Drinking coffee regularly after pregnancy may lower the risk of type 2 diabetes for women who had diabetes during pregnancy

NUS researchers at the Global Centre for Asian Women’s Health (GloW) found that among women who had gestational diabetes mellitus, coffee may potentially be a better substitute for other less healthy beverages in preventing or delaying the subsequent progression to type 2 diabetes.

Singapore, 13 December 2022 — The prevalence of type 2 diabetes is projected to continue rising and one in three Singaporeans currently has a risk of developing diabetes in their lifetime. Several early-life cardiometabolic complications make identifying high-risk populations and application of diabetes preventive strategies paramount.

Among the high-risk groups are women who experienced diabetes during pregnancy, commonly known as gestational diabetes mellitus or gestational diabetes. Compared to the general healthy female population, these women may face a ten-fold higher risk of developing type 2 diabetes.

Current known research has found that, instead of artificially- and sugar-sweetened drinks, drinking two to five cups of either caffeinated or decaffeinated coffee a day is potentially a healthier substitute in delaying the onset or preventing type 2 diabetes.

This is likely due to the bioactive components in coffee, such as polyphenols, which are naturally-occurring plant micronutrients. Bioactive components are types of chemicals found in small amounts in plants and certain foods, such as fruits, vegetables, nuts, oils, and whole grains, and may promote good health.

This common and popular drink appears to reduce the risk of type 2 diabetes in the general population. However, whether it may also be beneficial among women who had gestational diabetes remained unknown.

To investigate this, Professor Cuilin Zhang, Director of the Global Centre for Asian Women’s Health (GloW) and a professor in the Department of Obstetrics and Gynecology at the Yong Loo Lin School of Medicine, National University of Singapore (NUS Medicine), with her team at GloW, in collaboration with the Harvard T.H. Chan School of Public Health and the National Institutes of Health (NIH), examined the roles of long-term coffee consumption after the complicated pregnancy and subsequent risk of type 2 diabetes among women with a history of gestational diabetes.
The team further examined coffee consumption with type 2 diabetes by replacing commonly consumed sugary drinks with coffee. Findings from this study, “Habitual coffee consumption and subsequent risk of type 2 diabetes in individuals with a history of gestational diabetes – a prospective study” was recently published in the American Journal of Clinical Nutrition.

In their study, the researchers followed more than 4,500 predominantly white female participants who had a history of gestational diabetes, for over 25 years, and examined the associations of long-term coffee consumption with subsequent risk of type 2 diabetes.

The consumption of caffeinated coffee among women after their pregnancies, was discovered to have a linear inverse association with the risk of type 2 diabetes. Compared to those who did not drink caffeinated coffee at all, among those who drank one cup of caffeinated coffee or less, two to three cups, and four and more cups a day, the risk of type 2 diabetes was reduced by 10%, 17%, and 53% respectively.

Interestingly, decaffeinated coffee was not associated with the risk of type 2 diabetes in their study. However, this null finding might be due to the relatively small number of women who consumed decaffeinated coffee, so that the study was not able to detect a significant association.

Drinking coffee regularly after delivery may keep type 2 diabetes away from women who had diabetes during pregnancy. Replacing artificially sweetened and sugar-sweetened beverages with caffeinated coffee also reduces the risk, by 10% for a cup of artificially sweetened beverage, and 17% for a cup of sugar-sweetened one.

“Thus far, the overall findings suggest that caffeinated coffee, when consumed properly (two to five cups per day, without sugar and whole-fat/high-fat dairy), could be incorporated into a relatively healthy lifestyle for certain population,” noted Professor Zhang.

“The beneficial roles of coffee have been consistently suggested across diverse populations, including Asians. Coffee is a popular beverage choice in Singapore, but local coffee drinking culture and behaviours may vary among individuals, such as brewing methods, drinking frequency, and other condiments contained in the coffee. Thus, more studies are needed to examine the roles of coffee consumption in the local context with major health outcomes,” concluded Professor Zhang.

Adding on to Professor Zhang’s point, Dr Jiaxi Yang, the first author of the study and a postdoctoral research fellow at GloW and the Department of Obstetrics and Gynecology at NUS Medicine, said, “Although coffee presents as a potentially healthier alternative to sweetened beverages, the health benefits of coffee vary and much depend on the type and the amount of condiments, like sugar and milk, that you add into your coffee.” Dr Yang is currently leading the working group of Nutrition and Lifestyle at GloW.

However, concerns should be given when coffee is taken in excessive amounts. It also needs to be emphasised that certain groups should be careful about drinking coffee. Not much is known about the effects of coffee on pregnancies, foetuses and children.

For media enquiries, please contact:

Emma GOH
Assistant Director, Communications

Natalie TAN
Executive, Communications
About National University of Singapore (NUS)

The National University of Singapore (NUS) is Singapore’s flagship university, which offers a global approach to education, research and entrepreneurship, with a focus on Asian perspectives and expertise. We have 16 colleges, faculties and schools across three campuses in Singapore, with more than 40,000 students from 100 countries enriching our vibrant and diverse campus community. We have also established our NUS Overseas Colleges programme in more than 15 cities around the world.

Our multidisciplinary and real-world approach to education, research and entrepreneurship enables us to work closely with industry, governments and academia to address crucial and complex issues relevant to Asia and the world. Researchers in our faculties, research centres of excellence, corporate labs and more than 30 university-level research institutes focus on themes that include energy; environmental and urban sustainability; treatment and prevention of diseases; active ageing; advanced materials; risk management and resilience of financial systems; Asian studies; and Smart Nation capabilities such as artificial intelligence, data science, operations research and cybersecurity.

For more information on NUS, please visit www.nus.edu.sg.

About the NUS Yong Loo Lin School of Medicine (NUS Medicine)

The NUS Yong Loo Lin School of Medicine is Singapore’s first and largest medical school. Our enduring mission centres on nurturing highly competent, values-driven and inspired healthcare professionals to transform the practice of medicine and improve health around the world.

Through a dynamic and future-oriented five-year curriculum that is inter-disciplinary and inter-professional in nature, our students undergo a holistic learning experience that exposes them to multiple facets of healthcare and prepares them to become visionary leaders and compassionate doctors and nurses of tomorrow. Since the School’s founding in 1905, more than 12,000 graduates have passed through our doors.

In our pursuit of health for all, our strategic research programmes focus on innovative, cutting-edge biomedical research with collaborators around the world to deliver high impact solutions to benefit human lives.

The School is the oldest institution of higher learning in the National University of Singapore and a founding institutional member of the National University Health System. It is one of the leading medical schools in Asia and ranks among the best in the world (Times Higher Education World University Rankings 2023 by subject and the Quacquarelli Symonds (QS) World University Rankings by subject 2022).

For more information about NUS Medicine, please visit https://medicine.nus.edu.sg/