

MENTAL HEALTH AND EXPOSURE TO AGROTOXICS (PESTICIDES) A CROSS-SECTIONAL STUDY WITH VECTOR CONTROL WORKERS FROM THE STATE OF RIO DE JANEIRO, BRAZIL.

Priscila Vidal^{1*}, Ana-Paula das Neves¹, Marcus-Vinicius Santos¹, Leandro Carvalho¹, Ana Cristina Rosa¹, Maria-Blandina Santos¹, Antônio-Carlos Cardoso¹, Monica Olivar¹, Lucas Oliveira¹, Dominique Marçal¹, Isabele Costa-Amaral¹, Eline Gonçalves², Ariane Larentis¹, Liliane Teixeira¹, Luciana Gomes¹

1.Center for Studies on Occupational Health and Human Ecology (Cesteh), Sergio Arouca National School of Public Health (Ensp) / Oswaldo Cruz Foundation (Fiocruz)

2.Institute of Chemistry, Federal Fluminense University (UFF), Niteroi, RJ

E-mail: priscilaensp2020@gmail.com

INTRODUCCION

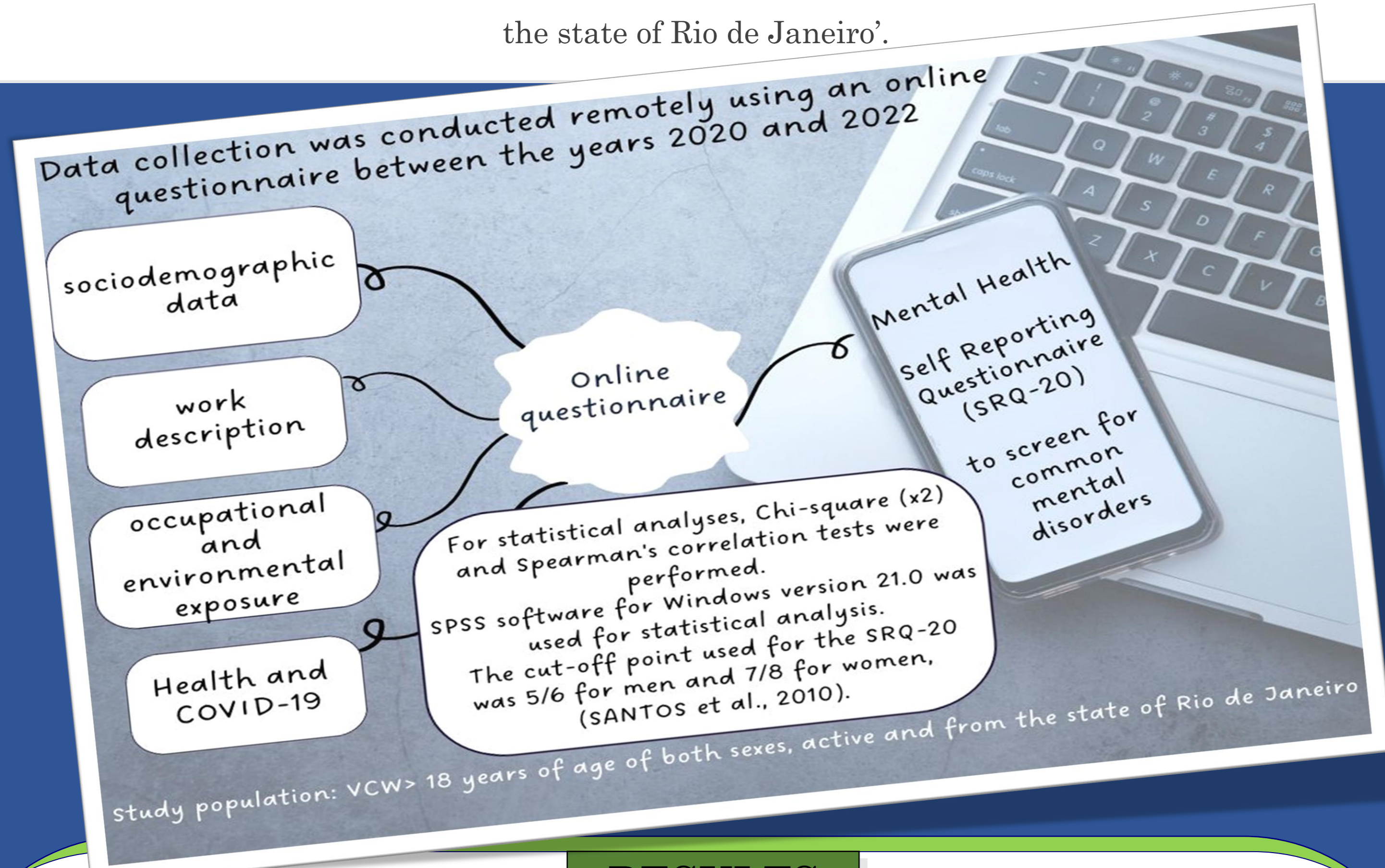
Vector Control Workers (VCW) represent a category of health workers most exposed to agrototoxics (pesticides) used in public health for vector control. The exposure occurs at various work process stages, from storage, mixture and application to indoor and outdoor areas. In addition, inadequate personal protective equipment (PPE) and/or expired equipment, product toxicity, lack of and deficient training, increase the risk of acute and chronic intoxications among other health problems. These include neuropsychological damage, depression, suicidal ideation and psychotic conditions.

OBJECTIVE

To estimate the prevalence of common mental disorders (CMD) and factors associated with agrototoxics exposure.

METHODOLOGY

This study is a cross-sectional study, part of the 'Multicenter Integrative Project: Study of the impact on health of agents fighting endemic diseases/guards of endemic diseases due to exposure to pesticides in the state of Rio de Janeiro'.



RESULTS

The study obtained 620 valid responses from 7,481 VCW from Rio de Janeiro State

Who are the workers in the sample?

- The workers was mostly male (68%)
- Federal employees of Ministry of Health (78%)
- Median age, 54 years (50-58 years)*,
- Median working time, 32 years (29-33 years)*,
- Median time applying pesticides, 25 years (15-30 years)*
- 48% did not use PPE because they are inadequate and/or not provided
- 71% mentioned symptoms of intoxication when applying or handling substances
- * (1st - 3rd Quartiles).

The study observed a prevalence of 48.5% for CMD and 14.4% reported a depression diagnosis, among other diseases 5.5% showed suicidal ideation



Table 1 - Person's chi-square Test for common mental disorders and factors associated with agrototoxics exposure (N 620)

Variables		CMD		P. value	X ²
		Case N (%)	No-case N (%)		
Pesticide intoxication*	Yes	252 (57.4)	187 (42.6)	0.000	44.589
	No	49 (27.7)	128 (72.3)		
Body exposed to pesticides	Yes	219 (52.5)	198 (47.5)	0.009	6.779
	No	84 (41.4)	119 (58.6)		
History of exposure to pesticides	Yes	230 (51.8)	214 (48.2)	0.020	5.377
	No	73 (41.5)	103 (58.5)		

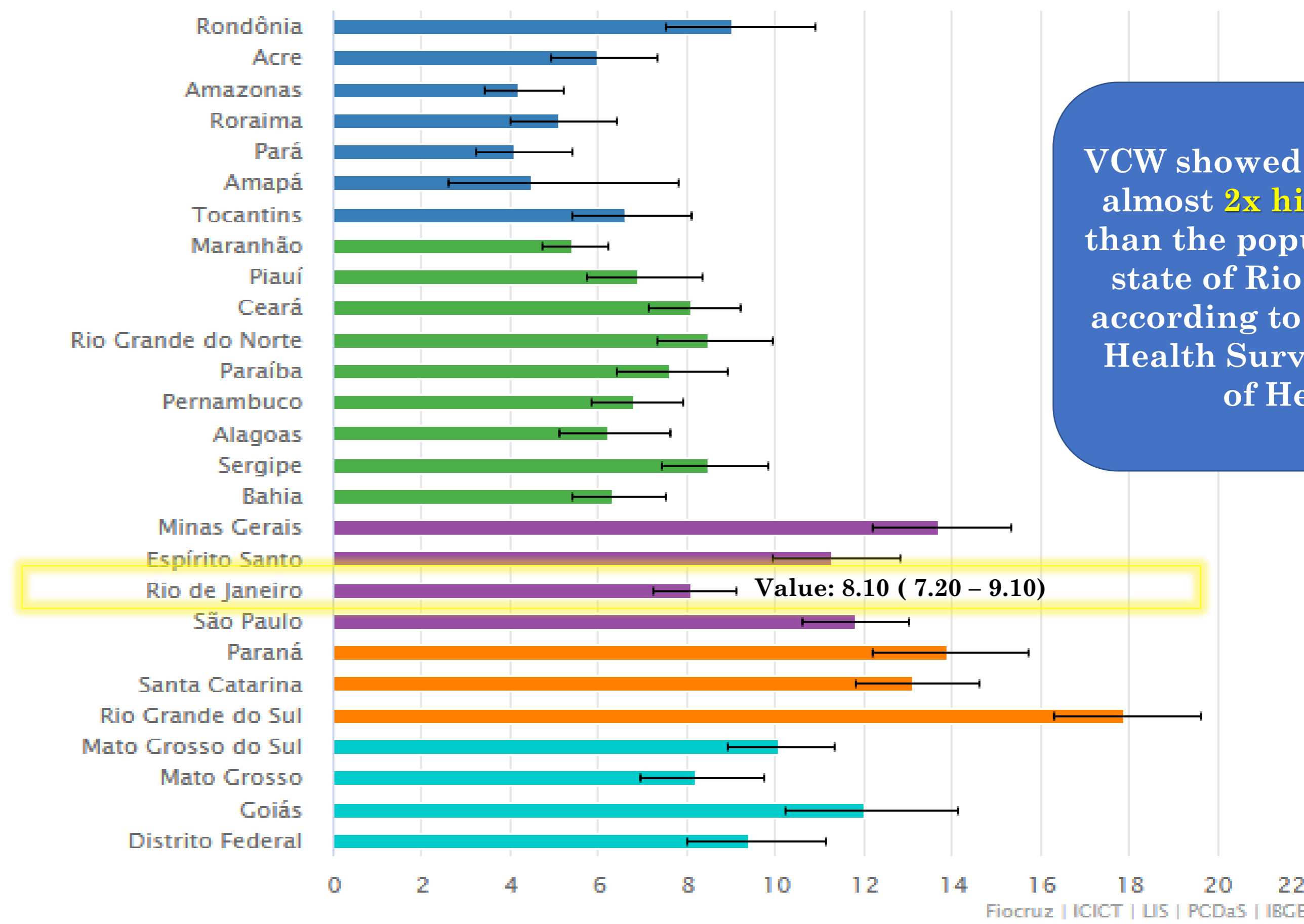
*N (616)

Organophosphates were the pesticides most used by workers in the period 2010-2020

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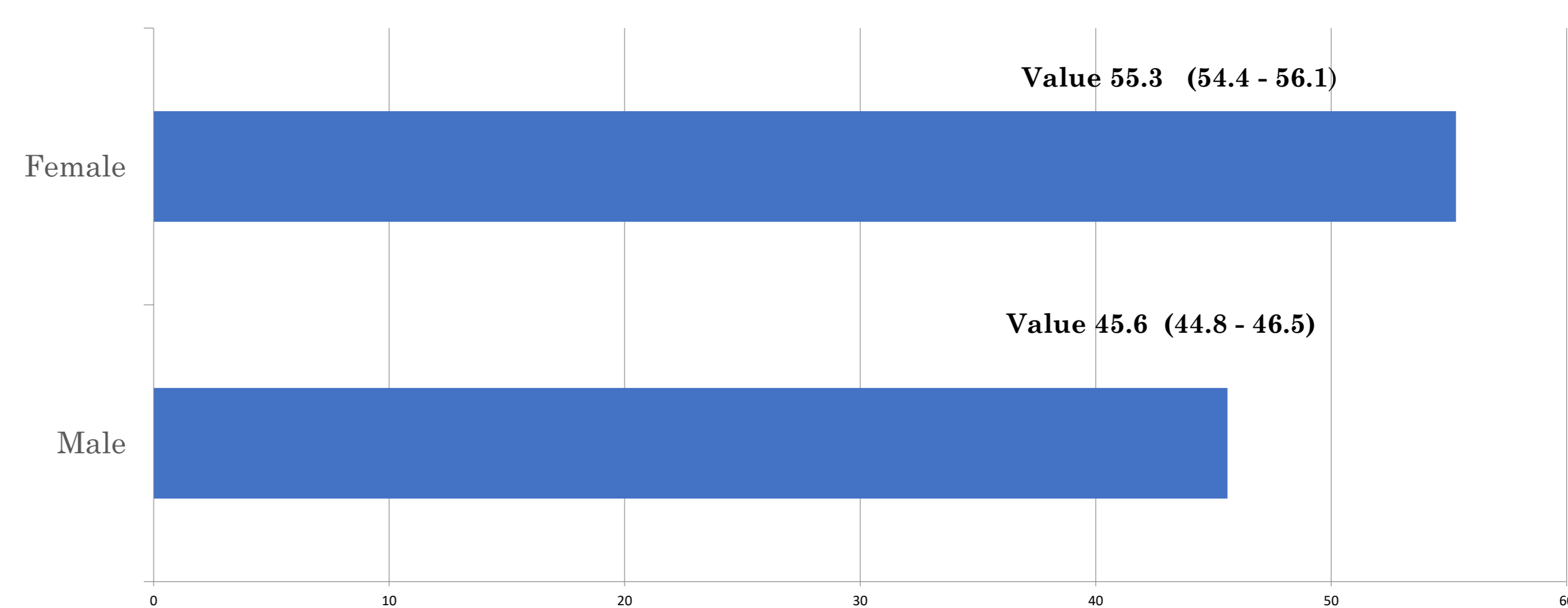
Self-reported diagnosis of depression by mental health professional - Percentage - 2019 - National Health Research



VCW showed a prevalence almost 2x higher (14.2%) than the population of the state of Rio de Janeiro, according to the National Health Survey, Ministry of Health.

It was observed that 75 per cent of the workers reported at least one illness diagnosed by a physician. In addition, 66 per cent of women and 61 per cent of men reported at least one NTDs. Compared to the data for the general population, there was a higher occurrence among workers in the population.

Self-reported medical diagnosis of at least one non-transmissible diseases (NTDs) - Percentage - 2019



Source: <https://www.pns.icict.fiocruz.br/painel-de-indicadores-mobile-desktop/>

The variables working time, application time, self-reported diseases and symptoms of intoxication were positively correlated with each other ($p \leq 0.01$). The frequency of self-reported diagnoses correlated more strongly with the time (years) spent applying pesticides ($r=0.424$, $p<0.01$).

Studies indicate associations between exposure to pesticides and chronic non-transmissible diseases such as cancers, endocrinopathies, neuropsychic symptoms, as well as the relationship between chronic exposure to pesticides and the development of degenerative diseases of the central nervous system (WAISSMANN, 2007; LONDON, 2012; FREIRE, C.; KOIFMAN, 2013; FARIA et al., 2014)

CONCLUSION

The work has exposed VCW for decades to agrototoxics used in public health campaigns leading to health problems in this population. It is necessary to monitor the health of these workers periodically and changes in the work process and in the chemical-dependent control model to preserve workers' health.

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Collaborating institutions

