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Pregnancy outcomes in the extremes of reproductive age: A seven-year experience in Tanzania

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ABSTRACT

Background: Extremes of reproductive age are associated with adverse pregnancy outcomes. Although varieties of adverse outcomes are reported across international studies, it has been difficult to compare the results due to inconsistencies in design partly due to arbitrary age cut offs for low and high risk groups. This study utilized the international consensus age cut offs to separate low and high risk age groups and compared pregnancy outcomes among them. Methods: Data of all deliveries at the Muhimbili National Hospital in Dar es Salaam, Tanzania from 1st January, 2005 to 31st December, 2011 were analyzed retrospectively and compared using IBM SPSS statistics 19. Ages 12 - 17 years (teenage) and 35 - 50 years were classified as high risk and 18 - 34 years as low risk. We treated the presence of any prenatal complication as primary outcome and intra/postpartum variables as secondary outcomes. Chi square test was used to compare proportions and t-test for continuous data among two independent groups. ANOVA with Bonferroni adjustment was used to compare differences in means across age groups. Binary logistic regression analyses were performed to determine odds of developing primary and secondary outcomes with age as an independent (categorical) variable. P-values of 0.05 or less were interpreted as statistically significant. Results: In total 65,453 singleton deliveries were identified of which 64,818 (99%) were analyzed including 1680 (2.6%) teenage and 7961 (12.3%) deliveries at 35 - 50 years. Teenage deliveries had progressively declined from 39/1000 in 2005 to 16/1000 in 2011 in contrast to a rise from 103/1000 to 145/1000 deliveries for the 35 - 50 years. Across all age groups, prenatal complications were least for teenage (11.4%) and most for 35 - 50 years (32.7%, $\chi^2 = 51.3$, $P < 0.0001$). With reference to age 18 - 34 years, teenage deliveries had significantly lower odds for prenatal complications (OR = 0.4, 95% CI: 0.3 - 0.5), and for delivery of 4.0 kg or more (OR = 0.3, 95% CI: 0.2 - 0.5). Further, teenage deliveries had comparable odds for Cesarean section, stillbirths and maternal deaths. However, they had less antenatal care attendance (OR = 0.3, 95% CI: 0.3 - 0.4), more low APGAR score deliveries at five minutes (OR = 2.2, 95% CI: 1.9 - 2.6) and low birth weight (OR = 1.6, 95% CI: 1.4 - 1.8). In contrast, deliveries at 35 - 50 years had increased risks for Cesarean section (OR = 1.4, 95% CI: 1.3 - 1.5), low birth weight (OR = 1.2, 95% CI: 1.1 - 1.3), babies weighing 4.0 kg or more (OR = 1.2, 95% CI: 1.08 - 1.2) and maternal death (OR = 1.4, 95% CI: 1.1 - 2.0). The risks for prenatal complications and stillbirths were also increased for the 35 - 50 years but not after adjusting for confounders. Conclusion: Deliveries at 35 years or above were on increase and were associated with the worst pregnancy outcomes at MNH.

KEYWORDS

Maternal Age; Pregnancy Outcome; Trends; Prenatal; Postnatal; Tanzania

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