The RAMP Package 2.0 for Sustainable Musculoskeletal Disorder Risk Management

Linda M Rose & Mikael Forsman

KTH Royal Institute of Technology, Sweden

SUMMARY

This paper describes the background to, and the development of the 'RAMP 2.0 Package'. This includes the enhanced application range in RAMP 2.0 with its Hand Model. The new web-based version of the RAMP 2.0 tool is presented together with a user-, and a reliability evaluation.

KEYWORDS

risk assessment, sustainable jobs, evaluation

Introduction

Musculoskeletal Disorders (MSDs) are still a large burden at societal, organisational and individual (EU-OSHA, 2019; Sobhani et al., 2015; Rose et al., 2014). In response to calls from industry, a systematic, research-based risk assessment and risk management tool for managing MSD risks was developed with the aim to support companies in developing sustainable jobs (UN, 2018). It was led by researchers in close collaboration with potential users of the tool.

In 2017 the result, the RAMP tool (Risk Assessment and Management tool for Manual handling proactively) was launched from a university website. In addition to the tool and the website, three Massive Open Online Courses (MOOCs) were developed and launched in 2018. These three parts formed the RAMP Package, available free of charge, which spread to over 100 countries rather rapidly. The RAMP tool was developed to align with the ISO standard 31000:2009 about the risk management process and addressed more relevant MSD risk factors than any other risk assessment tool (Rose et al., 2020). Although the feedback from the tool's users was positive, feedback highlighted wishes for expanding the tool. Therefore, a second project to develop an enhanced version of the tool, the "RAMP 2.0" was started with the objectives to: *i*) enhance the tools application range, to mainly also include work with repeated force exertion by the hand or fingers, *ii*) include key performance indicators (KPIs) as a support for managements and *iii*) in addition to the Excel-based version of the tool, also provide a web-based version of it.

A preliminary version of the RAMP 2.0 was launched in 2024 where the abbreviation changed from including 'manual handling' to include 'manual work' to reflect the tools enhanced application range. However, the web-based version did not function satisfactory, it needed more development work and was not released as planned. There was also a strong desire from users to include the novelties of RAMP 2.0 in RAMP courses.

The objective of this paper is to describe the new 'RAMP Package 2.0', consisting of *i*) the RAMP 2.0 tool, and present its new web-based version, *ii*) expanded courses on the tool and *iii*) the website, and in addition, present results from two evaluations of the tool.

Methods

The development of RAMP tools 2.0 version was carried out with a participative (Wilson, 1991), iterative (Martin et al., 2008) approach, similar to the methodology used for developing the first launched version of the tool, including literature studies, iterative development in close collaboration with intended users and collaborating with different expert groups connected to the project (Rose et al., 2020). The web-based version was developed in collaboration with in-house expert database developers. During the second project, courses of the RAMP were further developed using a smaller course development team than the first courses. The website was refined using user feedback. RAMP was evaluated in a user survey and in a Masters' Thesis.

Results

The RAMP Package 2.0 includes the RAMP 2.0 tool's four modules: 1) RAMP I for screening of MSD risks; 2) RAMP II for a more in depth analysis of the MSD risks, both I and II include the new Hand Model; 3) a new version of the Action Module to support development of risk reduction measures and action plans, including follow-ups and; 4) an improved Risk Management Support Module, consisting of three parts: a 'Process Description' on risk management processes and on the risk management parts of the RAMP tool, 'Aggregated Results' where results from different risk assessments can be aggregated and presented at different level of detail, and 'KPIs', which can be used to follow effects of using the tool. The new web-based version of RAMP 2.0 complements the Excel versions of the tool and enables more efficient analyses and aggregation and extraction of the risk assessments etc.

The RAMP Package 2.0 also includes two types of differentiated courses: In addition to the three existing fully online MOOCs open for all, three university courses with prerequisites to be accepted to the courses with university credits (ECTS) were developed, to address different users' needs. New material related to the tools '2.0' version was added to the website. Analysis of the website showed that the tool had been downloaded from 114 countries during its first seven years and done so by around 4000 unique users.

The results of a survey disseminated to all who had downloaded the tool during the first 26 months after its launch in 2017 showed that among the respondents around 1/2 used the tool, around 1/3 planned to do so and around 1/6 had at the moment not a plan to use it (Eriksson et al., forthcoming). They also showed that those who used the tool stated that using the tool had led to better work environment and lower rates of risks. In another study (Burghol, 2023) the reliability of RAMP 2.0's Hand model was evaluated; the new Hand Model had fair inter-rater and moderate intra-rater reliability. The results were similar to those of HAL TLV (Armstrong, 2006, Latko et al., 1997), which also was included in the study.

Discussion

There are many challenges when trying to implement MSD risk management tools as the one described here. A mayor one for companies is to be able to do this successfully – when they do not have a well-functioning *process* for the MSD risk management in place and yet want to use such tools for creating decent, sustainable jobs. To manage this difficulty is one of the UN's Sustainable Development goals (UN, 2015).

Key takeaways from the conference presentation

The 'RAMP Package 2.0' is renewed and enlarged and is now ready to be learned and used.

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