the body is notable.

Typical homocysteine levels are usually 5–15 micromoles/litre (µmol/l). If the levels are above this, a person has hyper homocysteinemia. High homocysteine levels fall into three categories:

Moderate, if from 16–30 µmol/l, intermediate, if from 31–100 µmol/l, severe, if over 100 µmol/l.

According to a review of previous research in the journal Nutrition and Metabolism, high homocysteine can indicate a higher risk of developing a range of conditions but may not directly cause them.

Relevance of Homocysteine, milk and cardiovascular diseases: One of the more common causes of high homocysteine is a B6, B12 or folate deficiency. It has the reason that the body needs these nutrients to break down homocysteine. A lack of them can lead to a build-up of homocysteine in the blood. Some people are more at risk of deficiencies in these vitamins than others. It includes people with: Restricted diets, vegetarian or vegan diets, can make it more challenging to get enough B12, and MTHFR gene mutations impair the body's ability to use folate.

The MTHFR gene encodes an enzyme called methylenetetra hydrofolate reductase. This enzyme plays a role in constructing amino acids, which are the building blocks of proteins. Methylenetetra hydrofolate reductase is essential for reacting to vitamin folic acid or vitamin B9. Specifically, this enzyme converts one type of folate called 5,10-methylenetetra hydrofolate to a different kind of folate called 5-methyltetra hydrofolate. It is the main form of folic acid found in the blood. A multi-step process is required to convert the amino acid homocysteine to another amino acid, methionine.

The body uses methionine to make protein and other essential substances.

Some medications can also cause folate deficiency, including methotrexate, sulfasalazine, and pyrimethamine.

MTHFR gene mutations are also one of the potential causes of homocystinuria, which is a genetic condition that affects how the body processes the building blocks of amino acids, such as folate and B vitamins. The hormones are a direct source of contamination, with evidence of their presence in raw, pasteurized and UHT milk; the data do not suggest specific methods for eliminating these diseases.[1]

The use of growth hormones has raised many concerns about their effects on human health. Risk assessment plays an essential role in ensuring food safety.

By following: Hazard Identification, Hazard Characterization, Exposure Assessment and Risk Characterization, we obtain Multiple Safety Decision, Health Protection Options in Decision Making.[2]

One review study provides an overview of the link between the dairy industry and public health. The search strategy used initially brought together a variety of studies from around the world, including reviews; described epidemiological studies, including ecological, cross-sectional, data management and design methods; and experimental studies. Additional reports and articles to be included were identified by other searches and forward and reverse searches. This review sought to provide a broad body of evidence on the positive and adverse health effects associated with the production and consumption of dairy products and aimed to include a representative sample of text from relevant documents. Previous comments have only examined one aspect of the problem (eg. bovine zoonoses), but the extent of the effects has yet to be studied. To the authors' knowledge, this is the first review of the evidence for overall health benefits associated with the production and consumption of dairy products.[3]

The main causes of chemical residues in milk and dairy products are improper processing of milk, environmental pollution, improper use of antibiotics, use of pesticides and pesticides more than etc. Chemical residues, milk from food are very toxic to consumers.

Dairy stores and dairy, FAO, WHO, CAC, FSSAI, etc. It must comply with there side limits of different chemicals approved to ensure the safety and quality of milk and dairy products, awareness for consumers, including dairy and dairy producers should be regularly, limiting parts to the maximum allowable limit.[4]

There is an urgent need for intervention strategies to prevent CVD in core youth, as we have also found an association between hyper homocysteinemia and low HDL levels and hyper triglyceridemia, which are always risk factors for CVD.[5]

Low B12 levels result in an increased incidence of cerebrovascular disease and peripheral vascular disease, and low folate levels result in an increased incidence of hyper homocysteinemia in cardiovascular disease and cerebrovascular

disease. In addition, what ever the cause of hyper homocysteinemia, folic acid is known to improve hyper homocysteinemia. Therefore, large scale treatments such as food prevention or dietary folic acid can benefit the Indian population and reduce the incidence and vascular diseases.[6]

Avoiding strict diets, eating regular energy meals, and supplementing with vitamins may help lower homocysteine levels associated with myocardial infarction.[7]

Clinical and epidemiological studies have proven that hyper homocysteinemia is an independent risk factor for heart disease, peripheral artery disease and venous thrombosis.[8]

Homocysteine plays an essential role in thrombus formation by inhibiting the vasodilation and antithrombotic properties of nitric oxide.[9]

Hyper homocysteinemia is an indicator of thrombotic events inpatients with systemic lupus erythematosus.[10]

CONCLUSION

The mixed diet pattern having veg and non-veg diet, will help reduce the onset of heart attacks among Indians. The awareness about first-aid for the victims of heart attacks is now essential need to save lives. A recent example of the demise of famous film producer Satish Kaushik is also due to the lack of availability of First-Aid when he felt heart attack symptoms. There are many more cases daily, increasing the death rate due to heart attacks. Recommendations.

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