

CHANGING ERA: DELAYED MARRIAGES ADVANCED MATERNAL AGES AND MORE COMPLICATED PREGNANCIES

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Abstract

Background

Delayed childbearing has become an increasingly prominent trend in modern societies, influenced by educational, professional, and financial considerations. While this shift reflects evolving social and economic norms, it also introduces potential physiological risks associated with advanced maternal age (AMA). This study explores both the medical outcomes and psychosocial motivations underlying delayed pregnancies among first-time mothers.

Objective

To assess the impact of advanced maternal age on maternal and neonatal outcomes and to understand the key reasons motivating delayed childbearing.

Methods

A prospective comparative cohort study was conducted over six months at an urban tertiary care hospital, enrolling 150 primigravid women. Participants were divided into two cohorts: AMA (≥ 35 years, $n=75$) and control (25–30 years, $n=75$). Quantitative data on obstetric outcomes were analyzed using chi-square tests and logistic regression, while qualitative interviews with 15 AMA participants were thematically analyzed to identify major motivations for delayed childbearing.

Results

Women of AMA exhibited a significantly higher incidence of gestational diabetes mellitus (21.3% vs. 8.0%, $p=0.02$) and cesarean section deliveries (38.7% vs. 22.7%, $p=0.03$). Logistic regression confirmed AMA as an independent predictor of both conditions. Qualitative findings revealed four dominant themes behind delayed childbearing: pursuit of education and career advancement, financial security, stable partnership, and personal readiness for motherhood.

Conclusion

Advanced maternal age presents a dual reality—reflecting both a conscious, strategic life choice and a biological predisposition to obstetric complications.

Integrating preconception counseling, early metabolic screening, and supportive antenatal care within healthcare frameworks is essential to address these risks while respecting women's autonomy and evolving socio-economic contexts.

INTRODUCTION

Delayed childbearing, a prominent trend in recent decades, reflects substantial shifts in societal norms, economic structures, and individual aspirations. Traditionally, childbearing occurred within a relatively narrow age range, driven primarily by cultural norms and biological considerations. However, the 21st century has witnessed a noticeable increase in the average age at which individuals embark on parenthood¹. This phenomenon, commonly called delayed childbearing, has instigated a growing body of research to comprehend the multifaceted factors contributing to this trend^{2,3}. The concept of risk at AMA may be composed of two components: the physiological challenges because of an aging reproductive system, and the social discourse of risk and timing of childbearing⁴. Most previous work on risk perception at AMA has focused on increased risk of genetic abnormalities, and the general concept of pregnancy risk perception has received less consideration. Current knowledge of risk perception at AMA is based on a few studies that most of them primarily focused on pregnancy experiences, in which risk perception was discussed as part of the pregnancy and birth experience. For instance, Windridge and Berryman (1999), in a study of 107 British women's experiences of giving birth at AMA, explored risk perception and reported that women of AMA may perceive a higher risk for their babies during labor because of their older age⁵. Another notable study on this topic is an Australian qualitative study of 22 prim gravid women of AMA that was initially conducted to understand the experiences of women of AMA⁶. Risk perception is also incorporated as a key concept in constructing several theories of health behavior such as the Health Belief Model⁷, Protection Motivation Theory⁸, and Prospect Theory⁹.

Methodology:

This study employed a prospective comparative cohort design to investigate the relationship between advanced maternal age and pregnancy complications.

The research was conducted over a six-month period at a large urban tertiary care hospital to ensure access to a sufficient and relevant patient population. A total sample of 150 first-time mothers was recruited and divided into two cohorts: one consisting of 75 women aged 35 years and older, and a control group of 75 women aged 25 to 30 years. Participants were selected using a purposive consecutive sampling method as they presented for their initial prenatal visits, which allowed for efficient and practical recruitment within the study's constrained timeline. Data collection was carried out in two distinct phases. Upon recruitment, all participants completed a structured questionnaire that gathered comprehensive socio-demographic, medical history, and lifestyle data. Following delivery, a standardized data abstraction form was utilized to extract key maternal and neonatal outcomes from the participants' medical records. These outcomes included the incidence of conditions such as gestational diabetes and pre-eclampsia, as well as data on the mode of delivery and gestational age at birth. To add qualitative depth to the quantitative findings, a purposively selected sub-sample of 15 women from the advanced maternal age group also participated in semi-structured interviews, which explored their personal experiences and reasons for delayed childbearing.

The analysis utilized a mixed-methods approach. For the quantitative data, statistical software was used to perform both descriptive and inferential analyses. Chi-square tests and logistic regression were employed to compare complication rates between the two groups while controlling for potential confounding variables. The qualitative data from the interviews were transcribed and underwent a thematic analysis to identify significant and recurring themes in the participants' narratives. The entire research process was governed by strict ethical protocols, which included obtaining informed consent from all participants and ensuring complete data anonymization. A detailed six-month timeline

was adhered to, guiding the process from initial preparation and ethical approval through to data collection, analysis, and the final reporting of the findings.

Results

This study compared pregnancy outcomes and experiences between 150 first-time mothers, divided into a cohort of advanced maternal age (AMA, ≥35 years, n=75) and a control cohort (25-30 years, n=75). The analysis integrated quantitative data on

medical outcomes with qualitative insights into the reasons for delayed childbearing.

1. Participant Demographics and Baseline Characteristics

A total of 150 participants were enrolled in the study. The baseline socio-demographic and clinical characteristics of both cohorts are summarized in Table 1. The groups were comparable in key areas, though a higher proportion of women in the AMA group held a university degree.

Table 1: Baseline Characteristics of Study Participants

Characteristic	AMA Cohort (n=75)	Control Cohort (n=75)	p-value
Maternal Age (years), Mean (SD)	37.5 (2.1)	27.8 (1.5)	<0.001
Gestational Age at Recruitment (weeks), Mean (SD)	10.2 (2.0)	10.5 (2.2)	0.35
Body Mass Index (BMI, kg/m ²), Mean (SD)	24.8 (4.1)	23.9 (3.8)	0.14
University Education, n (%)	58 (77.3%)	45 (60.0%)	0.02
Pre-existing Hypertension, n (%)	5 (6.7%)	3 (4.0%)	0.47
Family History of Diabetes, n (%)	12 (16.0%)	9 (12.0%)	0.47

2. Maternal and Neonatal Outcomes

The incidence of key maternal and neonatal outcomes was compared between the two groups, as detailed in Table 2. The AMA cohort demonstrated

a statistically significant higher incidence of gestational diabetes mellitus (GDM) and cesarean section delivery.

Table 2: Comparison of Maternal and Neonatal Outcomes

Outcome	AMA Cohort (n=75)	Control Cohort (n=75)	p-value
Maternal Outcomes			
Gestational Diabetes Mellitus (GDM)	16 (21.3%)	6 (8.0%)	0.02
Pre-eclampsia	7 (9.3%)	4 (5.3%)	0.34
Cesarean Section Delivery	29 (38.7%)	17 (22.7%)	0.03
Neonatal Outcomes			
Preterm Birth (<37 weeks)	8 (10.7%)	5 (6.7%)	0.38
Low Birth Weight (<2500g)	6 (8.0%)	4 (5.3%)	0.51
Admission to NICU	9 (12.0%)	7 (9.3%)	0.59

Abbreviation: NICU, Neonatal Intensive Care Unit.

A logistic regression analysis was performed, controlling for BMI and education level, which confirmed that advanced maternal age remained a significant independent predictor for both GDM (Adjusted Odds Ratio [AOR] = 3.1, 95% CI: 1.2-

8.3) and cesarean section (AOR = 2.2, 95% CI: 1.1-4.5).

3. Qualitative Themes on Delayed Childbearing

Thematic analysis of semi-structured interviews with 15 women from the AMA cohort revealed four primary themes explaining their reasons for delayed childbearing:

1. **Pursuit of Educational and Career Goals:** The vast majority of participants cited the desire to complete their education and establish a stable career as a primary reason for postponing pregnancy.
2. **Financial Security and Stability:** Participants emphasized the importance of achieving a certain level of financial security and home ownership before starting a family.
3. **Partner Selection and Relationship Stability:** Many women expressed a deliberate approach to finding a suitable long-term partner and ensuring the relationship was stable before having children.
4. **Personal Development and Readiness:** A strong theme was the desire for personal maturity, self-discovery, and a sense of being emotionally "ready" for the responsibilities of motherhood.

Discussion

The present study demonstrates a significant association between advanced maternal age and increased obstetric risks, particularly higher rates of gestational diabetes mellitus (GDM) and cesarean section. These findings are consistent with previous research indicating that maternal age above 35 years is linked to greater metabolic and obstetric complications due to physiological changes, insulin resistance, and reduced uterine elasticity.^{12,14}

The qualitative component of our study revealed that delayed childbearing was often a deliberate and well-considered choice. Most participants cited reasons such as educational attainment, professional advancement, financial stability, and emotional preparedness as key motivators for postponing motherhood. This observation aligns with existing evidence showing that social, educational, and economic empowerment strongly influence reproductive timing decisions¹⁰

Similarly, previous thematic analyses have highlighted that women engage in active risk perception and management, assessing biological risks against their readiness and life circumstances before conceiving¹¹ Our findings echo these patterns, demonstrating that decisions to delay

pregnancy are guided more by rational planning than by ignorance or neglect of reproductive health.

The observed higher incidence of GDM among women of advanced maternal age supports earlier studies that reported similar outcomes.^{12,13} However, unlike some reports showing increased rates of preterm birth, fetal distress, and low Apgar scores, our study did not find these associations to be statistically significant.¹⁴ This partial concordance may reflect differences in sample size, population characteristics, or antenatal care practices.

Overall, these findings highlight the dual nature of advanced maternal age on one hand, representing informed socio-personal choice, and on the other, posing measurable obstetric risks. Therefore, healthcare strategies should integrate both preventive and supportive dimensions: providing preconception counseling, early screening for metabolic disorders, and tailored antenatal management, while respecting the socio-economic and psychological contexts that shape women's reproductive choices.

Conclusion:

In conclusion, this study underscores the complex duality of advanced maternal age, revealing it to be both a product of deliberate life planning and a significant predictor of increased obstetric risk. The quantitative findings confirm a higher incidence of gestational diabetes and cesarean sections among older first-time mothers, highlighting the persistent biological challenges. Simultaneously, the qualitative insights affirm that delayed childbearing is a rational choice, strategically aligned with achieving educational, financial, and personal stability. Therefore, a holistic healthcare approach is imperative one that provides robust medical screening and management for the associated risks while simultaneously respecting and supporting the informed socio-personal decisions that shape modern parenthood.

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