International Journal of Population Data Science

Journal Website: www.ijpds.org

Interaction between mother's age and schooling at birth on under-five mortality

Domenico, J¹, Guimarães, P¹, Guillen, LC¹, Camargo, K², and Sobrino, R¹

¹Universidade Federal do Rio de Janeiro

²Universidade do Estado do Rio de Janeiro

Introduction

Pregnancy at age extremes and low maternal schooling are associated with under-five mortality. However, we found no study in the literature that evaluated the interaction between mother's age and schooling on under-five mortality measured in both multiplicative and additive scales.

Objectives and Approach

To analyze the interaction between mother's age and schooling on under-five mortality in a birth cohort in Rio de Janeiro City (Brazil) (N=153,527 live births). We carried out a non-concurrent cohort study using probabilistic record linkage of birth and death records for Rio de Janeiro (Brazil). The association between under-five mortality according to mother's age (15-19, 20-34 and 35 years or more) and schooling (less than 4 years; 4 to 11 years and 12 or more years of schooling) were estimated using generalized linear models with binomial distribution and Neperian logarithm function. The interaction was evaluated in both scales.

Results

The under-five mortality rate was 14.0 per thousand live births. Higher rates were observed among women with less than 4 years' schooling and in age extremes. When compared with women aged 20 to 34 years and with more than 12 years' schooling, these women had the following risk ratios: 15 to 19 years – RR = 3.66 (95% CI 2.39; 5.62); 35 years or more – RR = 2.74 (95% CI 1.83; 4.11). We did not observe statistically significant interactions in the additive and multiplicative scales.

Conclusion/Implications

Although we did not observe an interaction between mother's age and schooling, under-five mortality was more frequent among women with less the four years' schooling, especially at the age extremes, suggests these are more vulnerable groups that demand greater attention in care.