

ABSTRACT

Title: The Development of Occupational Fatigue Indicators Model among Manufacturing Shift Workers

Name: Muhammad.Syaidan bin Abdullah

Email: muhammad.syaidan [at] niosh. com. my

Year: July 2020

Abstract:

Higher market demand for goods has resulted in the forced increase of production and the workforce. To achieve the required productivity, the workers would need to work longer hours than they normally do. Biologically, the issue of work-related fatigue certainly exists among workers who go through a similar daily routine on the shift. What are the risk factors which cause fatigue to the shift workers? And how to determine the level of fatigue based on its risk factors? These two key questions need to be answered through this study before we can proposed a tools to be used by employers and shift workers to manage the work-related fatigue issues at their workplaces. A potential risk factor of fatigue is validated through several validation processes based on modified Delphi technique. Questionnaire becomes the main process of the validation in this study. Input from review of literatures, experts, employers and employees point of view were taken into consideration in developing self-administered questionnaire. A total of 544 respondents were involved in this study consisting of manufacturing shift workers with equal numbers for both day (8am-8pm) and night (8pm-8am) shift. As a result, eleven risk fatigue factors namely no. of rest day (RD), workplace temperature (WT), shift duration (SD), no. of break time (BT), changing of shift (SC), shift interval duration (SI), amount of sleep (SF), emotion/ stress level (ES), leave taken (LT), commuting time (CT) experience in shiftwork (SE). This study has successfully developed a calculator which is known as Occupational Fatigue Indicators for Shift Workers (OFIS) that based on these 11 risk factors. It has been designed as a self-assessment tool to be used directly by either the shift workers itself or the supervisor supervising the worker. The results of this study will open up more space for improvement. These include testing the level of accuracy and acceptance of the OFIS particularly in a wider scale of end user and of course not limited to shift work or manufacturing only. Larger inputs will be received and further improved with improvements and enhanced OFIS functionality/ interface can be made. The OFIS can also be an added value instrument to NIOSH during consultation activities with clients and at the same time promoting its use. In addition, various forms of publication in various mediums also can be made to disseminate the findings of this study for the benefit able to reach the target group at various levels.