Multi-Criteria Ranking of Workplace Ragarding Working Conditions in Textile Plants

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ABSTRACT

Objective: In general, working conditions/environments are considered as the factors that affect not only the work, but also human health and the organizational goals. Classification of workplaces with respect to working conditions is very significant in industrial production process. In this sense, the characteristics of the working environment, safety procedures, the attitudes and behaviour of employees can contribute to reducing worker injuries. Therefore, it is necessary to analysis and identify the most difficult positions/most at risk in the plants. The aim of this study was to rank the workplace from the aspect of working conditions of textile plants in the centre area of Viet Nam. Some solutions to reduce the safety and health risks could be proposed to implement in the plants. **Method:** A new method VNNIOSH-2018 developed by Viet Nam National Institute of Occupational Safety and Health (VNNIOSH) was applied to rank the workplace. Procedure of carrying out and determine the ranking as follow: i) Determining the job or working position that was needed to assess ii) Assessment of working conditions according to the criteria system iii) Classification of working position per each criterion iv) Ranking the working position respect to multi-criteria. Samples of 116 working positions of 10 textile plants were chosen for study. 37 criteria of 3 groups (working environment, labour intensity and working burden) were selected as the criteria system for ranking assessment. All the data were obtained at the working places/workers according to the national standard methods. **Results:** The obtained results indicate that the most difficult workplaces were weaving machine, sewing machine, industrial hygiene, technical maintaining, and transportation in the plant. The reasons that effect the ranking could be pointed out. Microclimate (temperature, humidity, and air flow), working burden and labour intensity were knows as main factors that effects the raking results. In reality as observation, some jobs/positions were performed in harsh condition, high intensity and heavy working burden that effects the human health and safety. All these workplaces should classify in the list of extreme burden, toxic, and danger occupations. **Conclusion** VNNIOSH-2018 method can be successfully used for classifying the workplace in textile plants. All the results were comparable with another method of Circular 29/2021-BLDTBXH of Vietnamese government. It is easy and useful for application in practice. All the standard in this method was updated following the National Standards. Based on the results, the most difficult working positions in the textile plants were identified, the organisation managements can choose the suitable measure for protect the health and safety of labours at highest risk.

Keywords: working condition; multi-criteria ranking; textile plant; health and safety; environment.