Coffee and Diabetes

Overview

There are two common types of diabetes which may affect individuals, typically at different life stages:-

- Type I diabetes, sometimes known as 'insulin dependent diabetes' or 'juvenile diabetes' is an inherited disease
- Type II diabetes or non-insulin dependent diabetes was previously called 'adult-onset diabetes' because in the past it was typically diagnosed after age 40. However, with increasing levels of obesity and sedentary lifestyle, this disease is now being diagnosed among adolescents and sometimes in children as young as 10 and under. The term 'adult onset' is no longer commonly used.

Both types of diabetes are characterised by glucose intolerance that is higher than normal blood glucose concentration after a meal.

Research suggests that coffee drinking may be protective against the development of Type II diabetes, though further research is needed to fully understand the role of coffee in this disease.

Type II Diabetes

The cause of Type II diabetes is unknown. With this type of diabetes, either the pancreas produces a reduced amount of insulin or the beta cells do not respond to insulin; or both. Medical experts believe that Type II diabetes has a genetic component, but that other factors also put people at risk for the disease. These factors include: sedentary lifestyle, obesity, advanced age, unhealthy diet, family history of diabetes, improper functioning of the pancreas, ethnicity, and medication.

It has been stated that in Europe the number of people with Type II Diabetes will increase form approximately 16 million in 1994 to 24 million in 2010 and the Centres for Disease Control and Prevention in the USA estimate that over 18 million Americans have diabetes, and Type II diabetes accounts for over 90 percent of this total. (Amos et al. 1997)

For several years research studies have been published consistently suggesting that coffee drinking may be protective against the development of Type II diabetes. (Gruber et al. 2006; Pereira et al. 2006; Van Dam et al. 2006; Smith et al. 2006; Bidel et al. 2006; Odegaard et al. 2008; Kato et al. 2009). Research has been carried out with different population groups and in general the findings support the hypothesis of coffee being protective against the development of this condition (Van Dam et al. 2002; Salazar-Martinez et al. 2004; Tuomilehto et al. 2004; Legrand et al. 2007; Bidel et al. 2008). Panagiotakos et al (2007) concluded that moderate coffee drinking is associated with a lower likelihood of having diabetes among non-tea drinkers. However, as with many areas of research, the exact mechanism by which coffee may be protective is not yet fully understood. It is thought that chlorogenic acid, found naturally in coffee, is the most likely factor responsible for the observed effect, and not caffeine as the effect has been found with both caffeinated and decaffeinated coffees. This was highlighted by researchers who found that higher

consumption of decaffeinated coffee was associated with a lower risk of type II diabetes. (Van Dam et al. 2006; Van Dam, 2008)

Conclusion

Research suggests that coffee drinking may be protective against the development of Type II diabetes, though further research is needed to fully understand the role of coffee in this disease.

Frequently Asked Questions

Q: Is it true that coffee protects against Type II diabetes?
A: At this stage it would not be appropriate to conclude that coffee protects against Type II diabetes, however, epidemiological research to date suggests coffee may have a protective effect.

Q: How may coffee protect against Type II diabetes?
A: The exact cause and effect has yet to be identified. There are several hypotheses and research into the possible mechanism of protection is ongoing at several research centres.

Q: Does all coffee have the same effect?
A: Both caffeinated and decaffeinated coffee has been shown to be associated with a reduced risk in onset of Type II diabetes.

Q: How much coffee would a person need to derive any beneficial effects?
A: Research papers vary in the amount of coffee recorded at which the effect was seen. Most research papers that have been published on this subject suggest that positive effects are observed at consumption levels of three to four cups of coffee per day.

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