

Whether Millets Can Be Part of Our Staple Diet?

Millet is a generic term used for a heterogeneous group of small size seeded cereal crops, which are grown in semi-arid tropics of Asia and Africa. In order to feed the ever-growing world population the focus has shifted towards resilient crops, which are easier to grow, affordable as well nutritious to meet the demands. Millets fulfil all the above conditions, as these grow in half the time, do not require rich soil for their survival and growth, their requirement of water is significantly less and need less than half of the energy in processing as compared to the traditional crops. Sorghum (*Jowar*) and Pearl millet (*Bajra*) are the major millet crops grown, constituting 92% of the world millets production followed by Finger millet (*Mandua*), Foxtail millet (*Kangni/Kakum*), Proso millet (*Barre*), Barnyard (*Sanwa/Jhangon*), Little millet (*Kutki*) and Kodo millet (*Kodon*), which altogether constitute about 7.9%. Globally, India is the topmost producer of millets, where millet grains account for about one sixth of the total food grain production. For emphasizing the importance and to bring millets to the global forefront, during the 75th session of the United Nations General Assembly a resolution was passed to observe the year 2023 as the International Year of Millets.

Millets contains ~ 65% carbohydrates, 6.0-12.5% protein, 1.5-5.0% fat and 7-12% fiber, with a range of essential fatty acids, amino acids, vitamins and minerals (iron, calcium, phosphorus, zinc and magnesium), which makes them energy-dense and rich source of nutrients. The protein, macro- and micro-nutrient content of millets are higher than the staple cereals like wheat, rice and maize. Millets has been entitled as the Nutri-Cereals (*Sri Anna*) by the Government of India.

Studies have found that millets have lower glycemic index, are gluten free, non-acid forming foods rich in dietary fiber and anti-oxidants, which can help in reducing the risk of metabolic syndrome, diabetes, heart disease, inflammatory bowel disease and certain cancers. These benefits emphasizes the need to reintroduce these grains in our routine diet. (<https://pib.gov.in/PressReleasePage.aspx?PRID=1887847>; 01 January, 2023)

Daag Achchhe Hain

With the advent of technology daily life of humans is getting more and more convenient, but on the other hand this is increasing the exposure to the environmental chemicals from intrauterine period. Long term effects of such exposure on human body are still not clear. Perfluoroalkyl and poly-fluoroalkyl substances (PFAS) is one such group of chemicals which are being used extensively in our daily life. They are characterized by a fluorinated carbon chain, which makes them dirt, water, and oil repellent. PFAS being utilized in most of the common items ranging from non-stick cookware, stain and water-repellent clothing (hiking pants, shirts, athletic wear, yoga pants, and raincoats), and items coated with Teflon and made from Gore-Tex fabric. These fabrics contaminate the environmental air by emission and water bodies during wash, and persists for a longer duration leading to the continuous

exposure and accumulation in human bodies, thus also known as “forever chemicals”.

Some researchers postulated that ADHD is the result of environmental effects on neurodevelopment during early years of life. Studies have established the association between prenatal exposure to PFAS and ADHD symptoms. In a recently published prospective cohort study from the republic of Korea, researchers studied the association between early-childhood exposure to PFAS and onset of ADHD symptoms in later childhood. Serum levels of six different forms of PFAS were measured in 521 enrolled children at 2 years and 4 years age. Presence of ADHD symptoms was evaluated at 8 years age using ADHD Rating Scale IV (ARS). Poisson regression models were used to analyse the association between PFAS and ARS scores. Levels of exposure to individual PFAS and the summed value were divided into quartiles to examine possible nonlinear relationships. Results showed that at 2 years children lying in the 2nd and 3rd quartile levels of PFAS have higher ARS scores than those in 1st quartile, while no such association was found between PFAS and ARS at 4 years. This suggest that early life exposure to PFAS can have neurotoxic effects in children and predisposes them to ADHD. Thus, use of clothes made of conventional fabric and traditional washing techniques can help in avoiding the extensive use of PFAS containing items and protect children from their harmful effects, “Daag Achchhe Hain” (*Science of The Total Environment 25 March, 2023*).

Impact of Family Mealtime on Children’s diet

A balanced diet must contain items from all food groups. Adequate intake of fruit and vegetable reduces the risk of chronic noncommunicable diseases. Globally children take diet containing high quantities of refined flour, sugar and carbonated drinks, and considerably less fruits and vegetables than the recommended amount. Family serves as important learning environment in early years of a child, and family meals decides the food preferences and choices of children. This is important as children gets about two-thirds of their calorie intake from food prepared at home, and most meals being eaten along with parents and siblings.

In a recently published randomized control trial, the effect of increase in the family mealtime on the fruit and vegetable intake in children was evaluated. In this trial, 50 parent-child dyad with children aged between 6-11 years were enrolled and randomized into control (regular family mealtime duration) and intervention (50% longer mealtime duration) groups. Number of pieces of fruits and vegetables eaten by the child during a meal was the primary outcome measured. Analysis revealed significantly more number of pieces of fruits and vegetables were eaten by children in the intervention group than in the control group. Concluding that even a simple step of increased mealtime duration can improve the children’s eating behaviour significantly, and can acts as an important public health intervention. (*JAMA Network Open 03 April, 2023*).

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