

Dietary Saturated fat intake, is there really an association with coronary heart disease?

Madam, coronary heart disease is the leading cause of morbidity and mortality in developed countries as well as in developing countries and it is estimated that 17.1 million deaths are occurring worldwide due to cardiovascular diseases and among those 7.1 million deaths are attributed to coronary heart diseases.¹ Coronary heart disease prevalence in Pakistan is 26.7% in middle aged persons.²

Diet plays an important role in the development of Coronary heart disease. Previously it was reported that high consumption of diet containing saturated fats such as beef fat, butter, cheese and other dairy products increases the risk of Coronary heart disease.³ Because of this association between saturated fatty acids and Coronary heart disease it was recommended that consumption of diet containing saturated fatty acids should be decreased or replaced by other diet containing poly unsaturated fatty acids like (soybean oil, corn oil and safflower oil, as well as fatty fish) to reduce the risk of CHD.

There are two schools of thoughts regarding biological plausibility between dietary saturated fat and its relation to coronary heart disease and both are contradictory. The old school of thought explains biological mechanism between saturated fatty acids and its relation to coronary heart disease as, saturated fatty acids increase the serum LDL cholesterol (bad cholesterol) and decreases the serum HDL cholesterol (good cholesterol) and hence increases the risk of Coronary heart disease.³ The new school of thought explains biological plausibility as, it's not the saturated fat that is directly affecting the serum LDL cholesterol levels but rather total fat consumed in diet is responsible to modulate the effect of saturated fat on serum LDL cholesterol levels. At lower intake of total fat, the effect of saturated fat on LDL cholesterol is minimal as

compared to increase in the level of LDL cholesterol due to higher intake of total fat.⁴

Recently two Meta analyses have been done, one on prospective cohort studies (1981-2007) that showed, dietary saturated fatty acids are not associated with Coronary heart disease morbidity and mortality,⁵ and the others were Randomized controlled trials (1968-2009) that showed, saturated fatty acids are associated with coronary heart disease morbidity and mortality.³

So we can conclude that still we don't know exactly the relationship of dietary saturated fat and risk of Coronary heart disease. More studies are required to understand whether dietary saturated fat is associated with coronary heart disease or not.

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