NATIONAL SOCIAL PROGRAMME ON WORKING CONDITIONS (MAPA) — SUB-PROGRAMME ON PHYSICAL WORKLOAD (THE NETHERLANDS)

Type of initiative: Support for companies

Timeframe: 2007 to present (ongoing)

1 Description of the initiative

1.1 Introduction

The sub-programme on physical workload forms part of the Social Programme on Working Conditions (*Maatschappelijk programma Arbeidsomstandigheden* (MAPA), a national research and communication programme on working conditions. MAPA aims to bridge the gap between research and everyday practice, and it consists of preventive activities that contribute to a sustainable, healthy, safe and productive working life, in cooperation with social partners. MAPA's scope includes the development of multidisciplinary OSH guidelines, the provision of preventive information for workers, the development of different digital tools (e.g. risk assessment tools for physical loads), the monitoring of working conditions and international cooperation on research.

MAPA is implemented by TNO, the Netherlands Organisation for applied scientific research, while social partners are consulted on the relevance of activities.

The development of risk assessment tools for assessing physical workload begun at TNO in 2007 on the request of the Ministry of Social Affairs and Employment as it was recognised that there is a the lack of methods available for assessing the risks of musculoskeletal disorders (MSDs) in the Netherlands. The complete set of risk assessment tools, including for hand-arm tasks and working postures, was made available to the public in 2011. During the evaluation of the tools it appeared that companies needed a 'level I' checklist that enabled them to quickly assess all aspects of physical load. The results of this checklist should give a first indication of possible risks and identify the need for further assessments.

A dedicated website hosts the tolls, together with the Physical Load Guide, good practice examples, and the BewustBelast app for workers.

1.2 Aim of the initiative

The aims of the sub-programme on physical workload are as follows:

1) to enhance the capacities of Dutch OSH professionals and prevention officers in SMEs through technical capacity-building;

2) to develop, implement and evaluate digital tools for companies to assess physical load and improve the level of physical load at work;

3) to collect and disseminate good practices on improving situations with high physical load, by organising networking sessions and workshops;

4) to develop knowledge on future aspects of physical load, such as sensory systems and robotics.

Risk assessment tools and a checklist were developed to help companies assess risks of MSDs and identify preventive measures providing them with user-friendly methods that can be applied without specific prior knowledge or training. The Inspectorate of Social Affairs and Employment uses the tools as a basis for its enforcement policy to avoid discrepancies.

The ultimate target group are companies, who have a need for quick and simple risk assessment tools. The tools can be used by those responsible for safety and health at the company, such as prevention officers, working conditions coordinators, or - in small companies - the owner / manager himself. Health and safety experts and prevention services, occupational health consultants, ergonomists and designers are also encouraged to use the methods. The tools do not require any specific prior knowledge or special training.

1.3 Organisations involved

The Netherlands' Organisation for Applied Scientific Research (TNO), on behalf of the Dutch Ministry of Social Affairs and Employment, companies, sector organisations and intermediaries.

The TNO is an independent research organisation. Its mission is to boost the competitiveness and promote well-being in a sustainable way. TNO undertakes various projects for the Ministry of Social Affairs and Employment, developing knowledge and tools to support companies and realise knowledge transfer between stakeholders. The ministry offers various subsidy schemes for companies with specific issues or needs for innovation.

1.4 What was done and how

The development of the risk assessment tools was initiated in 2007 by the Ministry when it was recognised that there is a lack of MSD risk assessment tools to assess some specific aspects of physical workload. The Ministry of Social Affairs and Employment therefore asked TNO to develop a tool to determine the risks of hand-arm tasks and subsequently, in 2009, a tool to assess risks of developing MSD's due to working postures. The Hand Arm Risk assessment Method (HARM 1.0) is available since 2009.

The evaluation of HARM showed that the use of the method was quite complex in practice, especially for micro and small enterprises (MSEs). This raised the need to develop a 'level I' checklist that enables MSEs to quickly assess all aspects of physical load. The results of this checklist should give a first indication of possible risks and identify the need for further assessments using 'level II' assessment tools.

The Physical Load Checklist is meant to be the first step in a risk assessment. The results enable the user to gain an insight into the possible risks associated with a given set of tasks. The checklist does not replace a detailed risk assessment. Using the checklist, an initial risk inventory can be carried out for all types of physical load, such as lifting and pushing, but also for screen work and posture. If a given type of physical workload does not involve any risks, no further action is required. If a risk is identified for a given dimension, the user will be referred to a level II follow-up assessment tool, which will allow an estimate of the risk level involved and will suggest solutions to prevent the risk.

Level II assessments are follow-up instruments to carry out detailed risk assessments for a specific dimension of physical workload. TNO has developed four distinct tools:

1. The hand-arm risk assessment method (HARM) determines the risk of arm, neck or shoulder complaints when an employee performs tasks that involve the use of their hands or arms.
2. The working posture risk assessment tool (WRAP) determines the risk of developing MSDs due to poor working postures. It is a preventive tool that enables an employer to gain insight into the health risks stemming from unfavourable postures and to identify high-risk postures, such as pushing or pulling objects, which can lead to shoulder complaints.

3. The push and pull tool (DUTCH) assesses the risk of injury when performing a pushing or pulling task and determines the risk factors. This information can be used to identify how the risk of injury can be reduced, as well as the potential benefits of modifying the work task.
4. The 'Better behind your screens' checklist (BAS) determines if risks exist when working at a monitor, including the screens of laptops, tablets and smartphones. The checklist also considers the risks of prolonged sitting, as this is another feature of screen work.

Specific problems that cannot be assessed with the level II tools require a level III analysis, which is carried out by specialists, such as ergonomists or OSH advisers.

The tools are promoted on TNO website dedicated to physical workload. The website also hosts the Physical Load Guide which outlines the five steps to tackle MSD risks related to physical workload in a structured way.

The BewustBelast app has been specially developed for workers. The app is a tool for raising awareness about the risks associated with physical workload and helps workers gain insight into their own role in managing the risks. On the basis of work characteristics and possible complaints, users receive feedback and tips for improvements.

1.5 What was achieved

In 2012, three studies were carried out on the validity and usability of the HARM tool. The evaluation found the tool to be suitable for identifying hand and arm tasks with a high risk of arm, neck or shoulder complaints. The results, however, combined with the results of the user evaluation, showed potential for improvement. This led to the development of HARM 2.0 in 2015, an updated version that estimates the level of risk of arm, neck and shoulder complaints due to hand-arm tasks. The instrument also provides insight into the main sources of risk and their associated effects, together with possible solutions. Improvements were also made to the guidance and instructions on the use of the tool, such as the selection of adequate preventive measures.

The formula of the DUTCH push and pull risk assessment tool for recording the average values for push and pull tasks has undergone further development to improve its usability and will be updated in February 2019. Further improvements in data collection are expected later in 2019.

Finally, two applications (apps) have been developed for workers to raise awareness of risks of physical workload and working with computers and to provide advice on what they can do to reduce the risks.

The innovative elements of the programme are that the tools are recognised by the labour inspectorate, and they are available free of charge.

1.6 Success factors and challenges

The fact that the tools are recognised by the labour inspectorate certainly contributes to advancing their use. The tools have been promoted through the Sustainable Physical Load Network website. Companies also share their experiences of using the tools through the Network, thereby sharing insights into the usability tools.

The reliability and validity of the tools are important in assessing the extent to which they are able to prevent safety and health risks at work. However, proving the reliability and validity of the tools is a challenge, given the limited number of users and lack of long-term data. The use of the tools has been evaluated through questionnaires, which indicate that, in most cases, the use of the tools leads to interventions to reduce physical workload (TNO stakeholder representative consultation).

Studies of the HARM tool suggest that it is easy to use and, most importantly, based on the risk assessment, it proposes risk reduction measures for the user, as well as the expected effects of those measures.

1.7 Transferability

The HARM tool has been sold to the Swedish authorities and the Brazilian Ergonomics Society (Abergo), together with the training programme on MSD risk prevention. Abergo has also bought the Physical Load Checklist. These are working examples of the high level of transferability of the HARM tool to other countries.

2 Background

National legislation implementing the Manual Handling and Display Screen Equipment Directives contains essentially the same provisions as those in the directives, with the small exception that it specifies breaks from display screen equipment work: breaks have to be taken after not more than 2 consecutive hours.

Employers are legally obliged to make a risk inventory and evaluation relating to risks present in their workplace (including psychosocial risks) and to draw up a plan to indicate how they propose to tackle those risks.

In the Netherlands, there are strong financial incentives for employers to prevent accidents and negative health outcomes resulting from work. The Civil Code stipulates that in the case of illness of an employee the employer must pay at least 70 % (and no less than the minimum wage) of the worker's wage for 2 years (104 weeks).

In the Dutch OSH system, social dialogue has a prominent role. The legal basis for this social dialogue is the Working Conditions Act, which states that a safe and healthy workplace is the combined responsibility of employers and employees. This stimulates social dialogue at all levels: enterprise, sector and national levels.

References and resources

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(4) TNO, 'Push and Pull Check (DUTCH)'. Available at: https://www.fysiekebelasting.tno.nl/en/instrumenten/welcome-to-duw-trek-check-dutch-a-push-pull-risk-assessment/

(5) TNO, 'Better Behind your Screens risk assessment tool (BAS)'. Available (only in Dutch) at: https://www.fysiekebelasting.tno.nl/nl/instrumenten/bas/

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