

BRAIN CANCER AMONG AGRICULTURAL WORKERS FROM RIO DE JANEIRO, BRAZIL: A DEATH CERTIFICATE-BASED CASE-CONTROL STUDY

Adalberto Luiz Miranda F^o, *Escola Nacional de Saúde Pública / FIOCRUZ, Rio de Janeiro, Brasil*

Gina Torres Rego Monteiro, *Escola Nacional de Saúde Pública / FIOCRUZ, Rio de Janeiro, Brasil*

Armando Meyer, *Instituto de Estudos em Saúde Coletiva / UFRJ, Rio de Janeiro, Brasil*

Background: Several studies indicate that agricultural workers are at greater risk to develop some specific types of cancer, such as brain cancer. The underline hypothesis for such increased risk is the intense exposure to pesticides experienced by these workers.

Objectives: To estimate the magnitude of the association between brain cancer mortality and agricultural activities, as well as ethnicity, education, and place of residence.

Methods: In this death certificate-based case-control study, cases were defined as any resident of Rio de Janeiro State, 18 years or older, male, whose basic cause of death was registered as brain cancer. For each case, 2 controls were randomly chosen among any male individual, 18 years or older, whose basic cause of death was registered as any disease different from neoplasms and diseases of the Nervous System.

Results: Agricultural workers were at higher risk to die by brain cancer, when compared to non-agricultural workers (OR: 1.41; CI95%: 1.09-1.85). Adjustment by age, ethnicity, and residence, increased the magnitude of this risk (OR: 1.83; CI95%: 1.26-2.65). In addition, the brain cancer mortality risk was higher among those individuals of higher education, white, and residents of Nova Friburgo region.

Conclusions: In agreement with international evidences, the present study suggests an association between brain cancer mortality and agricultural activity in the State of Rio de Janeiro, Brazil. Our results reinforce the hypothesis that environmental exposures experienced by this group of workers may play a role in the development of type of cancer.