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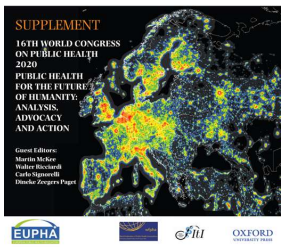

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Descriptive analyse of a case control study in Portugal: identify to prevent

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Abstract

Background

Prenatal exposure to environmental risk factors are one of the known causes of congenital anomalies (CA). In 2015, a cluster of anorectal anomalies, a rare malformation, in Setúbal district raised interest in researchers. The aim of study was to assess the impact of prenatal exposure of the mothers on the occurrence of CA in the offspring.

Methods

A Case-control study (1:2) was implemented between 2016-2019. Newborns with CA (cases) and newborns without CA (controls) are identified and recruited. Parents were personally interviewed by a health professional using a standardized questionnaire. A descriptive analyses was performed and cases and controls were described based on maternal residence during pregnancy. Chi-square test was used to compare cases and controls.

Results

97 cases and 194 controls were identified. There was a male predominance in the case group (60 vs. 34) and no difference in gestational age between case and control groups. The mean birth weight was similar (3115g in cases vs. 3221g in controls). There was no difference related to mean mother's age nor the presence of maternal chronic disease. Smoking had more expression in the case group (21,2% vs. 16,3%). Moita (37,8%) is the municipality with higher frequency of cases. Musculoskeletal anomalies were the most frequent (35.4%), followed by genital (22.2%) and other anomalies (11%). During the study period, five cases with anorectal anomalies were reported, 4 of them born at 2016 and in 3 the mothers residence place was Moita.

Conclusions

In this study, the high proportion of cases from Moita suggests a possible environmental exposure to a teratogenic agent. Also smoking during pregnancy could be a high risk to anorectal anomalies, as suggested in other studies. More investment in public health measures could protect population from harmful environments.

Key messages

- Prenatal exposure to environemental risk factors increase the risk of congenital anomalies.
- Mothers residence and place of work could be a risk factor to pregnancy.

Topic:

- pregnancy
- smoking
- congenital abnormality
- environmental factors
- birth weight
- chronic disease
- environmental exposure
- gestational age
- health personnel
- newborn
- investments
- mothers
- musculoskeletal abnormalities
- parent
- portugal
- public health medicine
- genital system
- anorectal malformations
- smoking in pregnancy
- prenatal exposure
- offspring