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Integrating ergonomics principles and workplace health protection and promotion to improve safety and health at work - evidence from Estonia

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Abstract. Previous scientific literature indicates that organisations manage workplace health promotion (WHP) in different ways. Despite conceptual and empirical justification, researchers have not consistently included concepts of WHP in ergonomics and safety studies.
The objective of the study is to explore workplace health protection and promotion activities available in Estonian organisations and to assess how ergonomic principles are integrated with workplace health protection and promotion within an organisation.
The current study adopted a multi-method approach. The WHP activities were evaluated using the questionnaire of 36 items administrated to all members (organisations) of the Estonian Human Resource Management Association. A qualitative approach includes eight case studies (organisations, with the best practices of WHP and ergonomic interventions), semi-structured interviews with human resource personnel.
The data reveal key issues in WHP management in Estonian organisations. A statistical analysis of WHP questionnaires shows many organisations with outstanding programs and positive employers' perceptions towards WHP. However, qualitative data indicate some important aspects of WHP and drawing attention to contextual variables in the development of safety management systems and improving the integration of ergonomics programs with WHP. The main contribution of the study is providing the conceptual clarification on incorporated WHP, how it complements a safety management system and showing its possible effect on employees' health, safety behaviour and on knowledge exchange. It is essential for the established WHP program to have a fully integrated part of safety management system in the organisation and employees' health and healthy behaviour must be recognised, acknowledged and be managed.

Key words: health protection, healthy workplace, ergonomics, health behaviour, health promotion.

INTRODUCTION

According to scientific literature, creating a healthy work- place is important. (McDonald et al., 2000; Zwetsloot et al., 2010; Yi, 2011; Schröer et al., 2014) Organisations deal with workplace health in different ways (Larsson, 2015). Many employers implement workplace health promotion (WHP) programs for their employees in order to improve their health, work ability and work productivity (Dul & Neumann, 2009; Zwetsloot et al., 2010; Rongen, et al., 2013). Holmqvist (2009) claims that WHP

not only aims to improve health and well-being of employees; it can also contribute to generating sustainable and responsible organisations. Musculoskeletal and mental health are mainly associated with the physical and psychosocial conditions of work, as well as with individual so-called lifestyle or health behaviours. An integrated approach to occupational health and safety (OHS) and ergonomics (as a macroergonomic approach) as well as WHP should include attention to the work environment, work organisation and health behaviour in order to maintain employees' health, safety and wellbeing (Goldgruber & Ahrens, 2010). When an organisation deals with OHS proactively or/and establishes a voluntary OHS management system, it is generally complemented by WHP practices that focus not only on occupational risk reduction and safety, but also on positive factors in the work environment (e.g. employees' involvement in health and safety activities and decision making regarding OHS). (Zink, 2005) Additionally, OHS is one of the most important topics of ergonomics. Occupational ergonomics intends to improve human interaction with equipment and environments through the optimised design of job and work system. Haslam (2002) suggests that ergonomics can usefully draw upon behaviour change models developed by those concerned with health promotion in the community. Additionally, Punnet with colleagues (2009) demonstrated that macroergonomics provides a framework to improve both physical and organisational features of work, and to empower individual employees.

According to WHO (1986), health promotion can be defined as health as a resource for everyday life and the workplace as an important setting for health promotion. The most common European definition of WHP is 'the combined effort of employees, employers and the community to improve the health and well-being of people at work' (European Network for Workplace Health Promotion, 2007) Health promotion in the workplace as part of employees' well-being means that an environment is created there for valuing health and it allows healthy living. Well-being is often related to the concepts of quality of life and happiness (Stockols, et al., *cit*. Larsson, 2015) and in work settings, well-being has often been relabelled as job satisfaction, positive affect, work engagement and intrinsic motivation (Soler, et al., 2010 *cit*. Larsson, 2015). Torp et al. (2011) who analysed WHP studies regarding their use of settings approaches to the same analysis strategy as described above. Additionally, employees' good physical, mental and social health and their ability provide greater capacity for work, which is why many organisations consider health promotion as part of the organisational culture (Taylor, 2011) and motivation system components.

This article examines health promotion from the perspective of social cognitive theory. Social Cognitive Theory (SCT) started as the Social Learning Theory (SLT) in the 1960s. The social cognitive approach, rooted in an agentic model of health promotion, focuses on the demand side (Bandura, 2004). SCT has been widely used in health promotion models, since the theory promotes effective self-management of health habits that keep people healthy as well as in safety culture research. This theory is also a basis for the organisational (safety) culture reciprocal model developed by Cooper (2000) and lately supplemented by Järvis (2013) with knowledge management dimensions; it is used as the framework for the current study used to identify the activities associated with the assessment of organisational (safety) culture, health and safety as well as management of health knowledge within the organisation (Fig. 1). Workplace health is determined by many factors at the individual (person), organisational and environmental level (Zwetsloot, et al., 2010, Polanyi, et al., 2000)

and, therefore, it is essential to address all these factors for effective managing of workplace health.

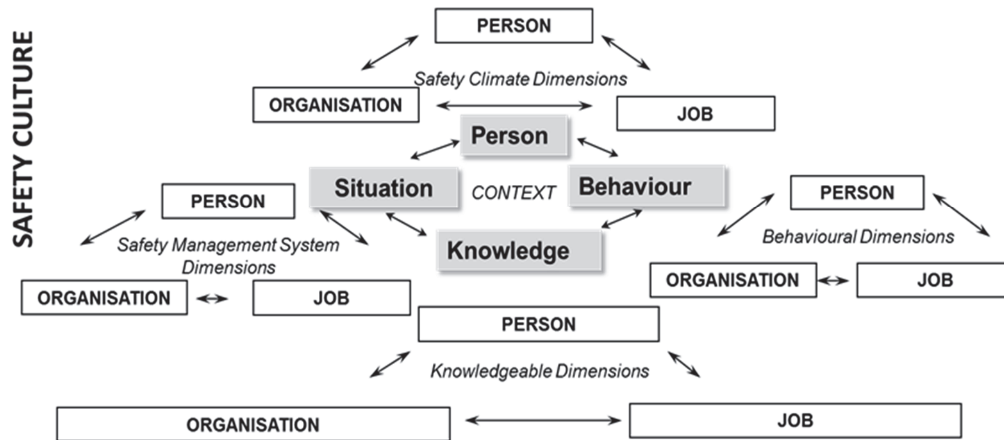

Figure 1. Reciprocal safety culture model (Järvis, 2013; Järvis et al., 2014).

Additionally, SCT presents several determinants that include knowledge of health risks and benefits of different health practices, perceived self-efficacy that one can exercise control over one's health habits, outcome expectations about the expected costs and benefits for different health habits, the health goals people set for themselves and the concrete plans and strategies for realising them, and the perceived facilitators and social and structural impediments to the changes they seek.

Health promotion can be also seen as behaviour promotion that focuses not only on 'health' concepts, but also on such psychosocial concepts as 'attitude', 'activity', 'function', and 'behaviour' (Holmqvist, 2009). This includes sets of techniques of gathering information about employees' health and behaviour as well as of programs for promotion of employees' health and wellness, changing employees' lifestyles and behaviour according to organisation norms and values. There are many human resource management programs used in order to change employees' behaviour and decrease health-related risks, which focus not only on employees' physical and mental aspects relevant to their job, but also on their individual life, including employees' social life, eating, drinking, smoking, sleeping habits, fitness (Conrad, 1987; Holmqvist, 2009). Holmqvist (2009) suggests that health promotion can be also explained and seen as social control by shaping employees' attitudes and behaviour. Additionally, there is a need to distinguish between health-programs that are intended to prevent sickness and health, and the others – to promote employees health through managing their individual behaviour (Holmqvist, 2009). It is interesting that the concept of WHP is viewed differently in Europe and in the United States (US) and Europe. For instance, in the US, the WHP generally addresses the employees' health behaviour and wellness and WHP programs include healthy eating, physical activities, smoking cessation and stress management. At the same time, in Europe, the WHP focuses also on leadership, organisation of work, physical and psychosocial work environment (Zwetsloot et al.,

2010), European Network for Workplace Health Promotion, 2007) and employees' participation (Larsson, 2015).

Despite the growing interest in health and productivity in the economic benefits of workplace health management (De Greef et al., 2004; Loepkke et al., 2008), only a few studies (Sorensen, et al., 2005; Punnet et al., 2009; Larsson, 2015) have been focused on occupational health and safety intervention and have reported how WHP is managed. Kirsten (2010) claims that the number of organisations that have implemented a proactive and integrated approach to workplace health is still limited and therefore, more in-depth empirical knowledge of how workplace health promotion (WHP) is managed and integrated are needed (Larsson, 2015). Despite conceptual and empirical justification, researchers have not consistently included concepts of WHP in ergonomics and safety studies. Additionally, there is need to explore how various organisational actors, and in particular senior managers and human resource managers, describe WHP management with specific attention to the understanding of WHP as a broad approach, including its relation to general management of the organisation (Larsson, 2015).

In the light of the above arguments, in the present study we explore workplace programs available in Estonian organisations that combine OHS – especially ergonomics – with WHP, focusing on employees perceptions and emphasising the contribution of work organisation.

The objective of the study is to explore workplace health protection and promotion activities available in Estonian organisations and to assess how ergonomic principles are integrated with workplace health protection and promotion within an organisation.

MATERIALS AND METHODS

The majority of previous studies on WHP have explored individual-directed interventions or the implementation of management standards for work-related stress as well as the implementation of the WHP approach only in large organisations (Mellor et al., 2011; Mellor & Webster, 2013; Larsson, 2015). Larsson with colleagues stated that there is a need to investigate organisational actors (particular senior managers) and WHP management with specific attention how it is integrated into the general management system within an organisation. Based on the considerations above, we share Larsson's (2015) view and define WHP as a comprehensive integrated approach combining work organisation, work environment, personal practices and resources, and health behaviour in order to maintain employees' health, safety and well-being.

Data were collected during the period of December 2015-January 2016 from a questionnaire, semi-structured interviews with HR personnel and relevant documentation analysis (i.e. risk assessment, action plan related to WHP, proactive hazard control and prevention, recommendations from occupational health physicians, training plan, relevant strategy and policy, national authorities' annual report, databases etc.), which complement and verify the data collected during the interviews.

The workplace health promotion (WHP) activities were evaluated using a questionnaire of 36 items administrated to all (n = 336) members (organisations) of the Estonian Human Resource Management Association. in order to measure management health and safety priority, commitment, and competence; health promotion incentive; safety communication, training and learning, ergonomics support and local initiative in improving workplace health and safety. Altogether 56 organisations fulfilled the

questionnaire and participated in the study. The majority of the respondents were from organisations operating in the private sector (68%) and from large organisations (68%) located near the capital of Estonia. The analyses have been prepared using SPSS Statistics 22.0.

To assess how ergonomic principles, workplace health protection and promotion are integrated into the OHS programs in Estonian organisations eight semi-structured face-to-face interviews with HR personnel were conducted. The sample was formed from organisations with the best practices of WHP and ergonomic interventions according to the results from Estonian Competition 'Best Work-Related Practices', based on an evaluation by Labour Inspectorate. A simple random sample was selected from those organisations based on the following criteria: best practice in WHP and ergonomics, different sizes and operational fields. In the qualitative part, the focus was on the interview guide incorporating a series of relevant themes to be covered during the interview to help direct the conversation. The objective of the interview was to build up a picture that would take into account not only how WHP is organised, implemented, maintained and integrated with ergonomic principles, but also how health promotion goals and practices are realised practically as an organisational value, how managers and employees value their safety and health, if health management is valued and supported by top management and how HR personnel viewed their role in the improvement of safety culture. The interviews were conducted in Estonian language. Each interview lasted for one hour on average and was carefully recorded, fully transcribed and analysed. We used conventional content analysis. Data analysis started with reading all data repeatedly to achieve impression and obtain a sense of the whole. Then, we read data word by word to derive codes by first highlighting the exact words from the text that appear to capture key thoughts or concepts. Every effort was made to protect privacy, confidentiality, and anonymity of individuals and organisations participating in this study.

RESULTS AND DISCUSSION

The data reveal key issues in occupational health and safety interventions and workplace health promotion (WHP) programs in Estonian organisations. The results will be presented as follows: first, the main results from the questionnaire covering different workplace intervention programs that combine WHP and ergonomics are described; second, the main findings from the interviews with human resource (HR) managers from organisations with the best WHP practices are presented.

Workplace health promotion programs and activities available in Estonian organisations

Results from the current study reveal that 80.4% of the organisations (questionnaire study) and all eight organisations (interviewing) offer health and safety promoting activities for their employees more than is required by relevant law.

Ergonomic support activities are integrated into the overall system of WHP. In practice, the management of WHP was reported as closely linked to fitness programs, which focus on providing physical exercise and other healthy lifestyle activities for employees (e.g bicycle parking, sports clubs, hiking, training etc). According to the survey only two people of 56 participants answered the question 'What are the options

of fitness support in your organisation?' that in their organisation physical activities are not supported and four people answered that they are not using listed options. Additionally, these results are in a line with previous research carried out by Estonian National Institute of Health Development in 2014, where the most common form of WHP activities was physical exercise.

The rest of the answers were divided (the percentage represents the percentage of 56 respondents) as shown by the table (Table 1) below.

Table 1. Responses to the question 'Which opportunities are offered to employees in your organisation to support physical activities?'

Opportunities to support physical activities	The number of responses	% of responses
Enabling bicycle parking	37	66.1
Cooperation with sports clubs and other sports providers	30	53.6
The exercise and sports participation in the series are supported	28	50
Support will be given a one-off exercise and sports participation in events	27	48.2
The thematic information in the internal web and an information stand	22	39.3
Organising motion event	21	37.5
Thematic training courses, supervised training organisation	15	26.8
Fitness facilities accessible for employees	14	25.0
Organisation of trainings in the workplace	10	17.9
Support will purchase training equipment (sports equipment, shirts, suits, shoes, etc.)	10	17.9
Exercise and sports events advertising intermediation	10	17.9
The organisation its own fitness club	6	10.7
Mobility consultancy	6	10.7
Participation in campaigns and trainings	6	10.7
Movement advisor (-consultant) service	2	3.6
Purchase of thematic publications, literature and information materials	2	3.6
Other	10	17.9

Several of the listed activities as fitness facilities accessible for the workplace organisation of trainings in the workplace, the organisation its own fitness club and movement advisor are related to the ergonomics.

In addition to the list of survey respondents had received replies to the note more health enhancing activities offered by organisations. The list (Tables 1, 2) includes a number of activities supporting ergonomics that allows us to say that ergonomics is part of the health promotion.

Table 2. Responses to the question 'What are the other offered opportunities to support health in your organisation'

Offered opportunities to support health	Frequency	% from 56
Health services available (massage, gymnastics, swimming pool service, etc.)	32	57.1
Property to vaccination	24	42.9
Donor days	18	32.1
Health-related training courses and seminars	12	21.4
Regular series (Health-Month, Health Week, etc.)	12	21.4
Body composition measurements (eg, the percentage of fat)	10	17.9
Health information and training, and consulting on specific issues, among other things, to prevent injuries	8	14.3
Bone density measurements	1	1.8
Not for use in listed options	8	14.3
Other	0	0

The spectrum of health promotion activities is very diverse in organisations that participated in the interviews. Out of the activities which are represented in all of the organisations best practice has been gained from common summer days, where intentionally added elements are related to health promotion. In all the interviewed organisations sports activities (like fitness facilities, cooperating with sports clubs) are supported. Areas, directly related to ergonomics, of operation as well as employer's support differ. In three of the organisations surveyed, the ergonomics is particularly important. Partners who provide suitable furniture are included, seat balls are purchased, which contribute to the acquisition of ergonomic tools. In two organisations, there are mobilised climbing walls, where employees are able to stretch during rest period.

Key issues in WHP management in Estonian organisations

Leadership and management support to WHP

The study found a correlation between the results, which showed a statistically significant level $\alpha = 0.01$ between variable 'available physical activities for employees' and 'what support is provided to WHP by management'. Ratings were given on a scale from 1 (very low) up to 10 (high).

Based on the results of the questionnaire study, a strong relationship was found between management's commitment and support provided to health promotion in the organisation (questions 41–51) and support for the fitness program and physical activities offered for employees. The correlation relationship ($r = 0.477$) is of medium-strength and positive. Based on the results, it can be argued that the wider the variety of opportunities for their physical exercising and fitness programs offered to the employees by the organisation, the higher assessment scores were given by respondents to management support and commitment to WHP.

There is also a positive medium-strength ($r = 0.494$) correlation relationship between the answers to the questions '*Does your organisation carry out activities to promote employees' health?*' and '*What is management's support for health promotion in your organisation?*' The more activities are implemented within an organisation (different employees' survey / health checks etc.), the higher scores were gained in the assessment of management involvement and activities.

Almost half of the questionnaire respondents (48%) reported that WHP is the organisation's policy and there are policy documents supporting WHP. The reason why organisations started to deal with employees' WHP is clear – in order to ensure employees' health, wellbeing and safety; and the idea was initiated by senior managers (35%) and more than half of the respondents (55%) stated that employers wishes and recommendations are generally accepted. There is a significant difference between organisations in the public sector and in the private sector regarding an initiator of the WHP (12% in the public sector and 45% in private companies initiator are made by senior managers). Respondents stated that management's support is valued and perceived and it created above average in all organisations (Fig. 2). The maximum management contribution was perceived by 14.3% of the respondents.

However, the support of senior managers of private companies is more obvious than that in the public sector.

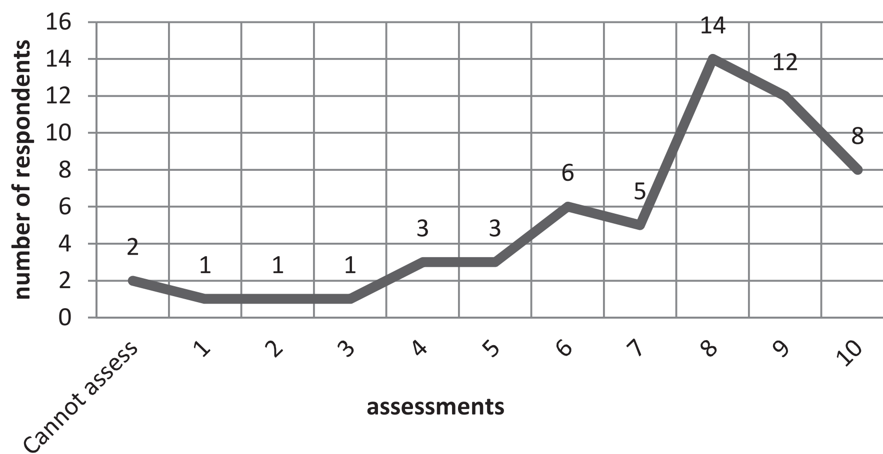

Figure 2. Responses to the question 'Please, assess the management's support for health promotion in your organisation'. (Assessments were given in Likert scale, where 1 = very small and 10 = very high).

In the investigated organisations WHP activities were related to the general management system. Most of the interviewees stated that they could not provide specific documents but the fact why dealing with health promotion already supports the management and is based on organisation's goals. It is confirmed in the interviewees' answers:

'…The documentation does not have a direct association to health promotion but there are certain amounts in the budget considered.'

'…We have a flat structure. Everybody including senior management is involved in ideas.'

'…A lot is related to the management's expectations and values. If management does not value you cannot do anything.'

Results of our study support that good leadership and employer's commitment to health and safety are essential for development of health promoting leadership, what based on organisational goals and management trends (Eriksson et al., 2011).

Based on the result from the current study, we can conclude that human resource personnel are responsible for the WHP programs and coordinate relevant activities in Estonian organisations (Fig. 3).

Figure 3. Responses to the question: 'Who is dealing and responsible for WHP programs and activities?'

These findings are confirmed by the results from the quality study in the organisations with 'Best Workplace Practices' award. In all eight interviewed organisations, WHP programs and related activities are also coordinated by human resource (HR) managers and HR personnel. Additionally, safety manager /work environment specialist and middle managers as well as employees' representatives are also involved in the implementation of WHP measures. One HR manager commented:

'…A healthy mind in a healthy body! Therefore, HR personnel feel constant pressure to offer some WHP and safety activities for employees and to encourage them to participate in WHP programs provided by the employer…'

Even though the health safety issue may not be the full responsibility of HR, it is a common practice in Estonian organisations (especially in SMEs) that a safety manager belongs to the HR department or the HR manager fulfils additional tasks as a safety manager and deals with health and safety issues. Larsson (2015) declared that in general, middle managers and the head of the department deal with WHP and are involved in inspiring individual employees to participate in WHP programs.

The current research revealed several important barriers to the uptake of health promotion: lack of financial resources (43%), lack of personnel interested in health promotion (this is the main problem in the public organisations); lack of time and knowledge about health management and possible outcomes; lack of willingness among personnel to participate in some health promotion activities. These results are similar to those reported by Armstrong with colleagues (2007). In addition, the well-known reasons are: lack of resources and expertise, lack of skills and knowledge and lack of evaluation data, mutual mistrust between lack of evaluation data (Armstrong et al., 2007).

Health and safety behaviour, employees' participation and management of health knowledge within the organisation

Based on the theory and previous studies, we can claim that attitude, behaviour and health knowledge (both employee and management) have a significant impact on health promotion within the organisation (Taylor, 2011).

It is important for the management of health and safety, how senior managers understand, perceive and expand the term 'health promotion'. Different research sources define WHP from different points of view and this will depend on the attitudes and values. Interpretations of the term 'health promotion' varied during the interviews, but the idea and the goal of WHP were common, integrating both ergonomics and general occupational health and safety in order to ensure employees' health and safety. One of the HR managers stated:

'... Health promotion also includes ergonomic interventions, for example, new job methods and equipment ...'

Based on our results, it is possible to clams that investigated organisations are aware of the main values that contribute to health promotion and protection at the workplace. For those organisations, OSH means more than just focusing on formal issues required by the relevant legislation. The main focus on physical and psychological wellbeing of the employees, preventing them from harm by paying attention to behavioural aspects, and social and cultural processes within an organisation.

Most of the activities were provided both during and after working hours and these activities were seen from a social perspective in order to ensure better communication, job satisfaction and social climate within an organisation. WHP is commonly seen as an important factor how an employer can contribute both to the employees' individual health and well-being. Health and safety as a value and the top management commitment to healthy workplace and health behaviour are the key factors for an effective WHP program as well as employees' involvement to participate in WHP activities (61%). Those results are in accordance with the opinion of researchers (Holmqvist, 2009; Lapina et al., 2014; Torp & Vinje, 2014; Larsson, 2015), who have also reported that WHP is as corporate social control of employees' behaviour and a part of social responsibility of an organisation.

Involvement and activities will become possible only when people themselves value their health. Based on the results of the survey can be argued that the staff of the health promotion and the profession itself value their health. The majority of respondents 96.5% (Table 3) consider their health very important and 28.6% consider it of average importance.

Health promotion essentially depends on the employees' and management knowledge of health risks and benefits of different health practices. Perceived self-efficacy that one can exercise control over one's health habits, outcome expectations about the expected costs and benefits for different health habits, the health goals people set for themselves and the concrete plans and strategies for realising them, and the perceived facilitators and social and structural impediments to the changes they seek.

In best practices it is clearly seen that the employees are involved in the awareness-raising process.

Table 3. Responses to the question: 'How important is your health to you?'

	Frequency	Percent	Valid Percent	Cumulative Percent
On average, an important – sometimes I remember, then I will do something	16	28.6	28.6	28.6
Very important – I mean, I keep and handle	38	67.9	67.9	96.5
Other (Health is important. No special tricks and efforts do not do.)	1	1.8	1.8	98.3
Missing	1	1.8	1.8	100.0
Total	56	100.0	100.0	

Organisations employing best practices health promotion is part of the culture of the organisation. Thus, four of the eight in the same terms stated outright that

'...Health promotion is linked to the organisation's culture'

'...When asked why it made these activities, the reply was that they fit the organisation'

'...So historically. It is this that is suitable for the organisation's activities'

Also, in Schaefer's study worksite health promotion ranges from keeping the employees health (38.2%) to worksite health promotion as part of the business culture (9.1%). 81.1% of the companies considered their activity in worksite health promotion to be successful. Those companies that did not implement any activities for worksite health promotion, as a prime reason, state that they have not thought about it as yet (44.0%). (Schaefer et al., 2015)

In most of the organisations who had the best practices, health promotion has an important part in the process of socialisation of the staff.

'...Synergy and flap are important'

'...The goal is the reduction of labour turnover. In addition to the normal, to do something different'

When asked what is being done to ensure health promotion as a continuous process, all of the interviewees answered (though different wording but similar in spirit) that health does not consist of single projects and it is not done through a campaign. Monitored through satisfaction surveys, employee surveys and feedback, which is important, and according to that the health-related activities will be developed.

'...Health promotion is an ongoing process'

'...Nothing will be done only after the campaign'

Based on the interviews it could be argued that it is very important how employees feel about their own health.

'...if employees do not care about their own health they can't be involved in health promotion'

Substantial part of the activities that had been done was training and counselling as well as the support of knowledge sharing.

Views on what could constitute 'regularly informing' staff about OSH differed, from providing information on an intranet to directly notifying staff via email or at meetings. In order to be effective, WHP programs should address organisational conditions in addition to individual behaviours. It means that employees' involvement in decision making about work processes and employees' empowering, promotion

learning, reward appropriately and attendees to interpersonal relationships are crucial for successful and effective health promotion and protection programs including ergonomic principles. Punnet et al. (2009) claim that an effective occupational ergonomics program must address organisational features such as incentive pay, decision latitude, task design, quality of supervision, work scheduling, understaffing, division of labour among employees and between people and machines.

Based on the research conducted by the HR staff of Estonia, it can be argued that WHP management with specific attention to the understanding of WHP as a broad approach. When an organisation deals with OHS proactively or/and establishes a voluntary OHS management system, it is generally complemented by WHP practices, focusing on not only occupational risk reduction and safety, but also on positive factors in the work environment (e.g. employees' involvement in health and safety activities).

CONCLUSIONS

A healthy and vital workforce is an asset to any organisation. Workplace health management and health promotion become increasingly relevant for organisations. This paper explores WHP programs available in Estonian organisations, how WHP is managed in eight organisations. The results from the statistical analysis of WHP questionnaires show that many organisations have outstanding programs and positive employers' perceptions and attitudes towards health promotion. The results demonstrate that WHP programs vary depending on the health risk profile, position and organisational culture. These programs include general health-related initiatives that intend to promote and increase physical exercise and improve eating habits, reduce smoking, and manage stress. However, the management of WHP was dominated by fitness programs (physical exercise), healthy habits focusing on individual health behaviour. At the same time, factors related to work organisation, work environment and, in particular, to ergonomics, were found to receive less attention. However, qualitative data indicate some important aspects of health promotion and drawing attention to contextual variables in the development of safety management systems and improving the integration of ergonomic principles with workplace health protection and promotion. In this study we described WHP programs in Estonian organisations. Based on the results of the study, it can be argued that ergonomics is not generally seen as separately stated activities, but it is a part of the health promotion and protection in the investigated organisations. An employer can establish conditions and provide opportunities as well as resources for WHP and ergonomics interventions, which can help an employee to stay healthy and, thus, ensure quality of life, well-being, and the work ability of employees. This study demonstrated that WHP is successful in those organisations where health promotion and ergonomic interventions are management topics and integrated into the safety management system. WHP also has an important role in an organisation's motivation programs, enhances work efficiency, and affects the labour flow and safety behaviour. These results indicate the need for further research in order to explore best practices of incorporation of WHP into safety management system as part of general management system. The study explores WHP programs in Estonian organisations in order to highlight the possibilities of integration them with ergonomic principles as well as safety management systems from the personnel manager's point of view. The study shows that possible barriers for the implementation of health promotion

programs are as follows: lack of management support and commitment and lack of relevant knowledge. The main contribution of the study is providing the conceptual clarification on incorporated health promotion and how it complements an occupational safety management system and showing its possible effect on employees' health and safety behaviour and on knowledge exchange.

We emphasise the importance of work organisation and health and safety interventions in maintaining employees' health, safety and wellbeing. It is essential for the established workplace health promotion program to have a fully integrated part of safety management system in the organisation and employees' health and healthy behaviour must be recognised, acknowledged and be managed.

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