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Brassicaceae: nutrient analysis and investigation of tolerability in people with Crohn's disease in a New Zealand study

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ABSTRACT

Background: Nutrition is an important environmental factor influencing symptoms of Crohn's disease, one of the two main expressions of inflammatory bowel disease. Varieties of Brassicaceae supply valuable nutrients. They are often avoided by people with Crohn's disease because of the adverse effects they are perceived to have on symptoms. The purpose of this study was to review the nutritional content of commonly eaten forms of Brassicaceae and identify from selected Brassicaceae those that exacerbate, ameliorate or make no difference to the symptoms of people with Crohn's Disease.

Methods: In this study commonly eaten Brassicaceae were identified and analysed for major nutrients, vitamins, minerals, phytochemicals and FODMAPs. An investigation on the tolerability of ten forms of Brassicaceae on people with Crohn's disease was also conducted. This was based on the responses of adult subjects in the 'Genes and Diet in Inflammatory Bowel Disease Study' based in Auckland, New Zealand.

Results: The nutrient analysis of the Brassicaceae showed their important contribution of fibre, vitamins, minerals, and phytochemicals, especially glucosinolates. Our study revealed that over 70% of respondents found that the consumption of broccoli, Chinese greens and rocket (arugula) made no difference to their Crohn's disease ($p=0.0001$).

Conclusions: Brassicaceae contain key nutrients which contribute significantly to a person's health through their fibre, vitamin, mineral and phytochemical content. Many people with Crohn's Disease can tolerate different forms of Brassicaceae. By identifying the particular varieties that can be consumed by people with Crohn's disease and encouraging them to eat them, their nutrition, immune status and anti-inflammatory and anti-cancer factors will be enhanced.

Key words: Brassicaceae: Key nutrients: Tolerability: Crohn's Disease