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**For more information, please contact:**

**Rohit Pillandi**, ICRISAT Media

p.rohit@cgiar.org, +91 9949513812

**MEDIA RELEASE**

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**Study shows millets can reduce risk of developing cardiovascular disease**

The consumption of millets can reduce total cholesterol, triacylglycerols, and BMI according to a new study analysing the data of 19 studies, with nearly 900 people. They study was undertaken by five organizations and led by International Crops Research Institute for the Semi-Arid Tropics (ICRISAT).

The results published in [*Frontiers in Nutrition*](https://www.frontiersin.org/articles/10.3389/fnut.2021.700778/full?&utm_source=Email_to_authors_&utm_medium=Email&utm_content=T1_11.5e1_author&utm_campaign=Email_publication&field=&journalName=Frontiers_in_Nutrition&id=700778), brings critically needed scientific backing to the efforts to popularize millets back into diets, especially as staples, to combat the growing prevalence of obesity and being overweight in children, adolescents and adults.

The study showed that consuming millets reduced total cholesterolby 8%, lowering blood cholesterol in the people studied, from high to normal levels. There was nearly a 10% decrease in low and very low-density lipoprotein cholesterol (commonly viewed as ‘bad cholesterol’) and triacylglycerol levels in blood. Through these reductions, the levels went from above normal to normal range. In addition, consuming millets decreased blood pressure with the diastolic blood pressure decreasing by 5%.

Dr. S Anitha, the study’s lead author and Senior Nutritionist at the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), explained, “We were very surprised how many studies on humans had already been undertaken on the impact of millets on elements that impact cardiovascular diseases, and this is the very first time anyone has collated all these studies and analysed their data to test the significance of the impact. We used a meta-analysis, and results came out very strongly to show significant positive impact on risk factors of cardiovascular disease.”

The study also showed that consuming millets reduced BMI by 7% in people who were overweight and obese, (from 28.5 ± 2.4 to 26.7 ± 1.8 kg/m2) showing the possibility of returning to a normal BMI (<25 kg/m2). All results are based on consumption of 50 to 200 g of millets per day for a duration ranging from 21 days to three months.

This is influenced by the comparisons that also showed that millets are much higher in unsaturated fatty acids with 2 to 10 times higher levels than refined wheat and milled rice, as well as being much higher than whole grain wheat.

“This latest review further emphasises the potential of millets as a staple crop that has a large number of health benefits. It strengthens further evidence that eating millet can contribute to better cardiovascular health by reducing unhealthy cholesterol levels and increasing the levels of whole grains, and unsaturated fats in the diet,” suggested Professor Ian Givens, a co-author of the study and Director at University of Reading’s Institute of Food, Nutrition and Health (IFNH) in the UK.

“Obesity and being overweight are increasing globally in both wealthy and poorer countries, so the need for solutions based on healthier diets is critical. This new information on the health benefits of millets further supports the need to invest more in the grain including the whole value chain from better varieties for farmers through to agribusiness developments,” said Dr. Jacqueline Hughes, Director General, ICRISAT.

The study identified a number of priority future research areas including the need to study all the different types of millets, understand any differences by variety, and also the different types of cooking and processing of millets and their impact on cardiovascular health. Given the positive indicators to date, more detailed analysis on the impact of millets on weight management is also recommended. All relevant parameters are also recommended to be assessed to have a more in-depth understanding of the impacts the consumption of millets on hyperlipidemia and cardiovascular disease.

“A key recommendation from the study is for government and industry to support efforts to diversify staples with millets especially across Asia and Africa. Given that millets are hardy and climate smart, returning to this traditional staple makes a lot of sense and is a critical solution that could be the turning point of some major health issues,” highlighted Ms. Joanna Kane-Potaka, a co-author and Executive Director of the Smart Food initiative, ICRISAT.

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**About the authors’ organizations/affiliations**

**ICRISAT**: The **International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)** is an international agriculture research organization specialized in the drylands across Asia and Africa to ensure food, nutrition and income security, with global headquarters in India. [www.icrisat.org](file:///C%3A%5CUsers%5CRohit%5CDesktop%5Cwww.icrisat.org). ICRISAT is a [**CGIAR**](http://www.cgiar.org.) research center.

**IFNH:** The Institute for Food, Nutrition and Health at the University of Reading in the UK, brings together the university’s world-leading expertise in food, nutrition, agriculture, health and the environment to help deliver better diets and health. <https://research.reading.ac.uk/ifnh/>

**NIN:** The National Institute of Nutrition is India’s premier public research institute for nutrition. Headquartered in Hyderabad, NIN continuously monitors India’s nutritional health and works to manage as well as prevent nutritional problems. [www.nin.res.in](http://www.nin.res.in)

**Kobe University:** One of Japan’s largest and oldest national universities. It is an institute of excellence for the social sciences and promotion of interdisciplinary research and education. [www.kobe-u.ac.jp](http://www.kobe-u.ac.jp)

**IFPRI:** The International Food Policy Research Institute, part of the CGIAR, provides research-based policy solutions to sustainably reduce poverty and end hunger and malnutrition in developing countries. It is headquartered in Washington DC, USA. [www.ifpri.org](http://www.ifpri.org)

**NTBN:** The National Technical Board on Nutrition advises the Government of India. It provides evidence-based, technical and policy recommendations and guidance for matters of nutrition.

**Additional quotes**

Dr. Takuji W. Tsusaka, co-author and professor at Kobe University states, “In rapidly aging economies including Japan, prevention of cardiovascular and cerebrovascular diseases through dietary moderation of hyperlipidemia, as opposed to medical treatment, is becoming critically important towards sustaining quality of life and saving public expenditure. Evidence articulated in our study will justify and support initiatives aiming at incorporating millets into your food plate.”

"As the world experiences a rise in cases of obesity and cardiovascular diseases, millets provide a cheaper option for reducing the disease burden especially in Southern Africa. We hope that the study findings motivate policy makers to encourage millet production in the region as the crop can be grown at relatively lower costs compared to most other cereals such as maize and rice," said Ms Rosemary Botha, co-author, International Food Policy Research Institute (IFPRI).

Dr. Hemalatha, Director, National Institute of Nutrition (NIN) stresses, “Unhealthy diet is a major contributor to the rising incidence of diseases, like cardiovascular disease and diabetes. The results of this study along with our recent study that showed that the consumption of millets reduced the risk of developing type 2 diabetes and helped manage type 2 diabetes, highlights a critical need to look carefully at how to most appropriately bring millets back into the diets in India and ensure this reaches the majority.”

Medical Doctor and co-author, Dr Raj Kumar Bhandari noted that, “As a doctor I have seen first-hand a significant rise over the years in patients with serious coronary problems from high cholesterol and being overweight. Based on the evidence in this study we can help reduce hypertension and hardening and narrowing of arteries and manage weight with appropriate diet changes including millets. However, it is important to consume a millet-based and healthy diet regularly and make it a habit.”

“It is also recommended to have nutrition scientists to design millet-based meals especially where weight management and atherosclerotic cardiovascular diseases are potential high risks. Doing this in culturally acceptable ways and ensuring tasty meals is important,” emphasized Dr. Ananthan Rajendran, study co-author and scientist at NIN.

The study was undertaken by professionals from six different affiliations from India, UK, Japan and Malawi. Professor Ian Givens, a co-author of the study and Director at University of Reading’s Institute of Food, Nutrition and Health (IFNH) in the UK, noted that “Global partnership is critical in science to ensure quality and rigour. Health challenges of obesity and cardiovascular disease are critical globally and given that our food systems are strongly influenced by global trends and value chains, then we also need to solve this together.”