Introduction

The ability to access, understand, appraise and apply health information is useful in all phases and settings in life, but highly dependent on the environment or social context. The work environment is a social context that determines health in a large proportion of the adult population, and can be a determinant for how health is maintained or promoted and how disease is managed. Therefore, the workplace constitutes an essential setting, and introducing a workplace-specific health literacy concept is highly relevant for the preservation of health and management of disease in everyday life. This chapter gives a short overview of the features of the workplace setting, introduces the occupational health literacy model, and gives an example of an operationalisation of the model and its prospects. The chapter primarily concerns adults in working age, due to the nature of the workplace setting.

Workplace setting

The workplace setting has specific characteristics that influence the social constellations and individual positions, and ultimately how each employee manages their health. First of all, most workers are employed due to their professional competencies and paid to perform certain tasks. Also, employees traditionally have an employer and one or more supervisors to frame their job tasks. Colleagues and potential customers, clients or users also have an impact on how job tasks are framed and performed, and in many cases employees also have some discretion themselves to take decisions regarding their job tasks and how to perform them. The framing of the job tasks and determinants and decisions regarding how they are performed are highly associated with health outcomes (Linton and van Tulder, 2001; Costa et al, 2006; Tveito et al, 2010) and health behaviour (Jørgensen et al, 2016). In the workplace, health and safety is typically managed by an occupational safety and health (OSH) management system. This ensures the dissemination of information regarding health hazards and risks associated with the job tasks and ongoing evaluation of employee wellbeing and health.
with concomitant initiatives to preserve a safe and healthy work environment. The OSH management system usually ensures that the workplaces comply with OSH-related local regulations, it formulates OSH contracts and procedures, and is constituted by OSH professionals such as occupational physicians or occupational therapists, managers and union representatives or OSH representatives, depending on the local OSH management system. The employer has the overall responsibility for keeping the work environment healthy and free of risks of hazards and for maintaining a qualified OSH management system.

The OSH management regulations are highly variable between countries, but the International Labour Office (ILO) has published guidelines on what a qualified OSH management system should entail (ILO, 2004). It states that ‘maintaining a preventative safety and health culture require making use of all available means to increase general awareness, knowledge and understanding of the concepts of [occupational] hazards and risks and how they may be prevented or controlled’ (2004, p 3). This ambition mirrors central features of what we consider that a qualified health-literate organisation at the workplace has, which we call ‘occupational health literacy’. We therefore suggest a model for occupational health literacy that can guide OSH management systems, empowering both the individual employees and the management with knowledge and competences about prevention and health promotion effectively, and furthermore build organisational structures that enable communication and facilitate action.

The OSH management system constitutes the direct, legislative link between occupational demands and health at the workplace, and often has one or more employee representatives, which qualifies initiatives and eases implementation of initiatives. However, workplace health promotion activities can also be implemented through the human resources (HR) departments to strengthen the link to the business case (see, for example, Sørensen and Brand, 2011). Regardless of whether implemented through the HR department or OSH, awareness and competences regarding the occupational demands of the employees are essential to obtain good implementation of health promotion at the workplace (Jørgensen et al, 2016). Therefore, this model specifically addresses the OSH management system to build a strong occupational health literacy system that is also likely to build the grounds for effective health promotion (Jørgensen et al, 2016; see also Sørensen and Brand, 2011).

The occupational health literacy model

For the individual to make good health decisions at work, health literacy needs to be high among both the employee, the supervisor and colleagues and in the entire organisational system. Thus, in the workplace, the OSH management system (including general management) and colleagues constitute the systems and social context that determine the individual’s occupational health literacy. For example, for the employee to make good decisions as to whether to turn
in sick or not in case of, for example, mental over-exertion at work, a proper social security system regarding sickness absence or presence is needed (that is, financial support for the workplace, keeping a worker in the workplace despite functional limitations), communication from the organisation and the supervisor regarding potential adjustments of the work tasks, breaks and so on, and sufficient support from colleagues to perform those possible adjustments. To ensure a constructive stream of communication from the societal system through to the organisation, supervisor and employee and return, health literacy competencies need to be present at all levels. The employee needs to have the ability and opportunity to communicate their health problem and how it interacts with their work to colleagues and management. Colleagues and management need to have the ability to understand and appraise the situation (the consequences for the individual as well as for the workplace) and the manager in particular needs to have the skills to communicate organisational practices and opportunities relevant for the specific employee in the specific situation. To best support the health of the employee, a number of actions and adjustments may be needed from the manager, colleagues or the employee. And while such actions may be rather well-established routines when it comes to certain situations (for example, a few days with the flu), other situations are much more complex and require a higher level of health literacy among everybody involved (see the example in Box 23.1 below). Therefore, based on our knowledge of the OSH management system’s challenges, an occupational health literacy model was built integrating the OSH management system with ideas from health literacy models to generate an understanding of the competences and features of occupational health-literate workplaces.

Box 23.1: Example of (some of) the occupational health literacy competences required to ensure good return-to-work for a previously sick listed employee

The supervisors’ knowledge of the characteristics and consequences of the disease is likely to be limited, so employees need to communicate information about the disease to the supervisor based on their knowledge gained in the healthcare system – for example, in primary healthcare. The employee may return with some functional limitations that may require adjustment of the job task. Job task adjustments require proper knowledge regarding the ergonomics of the job task and how it interacts with the functional limitations. Furthermore, such job adjustments may affect both the effectiveness of the employee, but also colleagues may be affected either socially or by increased job burden due to taking over for the sick colleague. Finally, legislative incitements (for example, the presence or absence of paid sick leave) may have an impact on decision-making – both of the supervisor and of the employee – so making good health decisions at the workplace can be highly complex.

Occupational health literacy is a relational concept that comprises:
- the *individual’s* ability to navigate in the OSH management system (access, understand, appraise and apply information and possibilities at work);
- the ability of the *management* to access, understand, appraise and apply information regarding the individual employee’s occupational health situation; and
- the ability of the *workplace* to create accessibility to, and support the use of, relevant preventive or health-promoting actions.

The occupational health literacy model is illustrated in Figure 23.1. The model takes its stance at individual abilities and how interpersonal and organisational surroundings can support these and provide opportunities for the abilities to develop. Individual abilities consist of the employee’s abilities to access, understand, appraise and apply information regarding health and the work environment. The features of these abilities equal the abilities addressed in the health literacy model of Sørensen (Sørensen et al, 2012). Surrounding the individual level is the

**Figure 23.1: The occupational health literacy model**

Source: Larsen et al (2015)
interpersonal level of supervisors and colleagues and their actions and roles in social relations to support the continuous opportunity for the employee’s abilities to unfold and develop. Finally, the outer ring represents the organisational level that constitutes the physical and organisational features that support the opportunity for the supervisors and colleagues to provide the opportunity for social interaction and support the employee and supervisors’ abilities to unfold and develop.

The occupational health-literate workplace entails an organisation where (1) employees and supervisors have common levels of knowledge about prevention and handling of occupational safety and health challenges, risks and hazards as well as health promotion within their workplace; (2) structures for communication about occupational safety and health across all levels in the organisation are provided; and (3) structures and management facilitate and enable relevant action.

**Fitting occupational health literacy to the context**

An occupational health literacy intervention in practice must to be tailored specifically to the organisation it needs to work within. OSH management systems differ between workplaces and occupational health literacy challenges vary highly, which impose various areas for improvement. For example, an information technology (IT) business with 300 highly qualified specialists employed with primarily sedentary job tasks need to consider other tools than a public sector cleaning department with 20 ethnically diverse cleaning assistants employed with highly variable physical job tasks. In these cases both the health competencies of the employees may differ, the organisational competencies and resources most likely differ, the occupational health hazards differ and the most relevant health promotion efforts differ. Therefore, fitting occupational health literacy into each of the different settings requires thorough evaluation of the context.

**An example of an operationalisation of occupational health literacy**

Structures, education and frequent communication regarding health practices and communication pathways and empowerment of employees and supervisors are some of the tools identified as useful in a workplace intervention to improve individual and organisational health literacy (Brach et al, 2012; Wong, 2012; Linton et al, 2016). Recently, based on the occupational health literacy model, an intervention was developed to fit occupational health literacy into a workplace setting. Six nursing homes (385 employees and 34 managers) were targeted. The aim was to investigate whether the occupational health literacy model was a suitable tool to frame interventions to reduce the highly prevalent challenge of musculoskeletal disorders for low-income workers, by empowering both the individual employees and the management with knowledge and competences regarding the topic. The idea of introducing an occupational health literacy intervention is supported by previous effective interventions in this setting, which have included structures for communication, building knowledge, improved
self-management and participatory ergonomics (George et al, 2003; Rasmussen et al, 2015). Furthermore, involving all levels in the organisation has been shown to be more effective than targeting a single layer in the organisation (Linnan et al, 2001; Baron et al, 2014). To address both individual and organisational factors concomitantly and also their interconnectedness, it was necessary to pursue an integrated intervention approach with multiple facets (building knowledge, competencies and structures for communication and action) at both the organisational and individual level. Table 23.1 illustrates the components of the intervention (courses and dialogues) and their purpose and focus, while Figure 23.2 illustrates the expected path from strengthening knowledge and communication and facilitating action to a more active handling of OSH issues (employees and organisation) to a strengthened handling of OSH issues and a better work environment.

To fit the intervention to the specific needs at each workplace, a formative evaluation was conducted to evaluate the workplace readiness for the intervention and to optimise the tailoring of the intervention. Through interviews with all levels of the organisation, the existing framework for supporting employees with health and work environment challenges was uncovered (for example, workplace

<table>
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<tr>
<th>Component and purpose</th>
<th>Employee</th>
<th>Supervisor</th>
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<td>Courses, 2 × 3 hours every six months for employees and managers separately, external consultant</td>
<td>Focused on strategies for prevention and coping, tools for improving communication and the ability to function and have a good quality of life despite pain</td>
<td>Focused on handling and supporting employees with pain and building a platform for communication and action in relation to preventing and handling pain in the organisation</td>
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<tr>
<td>Dialogues, monthly between employee and supervisor</td>
<td>Constituted a structured communication about work environment and pain at the workplace with a particular focus on developing specific plans to prevent and reduce pain and its consequences. Employees were supposed to come well prepared with respect to a specific health or work environment issue and suggestions for solutions. The manager was supposed to contribute with insights into organisational solutions and suggestions that could help</td>
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procedures for employees with chronic diseases or pain, possibilities to adjust work routines, health promotion initiatives and possibilities for employees to access healthcare specialists such as physiotherapists or psychologists) as well as possible barriers for implementation and expectations at each workplace. This information was used to produce a resource assessment, identifying the existing support system in the workplace, and a business case identifying barriers and possibilities for successful implementation and the local workplace objectives for engaging in the intervention. This formed the basis for the final organisation of the intervention in each workplace.

The overall outcome of the intervention was measured pain perception among the employees; however, the occupational health literacy intervention was also evaluated with intermediate outcomes, for example, employee knowledge, understanding and action as well as communication with and support and action from a supervisor. Figure 23.2 illustrates the expected path from strengthening knowledge, information and communication and facilitating action among employees and in the organisation to a more active handling of OSH issues to a strengthened handling of OSH issues and ultimately a better work environment.

**Learning from the operationalisation**

During the intervention, the participation rate on the courses and the dialogues were tracked and a monthly questionnaire by text messages collected data on occupational health literacy outcomes. The questions on occupational health literacy were inspired by, among others, the Health Literacy Questionnaire (HLQ) (Osborne et al, 2013). The questions posed and presented in Table 23.2 are divided into four overall groups: Access, Understanding, Appraisal and Applying. All questions started with: ‘How much do you agree with the following statement…?’ and respondents were asked to answer with a number between 0 (totally disagree) and 10 (fully agree).
Participation on the courses and the percentage of dialogues held varied considerably between nursing homes. As illustrated in Table 23.3, between 63 and 84 per cent of employees participated in the initial courses, and for supervisors it was between 50 and 100 per cent. Between 23 and 107 per cent of the planned dialogues were held, indicating highly variable implementation at the different workplaces.

Generally, ‘access to information’ (for both supervisors and employees) increased, indicating that probably the courses and/or the dialogue may have improved flow of information between employees and the supervisors about work environment issues and pain. This was supported by employees and supervisors, who explained that the courses had built up a common level of knowledge about OSH and handling of pain, and expressed that it also strengthened openness in the organisation, making it easier to discuss pain; for example, one supervisor said: “We are more open [in regard to pain and OSH]. I think especially my first dialogues with employees was a wake-up call … there were things I didn’t know about at all.”

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<th>Table 23.2: Occupational health literacy</th>
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<td><strong>Access to information</strong></td>
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<td>--------------------------</td>
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<tr>
<td><strong>Employee</strong></td>
</tr>
<tr>
<td><strong>Interpersonal</strong></td>
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<td><strong>Organisation</strong></td>
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be due to the considerable differences in the percentages of dialogues held. At a nursing home where they held nearly all planned dialogues the supervisor said:

‘We experience that this all [courses and dialogues] has changed a lot and we get much knowledge about each individual employee and his or her needs and where there are some work-related or environmental issues. But that also leads to a lot of more work for us [supervisors]. A lot.’

This could indicate that even though the dialogues were successful in themselves, the actions planned at the dialogues may have been time-consuming to fulfil, and thus the issues weren’t handled sufficiently. Finally, ‘understanding’ from supervisors did not change and understanding from colleagues decreased in some nursing homes. This was particularly the case in nursing homes with a low percentage of dialogues held. Some employees explained that they felt frustration and a lack of understanding from management when their supervisor did not offer them the planned dialogues and took the time to listen to them and understand their situation. Further follow-up on employees after the dialogue was crucial to building an understanding and trustful relationship between employee and supervisor: “It is good to have this one on one with my supervisor, where we can focus on pain or other issues … however, it is so important that there is a thorough follow-up otherwise you can lose trust.”

Results regarding support from colleagues were inconsistent. Some employees explained that they experienced good support from colleagues whereas others expressed lack of support. It was a declared aim of the intervention to improve collegial understanding regarding pain and work environment issues. Therefore, employees who didn’t feel that these expectations were met may have been disappointed. One employee explained: “I do not have the possibility to go anywhere and say, unfortunately, I cannot do this task because my shoulder hurts. That is not possible, because my colleagues do not understand that. They just say, but there is this task, and it is yours….”

Generally, the results pointed at a significant difference between workplaces supporting the expectations that health literacy competences vary considerably between workplaces and further, that the same intervention has different effects on different workplaces. Therefore, it seems to be relevant to develop a tool to evaluate all aspects of the occupational health literacy competences at a workplace to be able to focus interventions on the most relevant challenges at a specific workplace. Table 23.3 illustrates participation on courses, percentage of dialogues held and the overall effect of the intervention within each of the four groups. The arrows illustrate an increase (↑) or decrease (↓) within the specific group, while the highlighted arrow (↑) indicates a stronger, more consistent effect.

Overall, this example of an occupational health literacy intervention indicates the highly important role of communication between supervisors and employees in the administration of OSH issues. It also indicates that introducing higher
levels of health literacy among supervisors and employees places a responsibility for action that the organisation needs to be willing to take and to invest in. That is, the organisation needs to invest time and resources in handling the OSH issues that are addressed in the frequent communication between employees and supervisors. Finally, it indicates that an occupational health literacy intervention may introduce a number of strengths in the collaboration between employees and supervisors, in terms of higher levels of communication, trust and mutual understanding. The overall evaluation of the trial will be published in the coming years with both effectiveness studies and process evaluation elaborating on the prospects of that specific intervention. In the future, interventions on occupational health literacy may be based on the occupational health literacy model presented in this chapter, but may likely be operationalised differently than the example given here, as the final intervention protocol should always rely on the context in which its supposed to be used.

**Perspectives of occupational health literacy**

Occupational health literacy interventions in workplace settings have several prospects for the individual employees, workplaces and society. The individual employee becomes more aware of the complex interaction between their own health and their work tasks, and gains access to information about how to act on this, to maintain both health and work ability. Employees are empowered to take a timely dialogue with their supervisors or other relevant OSH personnel, and know how and when to act. In addition, workplaces may gain more efficient OSH management systems. First, recognition of the employees’ literacy levels may help organisations build better communication structures and strategies for the important health and safety issues in the workplace. For example, accidents

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<th>Table 23.3: Participation in the courses</th>
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<td><strong>Nursing homes</strong></td>
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<td><strong>Participation (n)</strong></td>
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<tr>
<td><strong>Course participation (%)</strong></td>
</tr>
<tr>
<td><strong>Manager</strong></td>
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<tr>
<td><strong>Dialogues (%)</strong></td>
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<tr>
<td><strong>Access</strong></td>
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<td><strong>Understanding</strong></td>
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can be prevented if information about safety is communicated in a meaningful way that targets employees' comprehension. Furthermore, increasing employees' occupational health literacy may increase employee involvement and thus qualify the OSH work. But building an OSH management system that increases occupational health literacy may also build competences among the employees that the individuals can use outside the workplace, that is, empowering employees with health literacy competencies through their workplace. Using the workplace as a setting for the health promotion of labour market active citizens is not a new idea. The World Health Organization’s Ottawa Charter was already suggesting using the workplace for health promotion back in 1986 (WHO, 1986). However, to build competencies according to a health literacy-inspired framework puts the idea of workplace health promotion into a new frame, and sheds new light on some of the important interpersonal factors of a good OSH management system. Thus, the concept of occupational health literacy presented in this chapter aims both to inform the field of OSH management systems with more nuanced features and to expand the arenas for health promotion and for building a health-literate population.

References


