OMICS RESEARCH SYMPOSIUM

DIGITAL BIOMIC SOLUTIONS IN PREGNANCY

Dr Simmi Kharb
Senior Professor & Head Biochemistry, Nodal officer MultiDisciplinary Unit (MRU)
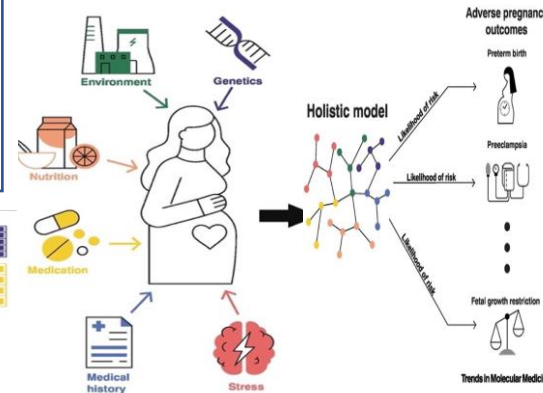
Pt. B. D. Sharma PGIMS, UHS, Rohtak.

Introduction

Technology is allowing pregnant women to stay away from hospitals, and it's improving care—for those who can get access, biomics and ediagnostics will be promising for them to predict complications during covid 19 pandemic.

A biomics hub with areas of expertise:
Sequencing
Bioinformatics
Deep learning
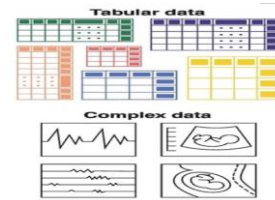
Methods

Biomics involves genomics; transcriptomics epigenomics; genotyping (analysis of genetic polymorphisms in humans); and metagenomics (characterizing communities of microorganisms).
Artificial intelligence (AI), machine learning and data mining

Results

OUTCOME:
Facilitate preparation of digital sequencing libraries: **Biomic Hub**
- Construction of a time- course high-resolution reference catalogue of wellness and multiomics data from pregnant women
- Development of a personalised predictive model for pregnancy complications
- Resource for future biological investigations during pregnancy to begin with and other disease subsets in future
- Production of digital biomics dataset to provide unique resource for future biological investigations during pregnancy
- To increase predictive power of biomics hub by combining datasets of various sizes and modularities in a balanced way

Conclusions

These prospective technological advances in remote monitoring of pregnant women would provide conceptual and analytical framework to analyze the complex interplays between various biological modalities that govern preterm birth and other pregnancy-related pathologies

The digital biomics dataset thus produced would provide a unique resource for future biological investigations during pregnancy and can increase the predictive power by combining datasets of various sizes and modularities in a balanced way.

References
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