ABSTRACT. Background: Although there is still a lot to do as far as prevention and elimination of traditional health and work safety hazards is concerned, the problem of psychosocial risk prevention is extremely important nowadays. It is crucial to take into consideration the health of workers and promotion of health in the workplace, as the occupational stress epidemics is getting more and more widespread.

Methods: The article is based on the statistic analysis of accidents at work as well as the analysis of health problems resulting from the job itself. The latest work safety reports have been reviewed and special attention has been paid to psychosocial risk analysis. The author has tried to explicate the terms of new and emerging risks as regards storage work.

Results: Various threat aspects of storage work have been evaluated. Deficits in psychosocial hazard identification have been indicated. What is more, no correlation between occupational tasks of storage workers and their knowledge about psychosocial risks has been emphasized. An exemplified approach to warehouse psychosocial threat identification has been presented. The approach is based on the diagnosis of the current situation.

Conclusions: The psychosocial risk of storage work may lead to health deterioration, greater accident risk and worse performance at work. Such consequences mean that the psychosocial risks affect both an individual and the organization. Therefore, we should expect more intense efforts to increase psychosocial risk awareness of both employers and employees.

Key words: OSH, safety at work, psychosocial risk, stress, human factor.

INTRODUCTION

Fewer and fewer workers are hired in sectors such as heavy industry or agriculture, where the job is mostly performed in difficult environment conditions and exposed to many physical and chemistry hazards (noise, pollination, high temperature and so on). On the other hand, employment in services, often in big, sometimes foreign companies, demands interpersonal contact closer than ever. It does matter that in the process of globalization competition increases. This forces employers to take a more elastic approach to forms of employment. It also causes an increase in job intensity and a continuous willingness for change.

The feeling of overwork, too many responsibilities, falling behind on novelty, resistance to everlasting change, uncertainty of employment - all this is a more frequent with a worker today. As a result the physical and chemical aspects of work is not the greatest source of occupational risk, but its psychosocial aspect is. Problems such as work-related stress or violence at a workplace that are related with psychosocial hazards are generally considered the main challenges for work safety [EU-OSHA 2007].
The aim of the article is to provide information on new and emerging risks in the work processes, with particular emphasis on warehouse processes. Although working in the warehouse is widely considered to be non-complicated and require few advanced social competences, the research results do not confirm it.

Whereas there is still a lot to do as far as prevention and elimination of traditional health and work safety threats is concerned, the problem of psychosocial risk prevention is extremely important nowadays. It is crucial to take into consideration the health of workers and promotion of health in the workplace, as the occupational stress epidemics is getting more and more widespread. Occupational stress generates 240 billion Euro worth of losses which result from the decrease of work efficiency, numerous medical leaves and all costs connected to it.

PSYCHOSOCIAL RISK AND PSYCHOSOCIAL HAZARDS - AN ATTEMPT TO DEFINE BOTH TERMS

Although the forecasts of warehouse section specialists are careful due to various changes in world economy, there is no denying that in the last couple of years there has been enormous progress in the optimization of logistic processes, especially as far as transport and warehousing are concerned. Warehouse processes are complex and labour-intensive which necessitates using modern installations and advanced methods of work organization. The automation will continue and more attention will be paid to not to the area, but to room. Warehouse which "go up" will require appropriate means of transport with management systems. One of change trends in the forthcoming years will be the replacement paper documents with digital data, using uniform standards (including strengthening the role of GS1) and full integration of supply chains (Niemczyk 2014). As the European logistics is constantly changing, we should not also forget about atmosphere of intense competition - this phenomenon is driven by market requirements, such as: growing importance of customer service, shortening order lead times, price reductions. To live up to those requirements companies must dynamically change - not only in terms of how they are organized, but how they function - by opting for dynamic management rather than static (structural) management [Adamczak, Domański, Cyplik and Pruska 2013].

Over the years not only the types of risk occurring in the human environment have changed but also attitude towards safety. Work-related accidents as well as occupational diseases and pathological symptoms of behavior in a work place are the greatest factors suppressing market growth. In the last years huge changes have occurred in organization and management of the work process. As a result, both new risk factors and new challenges in the field of work safety regulations have appeared. Psychosocial risks are labeled as new and emerging risks [EU-OSHA 2007; NIOSH 2002]. Changes in structure of the job market and the character of human activity have an impact on the mental condition of the society.

International Labor Office defines psychosocial risk factors as the interaction between job content, management and organization of work process and other organizational or environmental factors on one hand and workers' needs and expertise on the other. In this aspect they correlate to the types of interaction which from the point of view of the employee a threat to health [ILO 1986]. Psychosocial risks may also be defined in a simpler matter as such aspects of designing and managing work process along with the social-organizational which have the potential to cause mental or physical harm [Cox and Griffiths 2005].

The term hazard refers to every factor that may cause harm. A general division to physical risks (biological, biochemical, chemical and radiological) and psychosocial risk is accepted. When we consider the psychosocial factors as hazards we greatly widen the definition of work environment. When we look at the dynamic change in work conditions and the examined scale of exposure to psychosocial factors, it becomes more often acknowledged that work environment consists of all material
environment conditions (physical, chemical and biological factors) as well as non-material factors (psychosocial factors) within which work process takes place. In contrast to classic hazards that are present in a work environment, e.g. chemical or physical hazards, one may not establish sanitary standards for psychosocial risks such as a TLV indicator (Threshold Limit Value) because the effects depend on both worker's traits (also hereditary) and specified configuration of the work environment (Merecz, Potocka, Wężyk and Waszkowska 2012). Due to this one may not create a universal list of psychosocial hazards or in other words indicate the ones which cause stress to everybody and in every circumstances. In subject literature one can find a list of potential psychosocial occupational risks and many attempts to categorize them.

According to literature on the subject and research in the field, a rough set of psychosocial work environment factors, which workers consider to be stressful or potentially harmful, was put together. This way 10 separate categories concerning job characteristics, organization and management of work as well as other environmental and potentially health-hazardous organizational factors were established. In specific conditions every one of the 10 aspects of work causes stress and/or is directly hazardous towards health [WHO 2008].

**Fig. 1. Psychosocial hazards related to work**

Rys. 1. Zagrożenia psychospołeczne związane z pracą

Work-related stress is a common effect that in a bigger or smaller way affects every employee. For most people a moderate stress level is beneficial - it energizes and motivates
to action and increases effectiveness. However, when stress becomes too big and/or long-lasting and one fails to deal with it, new problems occur, observed not only on the individual level, but also on the organizational level. Stress-resultant burden of mind in some jobs has consequence not only for the results, health and safety of the employee, but may also be a critical factor for safety and health of others.

The above-mentioned results show diverse consequences of stress, starting from changes in the emotional area and mental functioning to behavior and various somatic reactions. In the past it was also proven that stress may be a risk factor for the development of infective processes. However, it must be emphasized that a pathological stress influence arises when it is severe and/or long-lasting. Somatic health disorders as well as mental health disorders (depression, anxiety disorder) are classified as chronic long term work-related stress products. It was shown among others that stress is a risk factor for disease development in the circulatory system and ailment of muscular-skeletal system (ex. lower back pain). It also may cause allergies and decreases body immunity [Merecz, Potocka, Wężyk and Waszkowska 2012]. What's more, work-related stress absence at work usually takes longer than absence due to other reasons, and this also has a negative impact on a worker's productivity index. Occupational stress due to its specificity is related to greater accident risk in during work; it is a deciding argument supporting the statement that attention to safety in work should also involve the elimination of psychosocial risks [Sadłowska-Wrzesińska 2014].

Those problems have been described in European Agency of Occupational Safety and Health [EU-OSHA]. ESENER has pointed out that although 79% of managers in Europe are aware of stress at workplace, and 40% know about violence and harassment in the workplace. In 74% of European companies no problem-solving procedures have been implemented. Besides, only 3% of the companies takes a holistic approach to psychosocial problems. These are frightening data, because it is assumed that about 50-60% of all the missing days are caused by psychosocial risks, and the general cost of treating resultant mental health disorders in the UE is 240 billion EUR a year [ESENER].

Unfortunately, that business in Poland so rarely considers health to be the main area of interest. Systematized psychosocial risk management programs is one of the main elements of running companies in most EU countries. Scientific research and cost analysis point out that it is essential to take preventative measures as to excessive work-related stress. Special attention must be paid to the latest threats such as job insecurity, violence, mobbing, sexual harassment and discrimination [Sadłowska-Wrzesińska and Mościcka-Teske 2014].

SAFETY AT WORK IN WAREHOUSE LOGISTICS

No matter how big the warehouse is and what its character is, there are many threats resulting from inside transport and from storage methods, manual transport and high altitude work. The threats are connected not only to the place, but also to the size and type of goods. Fragile or chemical goods have their specific needs. Statistics prove that the accidents happen mostly while transporting the goods and high altitude storing. An employee may be hit by falling object or fall himself. All the falling, moveable, sharp and protruding elements as well as the mechanical means of transport, cramped spaces and high altitudes may lead to injuries [Sadłowska-Wrzesińska, Gabryelewicz 2014].

There are statistical elaborations of accidents at work published yearly by Central Statistical Office [CSO 2014a]. In 2013, 88 267 persons injured in accidents at work were registered, out of whom 87 462 are lighter accidents at work, 529 are serious accident at work is an accident which results in serious bodily harm (i.e. loss of sight, hearing, speech, fertility or other physical damage. It may also result in other health-related problems, disrupting primary bodily functions, as well as in incurable, life-threatening or mental diseases) and 276 are fatal accident at work is an accident in which the person injured dies at the site or within 6 months from the accident.
A fall in the number of people, who were hurt at work in 2013 as compared to 2012, is caused by a decline in the number of people injured in most kinds of activities. Transportation and storage is one of such activities. Although the number of fatal accidents has decreased, it is to be emphasised that groups of drivers and mobile plant operators characterized the highest percentage of people injured in accidents with fatal outcome, i.e. - 23.0% of all fatal accidents in Poland. The most disturbing fact, though, is the increasing number of women in total accidents. It is worth indicating that the number of work inability days has increased.

<table>
<thead>
<tr>
<th>section</th>
<th>Year</th>
<th>Total</th>
<th>In accidents</th>
<th>Of total</th>
<th>The number of days inability to work</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>absolute numbers</td>
<td>in %</td>
<td>fatal</td>
</tr>
<tr>
<td>Transportation and storage</td>
<td>2012</td>
<td>6402</td>
<td>7.0</td>
<td>61</td>
<td>45</td>
</tr>
<tr>
<td></td>
<td>2013</td>
<td>6125</td>
<td>6.9</td>
<td>38</td>
<td>36</td>
</tr>
</tbody>
</table>

Source: Sadłowska-Wrzesińska, Rejmer and Drożyner 2014

While analysing accidents at work, the issue of causes of accidents is the most important thing (in the context of prevention). Causes of accident are all short-comings and irregularities related to material (technical) factors and organization of work as well as incorrect behavior of the employee. The age and seniority of the injured are the next important indicators of accidents at work analysis. Compared to the previous year, in 2013, similar proportions of the number of injured persons by age groups were observed. Still the largest group of victims was persons aged 40-49 years (25.8%).The second largest was the group of people aged 30-39 years (25.3%). Regarding work seniority of the injured persons at particular work positions, it turned out that in 2013, similarly to the previous years, accidents in "Transportation and storage" occurred most frequently among persons with short work seniority not exceeding 3 years (43.4%), in which 25.7% comprised persons whose work seniority was 1 year or shorter. The share of fatal accidents at work of persons whose work seniority did not exceed 3 years comprised 60.5%, in which 50.0% constituted persons who worked for a year or shorter [Sadłowska-Wrzesińska, Rejmer and Drożyner 2014].

Unfortunately, the statistical analysis does not fully reveal the situation of security and health at work in the country. A decreasing number of employees is hired in sectors like heavy industry or agriculture, where the job in general is performed in difficult environment conditions and present many physical and chemistry hazards (noise, pollination, high temperature and so on) while employment in sector of services, performed often in big companies; in foreign too, demanding closer than ever interpersonal contact It does matter that in the process globalization and related with it increase in competition. This forces employers to a more elastic approach to forms of employment. It also causes an increase in job intensity and a continuous willingness for change. On the basis of the generalized results of the sample Labour Force Survey and the ad-hoc LFS module survey Accidents at work and work related health problems conducted by the CSO in the second quarter of 2013, there are visible changes in the kinds of threats and the impact on the health of the employees. The module survey was conducted as a part of the Programme of modules for the Labour Force Survey, which are to be carried out in the European Union Member States in the years 2013 - 2015 (introduced by the European Commission Regulation (EC) No. 220/2010 of

29
March 16, 2010). In the module survey Accidents at work and work-related health problems [CSO 2014b] the objective was providing information concerning the occurrence of work-related health problems not caused by accidents at work and the factors at workplace that adversely affect mental wellbeing or physical health. In particular this concerned determination of the scope of occurrence of factors at work that adversely affect mental wellbeing or physical health, and determination of the number and types of work-related health complaints.

Should be emphasized that changes in structure of the job market and the character of human activity have an impact on society's mental condition. Psychological factors as the source of threats in the place of work indicated 37.1% of all respondents. The total number of psychological threats (the so-called threats per capita) in the workplace amounted to 6 693 thousand (3 704 thousand among men and 2 989 thousand among women). In the section Transportation and storage alarmingly high indicators of the threat were obtained; severe time pressure or overload of work are the main psychological factors perceived as a major serious work-related threat. Similarly stress associated with the possibility of losing a job in the near future - in the section Transportation and storage every fourth woman is exposed to that factor. Men, on the other hand, are exposed to violence or threat of violence, harassment and bullying (Table 2).

<table>
<thead>
<tr>
<th>Section</th>
<th>Employed</th>
<th>Of which persons threatened with:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>severe time pressure or overload of work</td>
</tr>
<tr>
<td></td>
<td>in thous.</td>
<td>in %</td>
</tr>
<tr>
<td>Total</td>
<td>M 8624</td>
<td>19.4</td>
</tr>
<tr>
<td></td>
<td>F 6874</td>
<td>19.6</td>
</tr>
<tr>
<td>Transportation and storage</td>
<td>M 721</td>
<td>24.0</td>
</tr>
<tr>
<td></td>
<td>F 181</td>
<td>25.4</td>
</tr>
</tbody>
</table>

Source: Sadłowska-Wrzesińska, Rejmer and Drożyner 2014

The module survey objective was providing the information on types, frequency, effects, and the scope of occurrence of any work-related health problems, not only confirmed with the sickly leave or formally acclaimed occupational diseases. The survey results indicate that the most often declared health complaint suffered during the last 12 months, was a problem with musculoskeletal system (bones, joints or muscles). This problem had 67.7% of the surveyed population - 2882 thousand persons. Health complaints regarding bones, joints or muscles affected mainly back (50.5%), less often hips, legs and feet, and later neck, shoulders, arms or hands. The heart diseases or attack or other problems in the circulatory system - 442 thousand indicated this type of health complaints as the most serious; 224 thousand persons suffered from headache or/and eyestrain. The another group of the most often occurring problems were stress, depression, anxiety - 186 thousand persons, i.e. 23 at twenty-third person in the surveyed population indicated this type of health complaints as the most serious [CSO 2014b].

Occurrence of the most serious health problems in section Transportation and storage is presented below:
1. stress, depression, anxiety - 10.4%
2. heart diseases or attack or other problems in the circulatory - 9.6%
3. bone, joints and muscles problem - 7.5%
4. headache and/or eye strain - 7.1%.
Unfortunately, data concerning frequency of health problems occurrence among the employed in a particular NACE section confirm that the logistics sector has a high level of psychosocial hazards [Sadłowska-Wrzesińska, Rejmer and Drożyner 2014].

THE RESULTS OF ANALYSIS

The risks that accompany warehouse staff, are serious and can lead to hazardous events, endangering the health and lives of workers. Unfortunately, the most common causes of accidents at work in the warehouse are: recklessness, lack of concentration, and disregard for basic safety rules. In order to ensure safety in storage and thus reduce the number of accidents at work, it is necessary to implement not only requirements relating to the general principles of safe storage of goods, but also a holistic, proactive approach to safety issues. It should concern not only the area of technical issues, but also psychosocial risks - the proper organization of work including human factor weaknesses.

The key to ensure safe and health working conditions is the proper and regular assessment of occupational risk, paying special attention to workers. It should help the employer to plan and implement all the appropriate technical and organizational solutions to prevent and limit occupational hazard. It is clear that risk assessment is NOT a single action required only by the law. A systematic approach to the issue of safety which participation of both workers and managerial staff is a part of is a trusted way of creating a culture of safety and including the matter of safe work in everyday practice [Jasiulewicz-Kaczmarek and Drożyner 2011].

However, the analysis of occupational risk assessment documents show that for the last couple of years nothing in logistics has changed. A typical mistake is the fact that the employees are not involved in the assessment. What's more, such assessments are often done by an outside expert who knows little about the particular workplace. Besides, such experts often fail to do the comprehensive assessment, tend to ignore some threat consequences (especially long-term ones) and have no plan how to correct the mistakes. They also rarely supervise the efficiency of the corrections. Occupational risk assessment is also wrongly documented and employees are not informed. But what worries the most is incomplete identification of workplace threats.

It is essential to collect the information about stressful factors. There are many methods, but each of them matters. One may use ready forms or check letters or even prepare own ones. A very valuable way to learn about possible psychosocial hazards are observations and interviews with employees. Workplace observation may help notice communication problems. Conversations with employees, open discussions or trainings also are very important. As far as stress-generating factors are concerned, a subjective assessment of working conditions is necessary, as individual opinions of working condition influences their own assessment of the psychosocial atmosphere of work.

The psychosocial risks in working environment can and must be coped with just like it would if they were physical, chemical or biological hazards. Yet the employer awareness in this field seems relatively small. One should recognize this as a fault because a working environment free of stress overload favors not only the workers' health but also may generate reasonable profit as enhanced productivity and increased quality of work may be noticed [Merecz, Potocka, Wężyk and Waszkowska 2012]. It becomes necessary to better one's understanding of the concept of psychosocial hazard and risk connected with it to be able to evaluate and lessen the risks. In subject literature one can find many titles that suggest usage of risk managing paradigm to successfully manage psychosocial risk. According to this paradigm the correct identification of danger is most important.
CONCLUSIONS

An important element in safety at work from the physical elements, is the human factor. This factor significantly affects performance, cost and quality. The improvement of work systems should not only cover the technical sphere, but also the realm associated with the environment and ergonomics [Lasota 2014]. Human factor presence in all the decisive, at tactic and operational level proves importance of relations of corporate management system and ergonomic factors a macro aspect [Mazur and Stachowiak 2014].

Logistics play a bigger and bigger role in the functioning of the economics. The reason for it is the globalisation of supply and distribution markets and the expansion of the Internet in terms of selling goods [Fechner and Szyszka 2014]. However, the advancement and modern solutions are always followed by certain limitations. It is emphasized in European documents, that taking care of safety and health is common business for both employees and employers. The most important challenge is to make everybody aware that low level of OSH implicates high costs. Not all the costs are obvious or easily assessable such as longer absence or damages. Both economic and social consequences of accidents at work and work-related traumas may be hidden, such as lower morale or loss of orders and customers. New types of risks may create additional difficulties. Although the problem is well researched [WHO 2004; WHO 2010; EU-OSHA 2012a; EU-OSHA 2012b], there are still many mental and organizational barriers in the process of psychosocial risk factors diagnosis and management. The psychosocial
risk of storage work may lead to health deterioration, greater accident risk and worse performance at work. Such consequences mean that the psychosocial risks affect both an individual and the organization. Therefore, we should expect more intense efforts to increase psychosocial risk awareness of both employers and employees. Such an approach will allow to shape the work environment in a truly safe way, where not only the OSH legal requirements are met.

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OCENA STANU BEZPIECZEŃSTWA I HIGIENY PRACY PRACOWNIKÓW MAGAZYNOWYCH - PODEJŚCIE PSYCHOSPOŁECZNE

STRESZCZENIE. Wstęp: Mimo że w europejskich zakładach pracy nadal pozostaje wiele do zrobienia w zakresie profilaktyki i zwalczania tradycyjnych zagrożeń zdrowotnych oraz bezpieczeństwa pracy, problem zapobiegania ryzyku psychospołecznemu należy do wyjątkowo aktualnych. Uwzględnienie ochrony zdrowia pracujących i promocji zdrowia w miejscu pracy wydają się być niezwykle istotne w odniesieniu do szerzejącej się współcześnie epidemii stresu zawodowego.

Metody: artykuł oparto o analizę statystyczną wypadków przy pracy oraz analizę problemów zdrowotnych występujących w związku z wykonywaną pracą. Dokonano przeglądu najnowszych raportów dotyczących bezpieczeństwa pracy, ze szczególnym uwzględnieniem analizy ryzyka psychospołecznego. Podjęto próbę eksplikacji pojęć z zakresu nowowożyczących rodzajów ryzyka w odniesieniu do warunków pracy w magazynie.

 Wyniki: ocenie poddano różnorodne aspekty zagrożeń występujących na stanowisku pracy magazyniera. Wskazano na delikty w zakresie identyfikacji zagrożeń o charakterze psychospołecznym oraz zaakcentowano brak korelacji pomiędzy zadaniami zawodowymi magazyniera a jego wiedzą na temat ryzyka psychospołecznego. Na podstawie diagnozy stanu obecnego zaprezentowano egzemplifikacyjne podejście do identyfikacji zagrożeń psychospołecznych występujących w magazynie.

Wnioski: ryzyko psychospołeczne związane z pracą w magazynie może prowadzić do pogorszenia stanu zdrowia, zwiększenia ryzyka wypadków, gorszego wykonywanie zadań. Konsekwencje te oznaczają istotne oddziaływanie ryzyka psychospołecznego zarówno na poziomie jednostki, jak i na poziomie organizacji - oczekiwać więc należy wzmożonych wysiłków na rzecz uświadamiania w tym obszarze zarówno pracodawców, jak i pracobiorców.

Słowa kluczowe: BHP, bezpieczeństwo pracy, ryzyko psychospołeczne, stres, czynnik ludzki
BEWERTUNG VON DATEN IM BEREICH DES ARBEITSSCHUTZES UND -SICHERHEIT VON LAGERARBEITERN - EIN PSYCHOSOZIALER ANSATZ

ZUSAMMENFASSUNG. Einleitung: Da es in europäischen Unternehmen immer noch eine Menge im Bereich des Arbeitsschutzes, der Unfallverhütung und Bekämpfung von traditionellen Gesundheitsgefährdungen zu tun ist, bleibt heutzutage das Problem der psychosozialen Risikoprävention extrem wichtig. Es ist dabei besonders hervorzuheben, dass der Arbeitsschutz von Arbeitnehmern und die Förderung der Gesundheitsprävention am Arbeitsplatz eine besondere Achtung verdienen, zumal gegenwärtig die "Epidemie" von Arbeitsbelastung sich immer mehr verbreitet.


Codewörter: Arbeitsschutz, Arbeitssicherheit, psychosoziales Risiko, Stress, menschlicher Faktor

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