



PRESS RELEASE

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Inaugural Conference spotlights discussion on key topics for promoting health and well-being of women and families

As the world's major research centre grounded on a holistic and systematic approach to Asian women's health and wellbeing, the Global Centre for Asian Women's Health at NUS Medicine was officially launched by Ms Indranee Rajah, Minister in the Prime Minister's Office at the inaugural Singapore Women's Health conference

Singapore, [10 November 2023] — Women face distinct and various challenges throughout different stages of their lives, one of them being conception and childbirth.

Facing unparalleled risks through these stages of their lives, some outcomes include conditions such as hypertensive disorders in pregnancy gestational diabetes, preterm delivery, and more.

In addition, two studies authored by faculties at the Yong Loo Lin School of Medicine, National University of Singapore (NUS Medicine), shared the alarming discovery that excessive weight gain during pregnancy, as well as common pregnancy complications, is associated with higher risks of premature death. In the meantime, encouragingly, investigators from NUS Medicine demonstrated that adapting a healthy diet and lifestyle may lower the risk substantially among these women at high risk.

Hence, it is undeniable that the health of women is a pivotal topic that needs to be studied closely, with close ties with the family and society. Investing in women's health ensures healthier and more productive individuals, happier families, and a better society in general. Yet, much remains to be done in the field of research on women's health and wellbeing.

A major centre in Asia to focus on Asian women's health issues

Both studies related to the exciting discussions today at an inaugural conference dedicated to the advancement of women's health and longevity, organised by the **Global Centre for Asian Women's Health (GloW)**. Established under the auspices of the Yong Loo Lin School of Medicine, National University of Singapore (NUS Medicine), GloW is a major research centre based in Asia, focusing specifically on health issues of Asian women worldwide, through a holistic and systematic approach to health, in relation to emerging public and family concerns.

GloW conducts cutting-edge research on the health and well-being of women and their families and aims to narrow the gaps between research, policy and practice.

“At GloW, we have the privilege to explore cutting-edge research, engage in thought-provoking discussions, and form collaborations that can shape the future of women’s health. Our ultimate mission is to improve women’s health in Asia and beyond,” said Prof Zhang Cuilin, Director of GloW at NUS Medicine.

The four primary missions of GloW are:

- Addressing common and important clinical and public health problems concerning women, children, and their families.
- Identifying modifiable risk factors of common disorders related to women’s health by examining the complex interplay of factors, which range from dietary and lifestyle, to psychosocial, behavioral, environmental, genetic, and epigenetic.
- Translating scientific knowledge into clinical and public health practices that can lead to advancements in early prediction, prevention, diagnosis, and treatment of common disorders concerning women’s health and well-being across their life courses and generations.
- Training a new generation of medical and public health professionals to become leading transdisciplinary investigators and future leaders in women’s health with a life-course approach to health education.

The centre was officially launched by Ms Indranee Rajah, Minister in the Prime Minister’s Office and Second Minister for Finance and National Development at its inaugural three-day Singapore Women’s health conference.

Chef Dalton Fong, Cluster Head Chef of LINO, Singapore, will also be working with GloW for their upcoming diet and lifestyle intervention trial, which aims to improve women’s cardio metabolic profile and gut microbiome using an Asian-forward Mediterranean diet.

Themed “Promoting Women’s Health and Healthy Longevity: from Laboratory TO KITCHEN”, the conference gathered leading international and local scientists, experts, and practitioners in women’s health, maternal and child health, healthy longevity, public health, omics technology, and nutrition together to examine the myriad and unique health challenges women face across their span of life, and including cardiometabolic health and cancer, and more.

From topics on fetal and maternal health to diet and nutrition, which homed in on the associations between healthy dietary patterns and major women’s health and reproductive health outcomes ranging from pregnancy complications, risk of infertility, type 2 diabetes, cardiovascular disease through cancer. The three-day conference spanned a wealth of riveting discussions that added heft and direction to the current conversation on women’s health.

The conference also touched on the role of omics in the etiology and prevention of diseases. Some topics include how metabolomics and microbiome can facilitate personalised dietary assessments and intervention strategies for health, as well as their role in the prediction of maternal and reproductive health outcomes.

Featuring a programme that also looked at advances in food technology, mindful eating and sustainable menus, one of the conference highlights included an on-site cooking demonstration, featuring Chef Mai Pham from California, where she showcased her expertise through several easy and palatable dishes that used ingredients common to an Asian diet.

As emphasized during the conference, it has been established that women's reproductive health can significantly impact their longevity throughout their lifecourse. Notably, two papers on the following topics were recently published in prestigious journals such as *Lancet* and *Circulation*, just prior to the conference.

Pregnancy complications and excessive weight gain during pregnancy may lead to higher risks of premature death

Pregnancy is a critical reproductive event for women, with substantial life-long health implications. Issues during pregnancy, such as excessive weight gain and pregnancy complications, may lift mortality rates for women, in the next fifty years, following their first pregnancy.

These two topics on excessive gestational weight gain, and pregnancy complications, on increased mortality rates, have been closely scrutinised and investigated by GloW, with their results published in the prestigious journals, [The Lancet](#) and [Circulation](#).

In both papers, where Professor Cuilin Zhang, Director of the Global Centre for Asian Women's Health (GloW) and a chaired professor in the Department of Obstetrics and Gynecology at the Yong Loo Lin School of Medicine, National University of Singapore (NUS Medicine), was the senior author, researchers found that women who suffered from excessive weight gain during pregnancy, and pregnancy complications, had higher mortality rates.

Based on data from the Collaborative Perinatal Project (CPP), a prospective large U.S. pregnancy cohort of over 46,000 women from 1959 to 1965, the researchers estimated associations between gestational weight gain and loss and mortality. The outcomes of the study included all-cause mortality, which refers to death by any cause, and cause-specific mortality, such as death by conditions like cardiovascular diseases and cancers.

The recommended amount of weight gain during pregnancy for each BMI category pre-pregnancy are as follows:

- Women who are underweight based on BMI (<18.5 kg/m²): 12.5-18 kg
- Women who are of normal weight based on BMI (18.5-24.9 kg/m²): 11.5-16 kg
- Women who are overweight based on BMI (25.0-29.9 kg/m²): 7-11.5 kg
- Women who are obese based on BMI (>30.0kg/ m²): 5-9 kg

The researchers found that for women with BMI in the normal and overweight range, excessive weight gain during pregnancy was associated with a 9% to 12% increase of all-cause mortality risk respectively. Excessive weight gain for women with a pre-pregnancy BMI in the underweight and normal range, led to an 84% and 20% increased risk of mortality from cardiovascular disease respectively. At the same time, women with a BMI in the overweight range, held a 77% increased risk of mortality from diabetes.

The study on pregnancy complications followed up on more than 45,000 pregnant women in the United States (U.S), who were enrolled into a pregnancy study during their first pregnancy visit between the 1950s to the 1960s. Researchers recorded common pregnancy complications of preterm delivery, hypertensive disorder of pregnancy, and gestational diabetes/impaired glucose tolerance.

Results showed that those who experienced any of these common pregnancy complications had an increased risk of mortality in the next 50 years after pregnancy. Particularly, pregnancies complicated by preterm delivery, hypertensive disorders of pregnancy, and gestational diabetes was associated with 7 per cent to 109 per cent, 9 per cent to 32 per cent, and a 14 per cent higher risk of all-cause mortality, respectively.

The results of these studies highlight the importance of GloW's work, in pursuing research and potential interventions for Asian women's health and wellbeing.

"Pregnancy is an early-life stress test for the mother's underlying cardiometabolic health, as several major pregnancy complications are linked with an increased risk of high blood pressure, diabetes, and cardiovascular diseases, in studies conducted in the U.S and Europe. However, the roles of pregnancy complications on chronic diseases and long-term mortality in Asian women have not been well examined. Thus, studies among Asian women, with continued, long-term follow-ups are warranted to investigate the roles of pregnancy complications on their subsequent health status and to identify effective ways to improve the long-term health of women following complicated pregnancies" said Professor Zhang, principal investigator of both studies.

"Promoting women's health and achieving healthy longevity should start early in women's lives. In particular, women's health at their reproductive age and during pregnancy, are critical time windows that have long-term health impacts over their lifespan, as well as intergenerational impact on the offspring and the family," added Prof Zhang.

As a significant public health issue with far-reaching implications, long-term follow-up data of women's health is warranted in Singapore. With that, GloW at NUS Medicine plans to work with investigators from existing pregnancy cohorts in Singapore and conduct follow-up studies of women's health over their lifespan. This will serve as data to fill in gaps in research on maternal health and women's long-term well-being.

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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 more than 20 NUS Overseas Colleges entrepreneurial hubs 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 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 2023).

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