

10 October 2024

NEWS RELEASE

'The first 1 000 days of life is a time of tremendous potential and enormous vulnerability' – UP maternal and child health expert during inaugural address



PRETORIA – In her highly anticipated inaugural address, <u>Professor Ute Feucht</u>, a leading expert in maternal and child health who is based at the <u>University of Pretoria</u> (UP), shed light on the importance of the first 1 000 days of life – from conception to age two. Her lecture also highlighted how placental function, maternal health and early childhood factors influence lifelong health outcomes.

Drawing from her research Prof Feucht, who is the Director of UP's Centre for Maternal, Fetal, Newborn and Child Health Care Strategies, laid out the interconnected risk factors for suboptimal foetal growth and postnatal wellbeing, particularly the impact of maternal HIV infection on children, even when the children remain uninfected with the virus. The inaugural address was held at UP's Senate Hall, with <u>Vice-Principal: Academic Prof Loretta Feris</u>; Dean of the <u>Faculty of Health Sciences</u> <u>Prof Tiaan de Jager</u>; and other deans in attendance, along with Prof Feucht's family members.

Prof Feucht began her lecture by exploring foetal growth restriction, a condition where a foetus doesn't reach its genetic growth potential due to placental insufficiency.

"This condition has far-reaching consequences, including stillbirths, neonatal deaths and childhood growth disturbances, as well as conditions that can manifest later in life as non-communicable diseases like diabetes and hypertension," she explained.

Prof Feucht added that data from the South African mortality auditing programmes in the public sector health facilities shows that most stillbirths occur mainly in apparently low-risk pregnancies, and are coded as "unexplained stillbirths". In addition, these stillbirths are mostly antenatal, meaning they are not intrapartum, therefore not linked to the quality of care that the mother receives during the delivery.

She also drew data from the Siyakhula study, which examined HIV-exposed uninfected infants in South Africa. The study found that these children, even without vertical HIV transmission, were more likely to suffer from stunted growth due to changes in their intrauterine environment.

"The Umbiflow studies, which used Doppler ultrasound technology to assess placental blood flow, showed the potential for this technology to prevent stillbirths and identify at-risk pregnancies," Prof Feucht said. "The studies, conducted across South Africa and other low- and middle-income countries, revealed alarming rates of placental insufficiency in seemingly healthy women. The prevalence of abnormal Dopplers – indicating insufficient blood flow to the foetus – was found to be 10 times higher in these low- and middle-income countries compared to high-income settings."

The first 1 000 days

Prof Feucht said that 80% of a baby's brain growth occurs within the first 1 000 days, the crucial period from conception to a child's second birthday.

"This is a time of tremendous potential and enormous vulnerability, where the foundation for future health, growth and neurodevelopment is laid," she said. "Poor foetal growth and development during these early stages, particularly due to conditions like foetal growth restriction, can lead to life-long disadvantages."

Prof Feucht went on to draw attention to the developmental origins of health and disease hypothesis, which suggest that a foetus makes genetic adaptations in response to its environment. These adaptations, while initially protective, may predispose an individual to chronic diseases in adulthood if the predicted environment doesn't match reality.

When it comes to postnatal care, particularly for vulnerable infants born to mothers living with HIV, or those experiencing placental insufficiency, Prof Feucht shared findings from the <u>UmbiBaby and UmbiGodisa studies</u>, which track the growth and development of infants up to 24 months. These studies found that children exposed to both HIV and placental insufficiency were at significantly higher risk for stunted growth and cognitive delays.

Going forward

To identify and address these risks, Prof Feucht called for better integration of care for mothers and infants in South Africa's healthcare system.

"Streamlined, holistic care for both mother and child at primary healthcare centres would reduce the number of visits needed for family planning, HIV-related care and routine infant check-ups and immunizations, ultimately leading to better health outcomes for both," she said.

Additionally, her research group is now conducting research to elucidate the reasons for placental insufficiency in the South African setting.

Prof Feucht closed her lecture by quoting a recent *Lancet* report which stated the following: "The fact that every fourth baby in the world is born too soon or born too small is a concern for human rights, public health, the national economy and development."

Addressing this issue, she added, is vital for ensuring a healthier future for all.

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Media enquiries can be directed to Mr Sashlin Girraj - Public Relations & Events Manager

Email: sashlin.girraj@up.ac.za | Cell: +27(0)72 447 3784

ABOUT THE UNIVERSITY OF PRETORIA

The University of Pretoria (UP) is one of the largest contact and residential universities in South Africa, with its administration offices located on its Hatfield Campus in Pretoria. This 115-year-old institution is also one of the largest producers of research in South Africa.

Spread over seven campuses, it has nine faculties and a business school, the Gordon Institute of Business Science (GIBS). It is the only university in the country with a Faculty of Veterinary Science, which is ranked the best in Africa. UP has 120 academic departments and 92 centres and institutes, accommodating more than 56 000 students and offering about 1 100 study programmes. It has the most academic staff with PhDs (70%), NRF-rated researchers (613).

The <u>2024 Times Higher Education subject rankings</u> placed UP first in South Africa in the fields of Law, Veterinary Science, Accounting and Finance; Agriculture and Forestry and Electrical and Electronic Engineering. Quacquarelli Symonds (QS) ranked the University among the top five in Africa, as part of their <u>2024 World</u> <u>University Rankings (WUR)</u>. UP was the only South African university featured in the <u>2023 World</u> <u>University</u> <u>Rankings for Innovation (WURI)</u>, falling within in the 101-200 range of innovative universities.

For more information, please go to <u>www.up.ac.za</u>