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IMPROVEMENT OF THE RESEARCH METHOD OF CAUSUAL EFFECT OF INDUSTRIAL TRAUMATISM OCCURRENCE AT FOOD ENTERPRISES

An issue of identifying statistical indicators which characterize the influence of external reasons on industrial traumatism remains largely unsettled at this time. This is due to the fact that the methods traditionally used for the analysis of traumatism do not allow us to fully explore the reasons of this undesirable event.

Study of the cause-and-effect relationships in the injuring process required fundamentally different methods that allow performing quantitative analysis of complex statistical information and would provide detection and evaluation of external traumatism reasons.

Knowledge of methods of multivariate statistical analysis showed that the most suitable way to solve the given problem are methods of component and factor analysis, combined with traditional regression analysis.

The essence of such methods is that they allow to explicitly single out general internal factors characterizing the object of research. These factors are hidden internal variables which cannot be estimated directly, but instead they are shown through relationships between parameters or indicators that can be measured.

Method of principal components or component analysis is a tool that allows exploring large multidimensional arrays of statistics. The results of applying the method to analyze statistical information concerning prevention of occupational traumatism will provide answers to the issues that currently are not even raised. In particular, component analysis can detect hidden (latent) reasons of injuries, classify the analysis objects by generalizing characteristic values obtained using the results of component analysis, construct reliable regression models of the traumatism risk, depending not only on the obvious causes of injuries, but also on the hidden ones.

Issues of identifying statistical indicators that characterize the influence of external causes on industrial traumatism currently remain unresolved. Methods which are traditionally used for its analysis do not allow investigating the reasons of its occurrence thoroughly. The most appropriate method for research of the cause-and-effect relationships in the injuring process at food plants is the combined use of methods of component and factor analysis together with traditional regression analysis.

KEY WORDS: *industrial traumatism, accident, work safety, occupational safety, causal relationships*