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Paleo Diet – A Review

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ABSTRACT

The paleolithic diet is a modern diet consumed by humans during Paleolithic era. The paleo diet includes foods such as vegetables, fruits, nuts, roots and meat and excludes dairy products, grains, sugar, legumes, processed oils, salt, alcohol or coffee. The Paleo diet is based on avoiding processed foods, but rather the foods that humans began eating according to settled agriculture. This Paleo diet is promoted across the world as a way of improving health of human beings and decreasing the diseases that spreads due to various risk factors. Evidences proves that this diet may lead to improvements in physiologic functions and metabolic effects compared with diets recommended by national nutritional guidelines. There is lots of controversy surrounding this diet and hence, more research and awareness into the specificities of the diet should be done. In this current era, we should bring back the paleo diet in trends and to create the awareness among the people across the world.

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INTRODUCTION

Our ancestors, who were basically hunter-gatherers belonged to the pre-agricultural epoch, which was termed as the palaeolithic era (Boers *et al.,* 2014). The people of this era, mainly fed on organ meat, meat, insects, fruits, seeds, roots etc. as reported by Cordain, Eaton and colleagues (Cordain *et al.,* 2002). This diet also prohibits the consumption of coffee, alcohol, refined sugars, processed foods etc. (Tarantino *et al.,* 2005). The first traces of the paleo diet, being employed in modern times in 1913 by Joseph Knowles (Ross and Ben, 2014). The "Primitive Man" wilderness diet consisted of mostly berries, trout, and various small animals and some insects (Eaton, Konner, 1985). The "primitive man" despite the validity of the experiment, it was documented that Knowles had significantly lost weight, gained some muscle, acquired an improved complexion, regulated digestion and the ability 'to push his body to the limit'. The paleo diet has not been assessed for whether the restriction of dairy foods, legumes and grains are actually health-promoting, as they claim.

In 1985, Dr. Melvin Konner took a critical look at the Stone Age Diet. He proposed that the Paleolithic diet was a high protein, moderate fat and low carb diet and can prove to be an extremely effective diet. Today, there are various different "meal plans" and some of the aren't purely paleo (Balaji *et al.,* 2017, Nihal *et al.,* 2017). The randomized controlled trials included in the meta-analysis compared the paleo diet with older diets, specifically low-fat diets that were recommended 10–15 yrs ago which does not reduce the cardiovascular risks.

The Paleolithic shows greater impact on a variety of metabolic risk factors for cardiovascular disease, diabetes and obesity. The Paleolithic or hunter–gatherer diet recommends avoidance of processed food, refined sugars, legumes, dairy, grains and cereals. It recommends to intake grass-fed meat, wild fish, fruit, vegetables, nuts and "healthy" saturated fat. Compared with the usual

diet, the people intaking this diet experienced (a) significant reductions in blood pressure, (b) improved arterial distensibility, (c) significant reduction in plasma insulin and (d) significant decrease in total cholesterol, low-density lipoproteins, and triglycerides (Lindeberg *et al.,* 2007).

Difference between Palaeolithic diet and regular diet

In the modern western diet there has been a reduction in the protein intake and a rise in saturated fat consumption, has been clearly evidenced after 1980's (Wylie-Rosett *et al.,* 2013). Recent researchs proved that, rich meat diet might be harmful to health because it leads to an excessive nitrogen load. Many doctor's and nutritionist have advised that reduction in protein intake diet, particularly food products from meat derived, due to its association with high cholesterol intake (Eaton, Konner, 1985, Ornish *et al.,* 1998). In addition to the above studies of patients with type 2 diabetes, the Paleolithic diet has also been studied in healthy normal-weight individuals. Compared with a reference meal (based on the World Health Organization guidelines), there was very little effect on plasma glucose and insulin levels. In the paleo diet total fat contributes to about one third of the total daily intake of calories, this is in accordance with recommendations that the total fat intake should not be below 30% of regular dietary intake (Flock *et al.,* 2013) which may totally reverse atherosclerotic plaque formation. Carbohydrates, the main source of energy in modern diets contributing to over 50% of daily energy, while added sugars contribute to 15% of total energy (Hunter *et al.,* 2010). On the other hand, the amount of carbohydrate consumption was reduced for the paleo diet to about 25-20% due to availability and regional specificity of carbohydrate rich food (Frassetto *et al.,* 2009).

Paleo diet benefits on health

Frassetto and colleague's experiments proved that even less consumption of a paleo diet, improves BP imbalance, glucose tolerance, decreases insulin secretion and increases insulin sensitivity. It's also been shown to improve lipid profiles and aid in weight loss (Graber, 2014). The diet, also being immensely rich in fiber, contributes to regulated and efficient bowel movements. Body builders and athletes are also advised the paleo diet as it boosts lean muscle formation and keeps fat production to a minimum (Frassetto *et al.,* 2009).

Negative aspects of the paleo diet:

Currently in this new era we could not able to replicate the paleo diet and identify the foods exactly for the well-being of humans. Plants and animals were completely different compared to todays 'genetically modified fruits and vegetables' (Graber, 2014). Enriched grains are good sources of thiamin, niacin, riboflavin, and iron are essential for health are not present in the paleo diet. Diets of early man differ according to the region they live, there is no Paleo diet noted by Zuk and colleague and many years before this diet was vanished. Our eating habits change according to the development of agriculture. Hence, its conclusive that due to its regional specificity, there isn't any concrete 'paleo' diet.

Paleo diet and Inflammatory Bowel Disease

The paleo diet, unlike other diets, is very low in carbohydrate content which leads to bacterial overgrowth in the gut which is one of the main reasons of inflammatory bowel disease. Another import factor, which is known to cause and potentially aggravate inflammatory bowel disorders, is the consumption of excess sugar (especially processed sugar) (Sonnenberg, 1988). The paleo diets strictly emphasises the exclusion of sugar and processed foods, hence, the diet may be suitable for patients with bowel related issues like Irritable bowel syndrome etc. A mother study conducted by Hallert and colleagues showed increased focal butyrate levels in high carbohydrate diets, indicating some sort of inflammatory bowel disorders (Hallert *et al.,* 2003). Hence, the paleo diet can be advised in this case also.

CONCLUSION

Many populations in the world are suffering with various diseases due to unhealthy western foods and sedentary lifestyles. Due to awareness of nutrition modern-day humans to should remember their evolutionary heritage and to increase their intake of vegetables and fruits and to decrease their intake of animal fats and domesticated grains. The Paleolithic diet might be the best diet among the unhealthy western diet, provided extensive research is done on the subject and strict monitoring is performed while employing it.

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