

Effect of Palm Oil On Obesity

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Abstract

Background

In this 21st century, obesity is a major health issues and challenges in Malaysia as well as other countries in the world. Obesity is defined as a condition of excess adiposity and physiological state occurs in chronic imbalance of whole-body energy metabolism that caloric intake exceeding the energy expenditure.

Generally the prevalence of obesity has increased substantially and is associated with an increased risk of disability or premature death due to type 2 diabetes mellitus (T2DM) and cardiovascular diseases (CVD). These included ischemic heart disease, and non-fatal conditions including gout, respiratory conditions, gastro-esophageal reflux disease, osteoarthritis and infertility.

One of the factors implicated in development of obesity is dietary practices in which some controversial studies have been reported a potential link between palm oil consumption due to its high palmitic acid content and obesity.

Objectives

To determine the association between palm oil intake and obesity

Methodology

We conducted a systematic review on palm oil according to the methods in Cochrane Systematic review.

Search methods

Electronic searches for eligible papers were done via various databases which include EMBASE, PUBMED, CENTRAL, SCOPUS, PROQUEST and LILAC. We also conducted a search of via ClinicalTrials.gov (www.clinicaltrials.gov)

Selection criteria

We included all studies that assessed the association between consumption of palm oil and/or its derivatives to changes in weight or Body Mass Index (BMI). These included interventional studies such

as randomized controlled trials, cluster-randomized controlled trials and quasi-randomized controlled trials as well as observational studies without any language restriction.

Data collection and analysis

We extracted data using a standard method that we have discussed among the study group in the palm oil taskforce. Two review authors independently, assess the eligibility and risk of bias of the retrieved records. We expressed our results using Risk Ratio (RR) with 95% Confidence Interval (CI).

Main results

Out of 182 full article retrieved, we included 5 studies. These included Lucci et.al 2015, Tholstrup et.al 2011, Kien et.al 2005, Kien et.al 2014 and Iggman et.al 2014.

Three studies compared the effect of palm oil vs sunflower oil on obesity related outcome (ORO) which included BMI and weight changes. One study examined the effect of hybrid palm oil vs extra virgin olive oil on ORO whilst the last study examined the effect of palm oil vs olive oil vs lard on ORO.

A total of 292 participants were evaluated. From all the included studies, there were insufficient evidence to support the association between palm oil intake and obesity. Out of the 4 studies, only one (Iggman, 2014) had low risk of bias. In this study, there was no significant difference between the group that received sunflower oil and palm oil (Std mean difference: 0.04, 95% CI: -0.59 to 0.66). Other 4 studies had unclear risk of bias.

Authors' conclusions

There is a lack of direct evidence that evaluated the association of dietary palm oil intake and obesity, hence limiting the conclusions that we can reach. Based on the currently available evidence, there is insufficient evidence to suggest that dietary palm oil intake is a cause for obesity.