RISKS AND CHALLENGES FOR PRETERM BABIES

Health Risks at Birth

Preterm babies face critical complications:

- Respiratory Distress Syndrome (RDS) – Due to immature lungs.
- Hypothermia Inability to regulate body temperature.
- Neonatal infections Weaker immune systems.

Long-Term Consequences

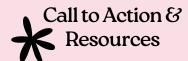
How many preterm babies develop complications?

- Cerebral palsy Affects 5-10% of preterm babies.
- Vision & Hearing Loss 25% of babies <28 weeks.
- Developmental Delays Nearly 40% struggle with learning difficulties.
- Heart diseases & hypertension Higher risk in adulthood.

The Challenge in Low-Income Communities

Many families in rural & underserved areas struggle with:

- Limited hospital access Long distances, high costs.
- No routine ultrasounds Doppler scans are expensive.
- Delayed medical intervention Preterm birth risks go undetected.



WHO NEEDS THESE DEVICES?

- Pregnant women in remote areas
- High-risk pregnancies (previous preterm birth, chronic illness)
- Low-income mothers with limited hospital access

WHERE TO SEEK HELP?

- Hospitals & Clinics Free or lowcost screening programs
- NGOs & Government Programs Affordable maternal care options
- Research & Innovation Hubs Advancing low-cost fetal monitoring

TAKE ACTION!

- Spread awareness about preterm birth risks
- Support affordable fetal monitoring solutions

Contact Us: unnati_b210776ee@nitc.ac.in

Preterm Delivery & Infant Health: The Need for Early Detection



Why It Matters:

- Every year, 15 million babies are born preterm worldwide (before 37 weeks).
- Complications from preterm birth are the leading cause of death in children under 5 years.
- Early detection using ECG & EHG monitoring can help save lives!

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What is Preterm Birth?

A baby is considered preterm if born before 37 weeks of gestation. Depending on how early the birth happens, preterm babies are classified as:

- Late Preterm (34-36 weeks)
- Moderate Preterm (32-34 weeks)
- Very Preterm (28-32 weeks)
- Extremely Preterm (<28 weeks)

How Common is Preterm Birth?

- 1 in 10 babies worldwide is born preterm.
- Countries with higher preterm birth rates (per 100 births):
- India 3.5 million
- China 1.2 million
- Nigeria 773,600
- Pakistan 748,100
- Indonesia 675,700





Risk Factors for Preterm Birth:

- Infections & chronic conditions (e.g., diabetes, high BP).
- Previous preterm birth.
- Twin or multiple pregnancies.
- Poor maternal nutrition.
- · Lack of prenatal care.

Role of ECG & EHG Monitoring in Early Detection

What is ECG & Why is it Important?

ECG (Electrocardiography) for Fetal Heart Monitoring

- Measures the baby's heart activity in the womb.
- Detects abnormal heart rhythms (arrhythmias).
- Identifies oxygen deprivation (fetal hypoxia) before distress occurs.

What is EHG & How Does It Help?

EHG (Electrohysterography) for Uterine Contractions

- Non-invasive method to detect preterm labor signs.
- Records electrical signals from the uterus.
- More reliable than traditional tocography (TOCO).

Why ECG & EHG Over Traditional Methods?

- Safer than frequent ultrasounds.
- Non-invasive, pain-free.
- Can be used at home with proper guidance.

Bridging the healthcare gap for every mother, everywhere!

The Need for Affordable & Portable ECG/EHG Devices

Challenges for Low-Income Groups

- 80% of maternal deaths occur in low-resource settings.
- Many pregnant women cannot afford frequent hospital visits.
- Traditional Doppler ultrasounds are costly & require trained professionals.

How Can Portable ECG & EHG Devices Help?

- Affordable, home-based monitoring for at-risk mothers.
- The state of the s
- Al-powered alerts detect abnormalities early.
- ▼ Telemedicine Integration Doctors can analyze data remotely.

Real-World Impact

- In a study from India, portable fetal monitors helped reduce neonatal deaths by 30%.
- Community health workers can use these devices to screen expectant mothers at home.