Maternal age and congenital anomalies: 11 years of the national registry of congenital anomalies

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Background

Congenital anomalies (CA) can be defined as structural or functional anomalies that occur during pregnancy and can be identified prenatally, at birth or later in life. In Portugal, since 1997 the Nacional Registry of Congenital Anomalies (RENAC), a population-based registry, is a strategic instrument in surveillance and improve knowledge in this field. The aim of this study is to investigate for the period 2000–2010, the relationship between maternal age, young or advanced and the risk of structural congenital anomalies.

Methods

A descriptive and retrospective study was carried out using the data from RENAC. Prevalence rates were calculated using the number of cases reported in newborns, fetal deaths from 20 weeks gestation and cases that were subsequently terminated following prenatal diagnosis of a CA (International Classification of Disease [ICD-10]; Q00–Q99). The statistical significance of the association was studied using the chi-square test with a 5% significance level.

Results

Considering the main subgroups of CA, significant association with maternal age was observed in all except for the respiratory system anomalies ($p = 0.395$). In young mothers, less than 20 years, higher prevalence ($p < 0.001$) of gastrosquisis (3.9/10000) and cleft lip (2.3/10000) were observed when compared to remain age groups (1.2/10000 and 1.0/10000 respectively). We also detected high prevalence of CA of the circulatory system in mother with 35 years and more. Finally, and considering chromosomal anomalies, the prevalence increases 28,4/10000 in the 35–39 age group compared to the previous, and 83,6/10000 in the 40 and more.

Conclusions

The results are in accordance with the literature and indicate that specific CA's are associated with maternal age. Teenage mothers are at higher risk of non-chromosomal anomalies, but older mothers (35 years and more) are not. In these age groups, special monitoring should be done considering other risk factors.

Key messages

- A surveillance system as RENAC is a strategic instrument in surveillance and improve knowledge in CA namely regarding information on risk factors
- Given the increase in maternal age and its association to some subgroups of CA specific primary prevention programs should be developed