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New Trend Towards Healthy Fibre : Friendly Oats

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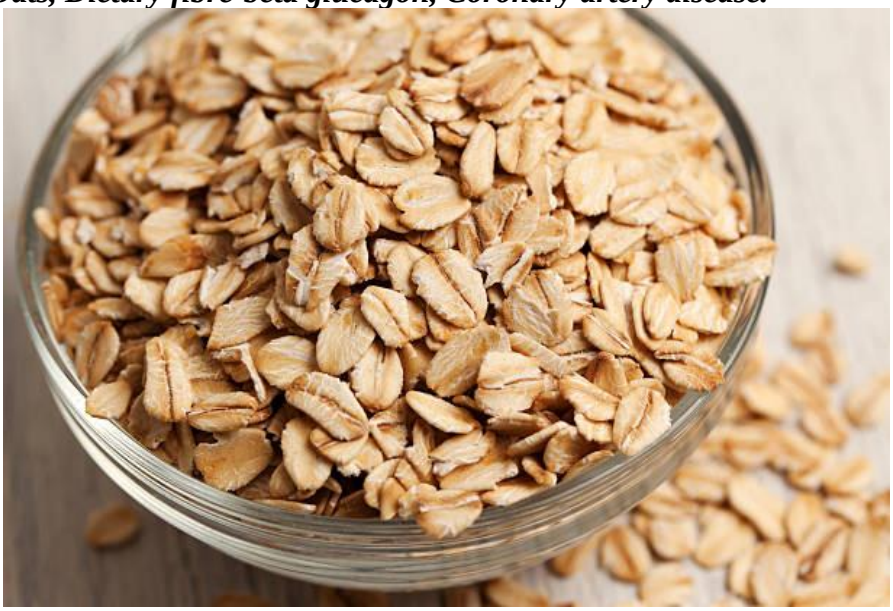
ABSTRACT

Over the past few decades oats have become a very popular health food .Oats are loaded in dietary fibre (containing more than any other grain) and having a range of healthy cholesterol lowering properties. Recentstudies also have shown that oatmeal have some heart healthy benefits. This is mainly due to the rich source of water- soluble dietary fibres, particularly beta glucagon, that are found in oat meal. The U.S.Food and Drug administration claims that oats, as part of overall heart healthy diet, could lower the risk of heart disease. The potential health benefits of oats include: reducing the risk of coronary heart disease and lowering levels of cholesterol.

Keywords: Oats, Dietary fibre-beta glucagon, Coronary artery disease.



1. INTRODUCTION

Cereals and millets form thestable food of the human race.These include wheat, rice, maize, barley, oats, rye and the various millets. Oats, known scientifically as Avenasativa are a hardly cereal grain Able to withstand poor soil conditions in which other soils are unable to thrive. The modern oat draws its ancestry from the wild red oat ,a plant originating in Asia .Oats have been cultivated for two thousand years in various regions throughout the world. Before being consumed as a food, oats were used for medicinal purposes, a use for which they are still honoured. The growing of oats in Europe was widespread, and oats constituted an important commercial crop since they were a dietary staple for the people of many

countries including Scotland, Great Britain, Germany and the Scandinavian countries. Oats provide glucose, fatty acid,phosphorus and vitaminB1 which are very important for neuron functions. Soits recommended for nervous system complaints i.e. fatigue, insomnia, depression and mental exhaustion. It has emollient effect. They are highly recommended for digestive disturbances, gastritis, gastro duodenal ulcers and diverticulosis. Oats contain very little glia din and are well tolerated by those suffering from celiac diseases.

Types of oats

Different types of processing are used to produce the various types of oat products, which are generally used to make breakfast cereals, baked goods and stuffing.

Oats grouts:

Unflatten kernels that are good for using as a breakfast cereal or for stuffing.

Steel-cut oats:

Features a dense and chewy texture, they are produced by running the grain through steel blades than thinly slices them.

Old fashioned oats:

Have aflutter shape that is the result of their being steamed and then rolled

Quick-cooking oats:

Processed like old –fashioned oats, except they are cut finely before rolling.

Instant oat meal:

Produced by partially cooking the grains and then rolling them very thin. Often sugar, salt and other ingredients are added to make the finished product

Oats bran:

The outer layer of the grain that resides under the hull. While oat bran is found in rolled oats and steel cut oats, it may be also purchased as a separate product that can be added to recipes or cooked to make a hot cereal.

Oat floor:

Used in baking, it is oftentimes combined with wheat or other gluten-containing flours when making leavened bread.

Chemical composition: oats are good sources of thiamine, pyridoxine and pantothenic acid and fair sources of riboflavin and niacin.

Baseline data and oat intake:

After enrolment, data were collected by trained students and qualified cardiologists. Baseline characteristic including history of hypertension, diabetes, and smoking were recorded. Medications information and dosage was collected by chart review and structured questionnaires. Healthy diet was suggested to follow recommendation and defined as one containing more fruits, vegetables,nuts,reduced fat dairy products, whole grains and fish. Because it has been established that the consumption of at least 3gm per day of oat β-glycan can achieve a reduction in LDL cholesterol of up to 10% and reduce the risk of CVDby as much as 20%, we used this as cut off value to define oat intake. This amount is provided by approximately 55g oat bran minimum5.5%(β glycan)or 75g rolled oats (β glycan)and this can be achieved through eating 2-4 portions of oat based products e.g.breakfast ,cereals ,breads and crackers every day. Patient who adhered oat fibre intake during follow-up period more than 50% was considered oat fibre user. After enrolment, 20ml of blood from peripheral vessels, and 10ml,urine were collected. Samples were stored at -80◌̊C until further analysis for the biomarkers study. Patients who had ingested any drugs with antioxidant activity, vitamins, or food additives within 4 weeks prior to blood/urine sampling were excluded.

Clinical follow up for adverse cardiovascular events:

Studies indicate water –soluble types of dietary fibre have significant cholesterol-lowering effect. Foods rich in soluble fibre include oat bran and barley and fruits. Soluble dietary fibre has the following properties:

- Delays gastric emptying
- Slows internal transit time
- Slows glucose absorption
- Is fermented in the colon into short –chain fatty acids that may inhibit liver cholesterol synthesis and help clear LDL cholesterol.

Patients with hyperlipidaemia should make a particular effort to increase intake of soluble fibre. They may do so by eating oatmeal. And particularly oat bran, consistently with breakfast: by eating oat-based breads and baked goods: and by eating beans, lentils and apples. There may be benefits in distributing calories over many small meals rather than several larger ones. Limited evidence suggests that frequent, small meals precipitate the release of less insulin than do larger meals spaced further apart .the distribution of meals also may affect weight maintenance.

All study patients who were initially stable under medical treatment were prospectively and regularly followed up at the individual hospital clients. Primary end point is major cardiovascular events including cardiovascular death, non-fatal myocardial infarction, on-fatal stroke and revascularization procedures including coronary intervention and bypass surgery. The protocol for cv event follow-up was similar to that previously reported.

DIGESTION AND OBESITY

Whole grains are often recommended fortheir beneficial effects on the gastro intestinal tract. The researchers suggest potential health effects of the gastro intestinal tract ranging from improved immune health to reducing the risk of obesity and chronic disease. According to the supplement, epidemiological evidence suggests that regular consumption of whole –grain foods may be correlated with lower body mass index. The researches state that eating oats appears to help reduce hunger and increase feeling of fullness.

OAT MEAL FOR DIABETES

Adding oatmeal to your diet helps to manage diabetes has both pros and cons.The pros of adding oatmeal to your diabetes include: it can help regulate blood sugar, it reduces the need for insulin injections when eaten in other place of other- carbohydrate rich foods. Because oatmeal has low glycaemic index, it can help maintain glucose levels. Compared to other carbohydrate rich grains oatmeal is very beneficial in its pure form may reduce the amount of insulin a person needs.

OATS IN COLORECTAL CANCER

The study found that every additional 10 mgs/day of fibre in diet there is a 10% reduction in their risk of developing colorectal cancer .The research found that a high intake of dietary fibre ,in particular ,cereal fibre and whole grains, was associated with a reduced risk of colorectal cancer.

Statistics

The baseline characteristics of subjects in the oat fibre intake and without oat fibre groups were compared. The development of clinical adverse outcomes including non-fatal stroke, on-fatal myocardial infarction, repeat revascularization, and total CV events during follow-up period were compared between groups. Comparison of continuous variables between groups was performed by ANOVA test, while subgroup comparisons of categorical variables were

assessed by fisher's exact test. The primary and secondary outcomes were described by an overall percentage and expressed by means of proportions with a 95% confidence interval (CI).Event free survival rate was calculated using the Kaplan-Meier method, with the significance evaluation using long rank tests.
We tested the proportionality of hazards with the use of time-varying covariates. When proportional hazards could be assumed, oat fibre experts were estimated from cox regression models to adjust for age, smoking habit, and history of hypertension, diabetes, lipid profiles, medication information as well as inflammatory markers including high sensitivity C - reactive protein and TNF-αwere included in the multi variant analysis. The two-tailed alpha significance level in all the tests was 0.05.
Oats contain a specific type of fibre known as bets-glycan. β-glycan is a non-starch poly saccharide composed of β-(1-4)-linked glucose units separated every 2-3 units by β(1-3)-linked glucose,. This soluble fibre, which is present in oats reduces LDL cholesterol.

2. CONCLUSION:

Oats is also a multifunctional grain reduces cholesterol, reduces risk of heart disease, reduces blood sugar levels, provides anti-oxidants and provides plenty of vitamins and minerals.

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