



Maternal Age and Preterm Birth Risk in Singleton and Multiple Pregnancies: A Comparative Analysis

Julia Natalie*

Department of Clinical Pharmacology and Aged Care, University of Sydney School of Medicine, Sydney, Australia

ABOUT THE STUDY

Preterm birth, defined as delivery before 37 weeks of gestation, remains a significant public health concern due to its association with adverse neonatal outcomes and long-term health complications. While various factors contribute to preterm birth risk, maternal age has garnered attention for its potential influence on gestational outcomes. This article investigates the role of maternal age in determining the risk of preterm delivery in both singleton and multiple pregnancies, providing focus on the intricacies of this complicated connection.

Maternal age and preterm birth risk

Studies examining the impact of maternal age on preterm birth risk have yielded mixed findings, with some suggesting a U-shaped association, while others report a linear increase in risk with advancing maternal age. Interestingly, these trends may alter across singleton and multiple pregnancies, emphasizing the need for a broader view of mother age's impact on preterm delivery outcomes.

Singleton pregnancies

In singleton pregnancies, advanced maternal age, typically defined as 35 years or older, has been associated with an elevated risk of preterm birth. This heightened risk may be attributed to various factors, including age-related declines in reproductive capacity, increased prevalence of comorbidities such as hypertension and diabetes, and obstetric interventions such as cesarean delivery. Conversely, adolescent pregnancies, characterized by maternal age under 20 years, also exhibit an increased risk of preterm birth, often attributed to socioeconomic factors, inadequate prenatal care, and biological immaturity.

Multiple pregnancies

In contrast to singleton pregnancies, the relationship between maternal age and preterm birth risk in multiple pregnancies is less

clear-cut. While advanced maternal age remains a risk factor for preterm birth in multiple gestations, the dynamics differ due to the unique challenges associated with multifetal pregnancies. Advanced maternal age in the context of multiple pregnancies may exacerbate obstetric complications such as preeclampsia, placental abruption, and fetal growth restriction, all of which contribute to an increased risk of preterm birth. Conversely, adolescent mothers carrying multiples may face heightened risks related to inadequate prenatal care and socioeconomic disadvantage, further complicating the association between maternal age and preterm birth risk in this population.

Mechanisms underlying the association

The mechanisms underlying the association between maternal age and preterm birth risk are multifactorial and complex. Advanced maternal age is often accompanied by age-related changes in reproductive physiology, including decreased ovarian reserve, alterations in hormonal milieu, and increased prevalence of medical comorbidities. These age-related changes may impair fetal-placental development, disrupt uterine function, and predispose to obstetric complications, ultimately increasing the risk of preterm birth. Similarly, adolescent pregnancies are characterized by biological immaturity, socioeconomic disparities, and inadequate prenatal care, all of which contribute to an increased risk of preterm birth through pathways involving maternal stress, nutritional deficiencies, and suboptimal antenatal monitoring.

Clinical implications

Understanding the influence of maternal age on preterm birth risk has important clinical implications for antenatal care and obstetric management. Healthcare providers should recognize the heightened risk of preterm birth associated with advanced maternal age in singleton pregnancies and tailor prenatal care accordingly, emphasizing early screening for obstetric complications, optimization of maternal health, and close fetal

Correspondence to: Julia Natalie, Department of Clinical Pharmacology and Aged Care, University of Sydney School of Medicine, Sydney, Australia, E-mail: julia.natalie@une.edu.au

Received: 19-Feb-2024, Manuscript No. CMCH-24-25428; **Editor assigned:** 21-Feb-2024, PreQC No. CMCH-24-25428 (PQ); **Reviewed:** 06-Mar-2024, QC No CMCH-24-25428; **Revised:** 13-Mar-2024, Manuscript No. CMCH-24-25428 (R); **Published:** 20-Mar-2024. DOI: 10.35248/2090-7214.24.21.481.

Citation: Natalie J (2024) Maternal Age and Preterm Birth Risk in Singleton and Multiple Pregnancies: A Comparative Analysis. Clinics Mother Child Health.21.481.

Copyright: © 2024 Natalie J. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

surveillance. Similarly, adolescent pregnancies warrant specialized care to address the unique needs of this population, including comprehensive social support, nutritional counseling, and access to prenatal resources. In multiple pregnancies, regardless of maternal age, vigilant monitoring for obstetric complications and timely intervention are essential to mitigate the risk of preterm birth and optimize neonatal outcomes.

CONCLUSION

In conclusion, maternal age exerts a significant influence on preterm birth risk in both singleton and multiple pregnancies,

albeit through distinct mechanisms and trajectories. Advanced maternal age and adolescent pregnancies are associated with heightened risks of preterm birth in singleton gestations, reflecting age-related changes in reproductive physiology and socio-economic disparities, respectively. In multiple pregnancies, the interplay between maternal age and preterm birth risk is further complicated by the unique challenges inherent to multifetal gestations. An intricate understanding of these relationships is essential for guiding clinical practice and informing targeted interventions aimed at reducing the burden of preterm birth on maternal and neonatal health.