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Determinants of Duration of the First Birth Interval Using the Semi-parametric Survival Model in Uttar Pradesh, India: Evidence from NFHS – 5 (2019-2021)

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Background: First birth is an important phenomenon in women life. It not only affects the duration of the rest of birth intervals but also affects the reproductive pattern of women. The study aims to explore the determinants of the duration of the first birth interval.
Subjects dan Method: The cross-sectional study data of 33,275 women married between the years 2005-2021 aged (15-49) years from Uttar Pradesh, were selected from NFHS-5 data. The NFHS-5 sample is a stratified two-stage sample. Socio-demographic, socio-economic and cultural factors were taken as independent variables. The dependent variable was the first birth interval variable. Data analysis was performed on SPSS version 23 software and R Programming language for graphical representation. Cox proportional hazard models were applied for analysis.
Results: The mean age of women at first marriage was 19.4; SD=3.26 years and the mean age of women at first birth was 21.39; SD=3.24 years. The median duration of the first birth interval was22 months with an IQR of 14 until 32 months. Cox hazard proportional analysis revealed that religion, residence, (ever) fetal loss, age at first birth, heard family planning, and women or husband education were found to be statistically significant factors associated with the duration of the first birth interval ($p<0.001$).
Conclusion: There is a need to change the mindset of people towards the concept of the use of family planning methods to increase the length of the birth interval, regardless of various factors. This would help to increase the duration of the birth interval, improve the health of women and children, as well as help reduce population growth.
Keywords: Uttar Pradesh, birth interval, semi-parametric, cox model, hazard plot.