

Keynote Address on the Digestive Health with Respect to Dietary Fibre -
Dr. Shashank Joshi, Eminent Diabetologist & Endocrinologist Lilavati
Hospital, Bandra, Mumbai

The first speaker Dr. Shashank Joshi, Eminent Diabetologist & Endocrinologist at Lilavati Hospital, Bandra, Mumbai started his talk by mentioning that the world today is Fibropenic meaning a world with low fibre intake associated with high income lifestyle. This results in low stool bulk, slow transit, high intraluminal pressures and presence of luminal carcinogens amongst the population culminating in colon cancer, diverticulosis, diabetes inflammatory bowel disease, certain cancers.

He stated that inspite of dietary recommendations individual fibre consumption is low in India, mainly due to the trend of skipping breakfast, frequent snacking of low fibre high calorie food items, individual's dietary knowledge or attitude, changing dietary habits and adopting fad diets. He further defined dietary fibres as carbohydrate polymers with 10 or more monomeric units that are not hydrolysed by endogenous enzymes in the small intestine and went on to classify them as Edible / natural, isolated (added) and synthetic (functional) dietary fibres.

He discussed different types of fibres based on their solubility and ability to be fermented and their functions, for e.g. soluble viscous fibres (β glucan, pectin, guar gums) that delay gastric emptying, and help in lowering cholesterol, Fermentable fibres (guar gum, pectin, inulin, FOS), have a prebiotic effect, non-fermentable fibres (Psyllium) and insoluble fibres (resistant starch, wheat and rye bran, potato fibre) which help in laxation and regularity of bowel movement. He mentioned that it is a misconception that all insoluble fibres are non-fermentable, as evidence points out that majority of fibres bring about changes in composition of microbiota due to competitive interactions.

He warned that fibre overload must also be avoided as it could cause abdominal pain, flatulence and for people with celiac disease high fibre foods like wheat, rye, barley must be avoided as it could trigger allergic reactions.

The points he mentioned to step up fibre intake and minimize side effects are as follows:

- Prioritize fresh, local, seasonal fruits, vegetables, wholegrains, millets
- Choose high fibre, low sugar cereal for breakfast • Make salads, unstrained soups part of the daily diet
- T2DM patients should have high fibre foods or use fibre supplements

High fibre food must be supplemented with large quantity of fluids to avoid constipation. Vegans, vegetarians and people whose diet patterns show higher plant food proportion have been observed to have greater protection against chronic diseases.

Dr. Shashank pointed out that WHO recommends at least 400 gms (5 portions) of fruits and vegetables a day though this may vary across the globe and also refined grains need to be replaced by whole grains and legumes which are often overlooked as fibre sources.

He went on to describe the effect of dietary fibre on gut health, fermentable fibres improve gut microbiome composition and also provide healthy metabolites like short chain fatty acids, acetates, propionates which help in appetite regulation, lowering cholesterol, are anti-inflammatory, anti-carcinogenic and contribute to a healthy gut wall. All this can be achieved by following a prudent diet rather than the western diet which is high in fat and sugar. This is what he had to say.

Next, he spoke about cohort studies which proved that greater intake of whole grains was inversely associated with colorectal cancer incidence. The increased intake of whole grains reduced the risk of colon cancer by 16% and rectal cancer by 24%.

He was of the opinion that only a few common fibre supplements have clinically shown health benefit so their role in disease treatment is not yet defined. Older adults having lower dietary energy requirement may need fibre supplement but for most people the recommended fibre intake can be reached through a normal balanced diet. In conclusion he expressed that health care professionals and consumers should realise that it is important to have the right amount and right type of fibres and the need to enhance microbial biodiversity of the gut microbiota. He further stated that our aim should be to improve gut microbial ecology by increasing Symbionts (anti-inflammatory species) and decreasing Pathobionts (proinflammatory species) which can be attained by a healthy diet and lifestyle and also with the help of pre and probiotics.

This was followed by a short question and answer session where he explained the importance of drinking sufficient water and the right type of water and cleaning salad fruit and vegetables thoroughly before consuming. His view on FODMAP diet for reducing symptoms of IBS was that the effect may vary among individuals and so it has to be carefully planned according to the individual's adaptability, also to reduce hyperacidity in case of high fibre diet food must be eaten in small frequent intervals, slowly and chewed properly.