

Role of Functional Foods in Management of Diabetes Mellitus & Parkinson Disease

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Article

Glycemic Response of a Carbohydrate-Protein Bar with Ewe-Goat Whey

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Case Study

Abstract

- In this study the glycaemic index (GI) and glycaemic load (GL) of a functional food product, (ewe-goat whey protein & carbohydrates in a 1:1 ratio).
- Nine healthy volunteers, randomly consumed either a reference food or amount of the test food both with equal carbohydrate content in two visits.
- Plasma glucose concentration was measured and the GI was determined by calculation of the incremental area under the curve. The GI of the test food was found to be 5.18 ± 3.27 , while the GL of one test food serving was 1.09 ± 0.68 .
- These results indicate that the tested product can be classified as a low GI (<55) and low GL (<10) food. **Given the health benefits of low glycaemic response foods and whey protein consumption, the tested food could potentially promote health beyond basic nutrition.**

Parkinson's Disease

- Parkinson's Disease is a neurodegenerative disease that usually develops late in life
- Inclusion or exclusion of other food groups may trigger or exacerbate neurodegeneration
- Foods which may increased the risk of progression of PD are: **Dairy Products**
- Foods which may reduce the risk of progression of PD are:
- **Phytochemicals** (Epidemiological studies have found a decrease in PD risk in individuals who consume foods containing carotenoids and β -carotene)

(Miyake et al., 2011)

Contd...■

- ω -3 docosahexaenoic acid (DHA)
- DHA is an essential component of the phospholipids of cellular membranes in brain and retina of the eye
- FDA cleared the use of DHA & arachidonic acid for use in formula for full-term infants
- Soy (genistein): Soybean isoflavone genistein is a source of protein that appears to be neuroprotective

Role of Nutrients in PD



Foods shown in the red promote neurodegeneration and foods in green promote neuroprotection