



## Evaluation of the cardiovascular effects of exposure to hexachlorocyclohexane in the human body

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### ABSTRACT

Hexachlorocyclohexane (HCH) is a highly toxic compound that accumulates in the body and the environment.

**Keywords:** City of Boys, Neuroendocrine effects, Hexachlorocyclohexane, City of Boys.

### 1 INTRODUCTION

Hexachlorocyclohexane (HCH) is a compound of high toxicity that accumulates in the body and in the environment. The City of Boys (CM) was home to a factory of this compound. After its deactivation in 1961, a huge amount of pesticides was abandoned on the site, exposing the population to the harms of the insecticide.

### 2 OBJECTIVE

To evaluate the cardiovascular effects related to HCH exposure in inhabitants of the MC, Duque de Caxias - RJ.

### 3 METHODS

Observational, comparative and controlled study. Epidemiological, sociodemographic, quality of life (SF-36), RISKO test, IPAQ questionnaire (short version) were performed, in addition to anthropometric



assessment data collection (weight, height, waist circumference, blood pressure, respiratory and heart rates and O2 saturation). The data were submitted to qualitative analysis.

#### 4 RESULTS

Information was collected from 66 residents of the MC with a mean age of 63 years, where 61.2% are women, 51.2% are black and 51% have completed high school. Most have contact with soil and use well water (89.3%), and 92.9% consume food produced in the MC. Many (xx%) claim to have a good quality of life, despite residing in an area of environmental risk and human health. Regarding the risk of developing coronary heart disease, the population remained in the general usual average (19.8) regarding the RISK0 test, however, when the waist-hip ratio is evaluated, 71.1% of the population is at risk between high and very high. Regarding physical activities, the population did not meet any of the recommendation criteria. In addition, 60.6% have some degree of hypertension, 13.11% have glycemetic disorder, 75% are overweight and 36% have thyroid changes.

#### 5 CONCLUSION

Although only 20% of the population was examined, it is possible to observe cardiovascular changes that can be attributed to exposure to HCH. In view of this, it is necessary to continue the investigation of this problem, correlating soon with the data of the control group. It is expected that the project in question will present solutions for the population that has lacked the attention of the public power for decades.