

HEMATOLOGICAL AND LIPID PROFILE IN RURAL WORKERS EXPOSED AND NON-EXPOSED TO PESTICIDES: A PARTIAL RESULT

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INTRODUCTION: Rural workers exposed to pesticides may present pathophysiological alterations that contribute to the development of chronic non-communicable diseases (CNCDs).

OBJECTIVE: To study the routine laboratory profiles of farmers occupationally exposed and unexposed to pesticides. **MATERIALS AND METHODS:** 80 workers took part in this study, divided into 4 groups: 40 occupationally exposed to pesticides (OCE): 20 women (OCEW) and 20 men (OCEM); 40 non-occupationally exposed (NE): 20 men (NEM) and 20 women (NEW). The blood count was carried out using an automatic BC 5380 analyzer and the lipid profile, alkaline phosphatase (FAL) and butyrylcholinesterase (BChE) using a semi-automatic BS-120 analyzer (Mindray). Statistical comparisons were made using Student's t-tests, Mann-Whitney and Spearman's correlation ($p<0.05$). **RESULTS AND CONCLUSION:** The concentration of erythrocytes, hemoglobin and total cholesterol was higher in the OCEM group compared to the NEM, while leukocytes and basophils were lower ($p<0.05$). The same pattern was observed in women (OCEW), with higher concentrations of erythrocytes, hemoglobin and cholesterol and lower leukocytes and basophils compared to NEW. Despite the variations, the results were within the reference values. Spearman's correlation analysis showed a positive correlation between triglycerides and BChE ($r = 0.39$; $p = 0.001$) and between FAL vs. triglycerides ($r = 0.39$; $p = 0.001$); vs. BChE ($r = 0.30$; $p = 0.001$) and, vs. HDL ($r = -0.38$; $p = 0.001$). All associations were statistically significant ($p<0.01$). Occupational exposure to pesticides can have an impact on the hematological and lipid profile of farmers, with more pronounced changes in those exposed. The associations between BChE activity and lipid profile biomarkers suggest that dyslipidemia may contribute to liver dysfunction, impacting farmers' health, and diet may be a preponderant factor.

Keywords: agrochemicals; occupational; biomarkers; lipids.