Coconut Fibre
A high Dietary Fibre Source

Coconut is a unique fruit as it contains a number of vitamins and minerals and is a rich source of dietary fibre. Coconut fibre or coco fibre contains more dietary fibre than many other sources. Fibre plays an important role in the digestive process and can meaningfully positively boost human health.

Health benefits of fibre
Regulates bowel activity
Absorbs carcinogens and other toxic chemicals
Acts as food for beneficial gut bacteria
Aids in filling the stomach and producing a feeling of fullness
Helps regulate blood sugar
Protects against heart attacks and strokes

Fibre plays an important role in digestion, adds bulk to stool and prevents constipation. It also promotes healthy cholesterol levels and is linked to a decreased risk of heart disease.

The fibre content of coconut flour is definitely the highest of all types of flours. A 100-g serving of coconut flour contains almost 39 g of fibre, which is above the fibre content of whole grain, wheat flour or all-purpose flour, which contain 11 g and 3 g of fibre, respectively. Fibre is part of the total carbohydrates, which means that 60 percent of the carbohydrates in coconut flour is fibre. This means that a 1/4 cup of coconut flour provides 12 g of fibre and 1 tbsp. contains about 3 g of fibre.

Coconut dietary fibre is particularly important as it is reported to produce high amount of butyric acid in stomach, which helps in inhibiting tumor formation. Coconut flour incorporated foods show low glycemic index, which is good for proper control and management of diabetes mellitus and in the maintenance of weight. It can reduce total cholesterol, LDL cholesterol and triglycerides in moderately raised serum cholesterol levels of human (Trinidad, 2001). Coconut controls cholesterol and sugar levels in blood and prevent colon cancer. Studies revealed that consumption of high fibre coconut flour increases faecal bulk (Arancon, 2009).

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A study titled Formulation and storage stability of coconut flour and dietary fibre isolate was conducted by Manikandan Arumugam *et al* of Department of Food and Nutrition, RVS College of Arts and Science, Coimbatore, Tamil Nadu, India with the objective of formulating high percentage dietary fibre isolate from coconut flakes, as a functional food. Formulating coconut flour from coconut flakes, determining the proximate composition and microbial analysis of coconut flakes, coconut flour and dietary fibre isolate and to analyse the storage stability of coconut flour and dietary fibre isolate were the specific objectives of the study. The coconut fibre isolate was prepared by hydrolysis with $Ca(OH)_2$ as per the established protocol.

The study found that the dietary fibre content of dietary fibre isolation was 72.25% and further it was found to be 42% and 48% in coconut flakes and coconut flour respectively. With respect to $CaOH_2$ to hydrolysis, 0.3M and 0.4M concentrations were found to be very ideal in suppressing the dominant coconut taste. With water holding, retention and swelling capacities, isolate was found to be the best (8.27, 7.42, 21.33 ml water/g samples,). According to BIS (Bureau of Indian Standards), the microbial load and peroxide value were within safe limits in isolate (up to 10 months).

The study concludes coconut fibre isolate is a rich source of dietary fibre, when it was treated with calcium hydroxide hydrolysis and found that coconut flakes lost their coconut taste and produced highest percentage of dietary fibre (72.5%) than any other cereals. Dietary fibre isolate stored up to 10 months ambient conditions, did not produce any rancid odour and the microbial load was also within the safe limits. Dietary fiber isolate administration substantially brought down the blood glucose level and reduced the lipid parameters. Hence, dietary fiber isolate prepared from coconut flakes renders as a safe, odourless therapeutic functional food. As dietary fiber isolate potentially ameliorates glucose and lipid levels, this may be used as a functional food for human beings. Further, a systematic human study may be carried out using dietary fiber isolate in order to explore its impact in humans.

*Courtesy: International Journal of Pharmacy and Pharmaceutical Sciences. ISSN- 0975-1491 Vol 7, Issue 3, 2015, Formulation and storage stability of coconut flour and dietary fibre isolate: Manikandan Arumugam*1, Meera Raman1, Kannan Eagappan, Department of Food and Nutrition, RVS college of Arts and Science, Coimbatore, Tamil Nadu, India, 2Department of Clinical Nutrition, PSG college of Arts and Science, Coimbatore, Tamil Nadu, India.*