Collaboration for global impact

Truly highlighted the depth and geo/demographic variations in the PTB problem.

Day 1

Introduction by President Professor Sam Mesiano

Professor Sam Mesiano opened the meeting by welcoming all attendees and outlining the purpose of the gathering. He emphasized PREBIC's continued commitment to fostering collaboration through workshops and networking opportunities.

Professor Mesiano highlighted PREBIC's longstanding role in uniting global experts in the field of preterm birth research. He noted that this collaborative effort has consistently led to impactful scientific publications and informed policy development aimed at improving outcomes related to preterm birth.

Session 1: Preterm Birth Regional Considerations and Challenges

Chair: Sam Mesiano

Professor Marian Kacerovsky – Preterm birth in European Context

Professor Kacerovsky spoke about the variation in European countries (overall 1:14 births) with data from 2109 showing Cyprus to have the highest rates and lowest in Scandinivian countries. The trends are stable and, in some areas, slightly improving with advanced maternal age and IVF as main contributing factors. He acknowledges there is large variation in population demographics, health care practice and data reporting. He spoke in data from Europeristat (https://www.europeristat.com) and covered the following key areas:
Clinical practice and outcomes - differ in how aggressive we how manage risk in pregnancy
Disparities and inequiites
Lifestyle and health behaviour
Multiple pregnancy
Data and measurement issues
Ensuring optimal care preterm infants
Decreasing number of births in Europe

Talk 2
Professor Sandra Reznik
Preterm birth in North American context
Professor Reznik told us that rate vary across North America - Canada 8.3%, USA 10.4 , Mexico 8.4% and Cuba 6%. There are vulnerable parts of USA and the March of Dimes reports preterm birth rates by grade for each state (https://www.marchofdimes.org/about/news/us-earns-dplus-preterm-birth-rate-third-consecutive-year-2024-march-dimes-report-card)

Southern states have poor rates preterm birth but overall health outcomes such as covid deaths were also high in these states. She also told us that in different regions, outcomes differ especially southern states.
For example, in South Carolina – smoking 15.5%, Diabetes 28.8%, Hypertension 23.3 Weight 12.3%, Poor air quality (pollution)73.7%, Extreme heat 40.7%. In these areas ethnic distribution is as follows: black 14.7%, Asian 9.2%, White 9.5%, Hispanic 10.1%.
Social determinants of health such as poverty, neighbourhood violence and housing instability, inadequate prenatal access all play a part.
In Canada, in last 50 years, 2023 recent data showed that it's the highest it has been and maybe due to increase in multiple pregnancies due to IVF, or caesarean section rates.

In Mexico there is limited access to prenatal care in rural areas and environment pollutants. High caesarean section rates and stressful life events. Immigrants from Mexico to USA experience increase stress and high rate PTB.

Professor Rachel Tribe
Preterm birth in African context

Professor Tribe told us about her experience in undertaking research in The Gambia, Mozambique and Kenya and the urban and rural context and drivers. Her team was able to recruit in the Gambia 1249 women, Mozambique 2080 women and Kenya 3582 women. Total 6911.
She found that hypertension contributes to preterm birth and have recruited 10, 000 women over 5 years with sample collection (Whole blood, Serum,Plasma, Buffy coat ,Urine Vaginal swabs)
Her work involved characterising maternal and clinical phenotypes and exposure. For example, in over 1000 PTB, 833 were spontaneous and the PTB rates in her cohort with correct pregnancy dating were:
Kenya 21.5%
Mozambique 16.5 %
The Gambia 21.8%
Across all three - 19.9%
She applied the same approach in her Indian Cohort and found that when using correct dating the PTB rate initially was 20% but 8%<34 weeks.

Dr Yu He - Efforts to Promote Research and Intervention for Australasian Preterm Birth

Talked on the variation in rates across Australasia: Japan 5.8%,Australia 8%
China 6-7% and India 13. He outlined the Branch proposed strategy for promoting collaboration and their commitment to hosting future meetings.

Post talk discussions:

The discussions focused on how we can address inconsistent data and get more reliable preterm birth trends across different countries. All agreed the data was not reliable

especially when researching epidemiology and hence phenotyping. Preterm birth rates differ according to gestational age and we need to get reliable data to allow us to research clinical drivers and then differences in mechanistic pathways.

Session 2: 'Research in Progress' from Investigators - Africa in Focus

Chair: Elizabeth Bonney

Professor Houda Moustaide
Preterm Birth: Moroccan experience

Professor Moustaide told us that in Morrocco rates vary between7-10% and there is underreporting and inconsistent data. Areas such as Rabat, Casablanca or Tangier have higher rates due to fact that they are tertiary sites for in-utero transfers. Neonatal death varies depending on areas and there are socio-economic disparities with limited access to antenatal care. Hypertensive disorders, anaemia, infection, short inter pregnancy intervals, early miscarriage, adolescent pregnancies and medical decisions are all contributory factors.

There are however positive development with the Kangaroo mother care bundle but protocols not harmonised and follow up pathways for preterm infants are weak and adherence to protocols not consistent. Early prediction of preterm birth is needed.

She suggested future Prebic meetings in places where we need to increase awareness and get policy makers to attend. For example, The African federation of maternal fetal medicine, need to promote knowledge there and have a knowledge mobilisation strategy.
She concluded by saying that Babies are not necessarily 'Born Too Soon' but 'Born in the Wrong Place'

Professor Priya Somapillay
Cervical caesarean damage: an important cause of preterm birth around the globe?

Told us that there are some low hanging fruits that have been identified by the FIGO Preterm Birth Committee. There has been a 44% increase in second stage caesarean deliveries in the last decade. In South Africa approximately 30% of women deliver via caesarean section. And furthermore, full dilatation caesarean section is resulting in injury to the internal cervical os. She reminded us of the growing body of evidence that supports the association with in labour caesarean section and future of preterm birth. Future research into the underlying mechanism of cervical damage is needed and this needs to be highlighted in clinical practice.

The following working groups then convened:

Group 1. Undertaking Scientific/Biomedical Research in the Global Setting

Room Uranus
Group 2. Global Health & Epidemiology/Data Science
Group 3. Clinical and Translational Science in a Global Setting

The groups brainstormed:
What research questions are important for your region? What are the research strengths? What are the gaps and needs? How best to build equitable research partnerships? How to build community-based participatory research approaches? Ethical issues to consider.

Session 4: 'Research in Progress' from Investigators – Europe in Focus

Chairs: Bo Jacobson and Brandie DePaoli Taylor

Dr Alice Buchan
Understanding clinical phenotypes from preterm birth debrief clinic
Told us about her experience in a bespoke debrief service for women who experienced preterm birth. She presented data from the service which attempted to clinically phenotype women and identify areas in which clinical pathways can be re-designed.
Detail clinical history and patient perspective data was presented.

Dr Emilie Cote
An intervention to lower exposure to air pollution in pregnancy – The MOBILEAir feasibility study

Presented her ongoing work. Discussed how particulate matter – combustion, natural sources – wild-fires impact on health. She explained that she can experience PM2.5 exposure on a workday
She has so far recruited 12 participants and aiming to target 50 women

Londonair.org.uk and Airtext.info can give relevant information on air pollution levels in areas.

Dr Carlotta Valensin

Insight 2 – high risk pregnancy cohort to understand childhood health

Dr Valensin told us that there is need for longitudinal comprehensive studies and linkage maternal and child data. In the Insight study there is data for 2246 women. The participants mirror local population demographics. They studied the vaginal microbiome using oxford nanopore sequencing and able to differentiate between viral infection and inflammation. She will be using umbilical cord and placenta to study immune changes.

Dr Nishel Shah
A novel approach to point-of-care testing for preterm birth

Presented his pilot feasibility study called PROMPT which is about precision care for women in spontaneous preterm birth and how best to predict in a personalised approach.
He talked about his experience recruiting and acceptability among women and presented qualitative data on why women decline. He explained that the study is also about how this approach can be embedded into clinical practice. Precision medicine approach – women recruited 23 – 34 weeks, take 90 mins with Biofire to get a result and an IL-6 lateral flow is done. So far 29 women recruited.

Mr Francisco Delgado

Preterm Birth and Cervical Stiffness - Recent developments

Mr Delgado told us about the PREGNOLIA device and how this can be used to measure and assess Cervical stiffness.