Muskuloskeletal disorders caused by physical overload - situation in Latvia

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• **Musculoskeletal disorders**

• are health problems of muscles, tendons, the skeleton, cartilage, the vascular system, ligaments and nerves.

• **Work-related musculoskeletal disorders** (MSDs) include all musculoskeletal disorders that are induced or aggravated by work and the circumstances of its performance.
Musculoskeletal disorders

- Occupational musculoskeletal disorders are such health disturbances which are caused by working conditions and are included in list of occupational diseases.

- Musculoskeletal disorders (MSDs) remain the most common occupational diseases in the European Union and workers in all sectors and occupations can be affected.
Musculoskeletal disorders

- MSD are one of the most important causes of long-term sickness absences.
- MSDs may lead to high costs to enterprises and the society as a whole.
- **MSD impact on the Latvian economy is also huge** resulting from reduced work productivity, increased number of patients, health-care and disability costs.
The aim of the study

The aim of the study was investigation of occupational MSDs and its incidence tendencies in Latvia in 1996 – 2011 to improve early diagnosis, the initiation of treatment and rehabilitation in order to accelerate patients’ return to work.
Material and methods

- The analysis of registered occupational diseases according to the data of the Latvian State Registry of Occupational Diseases for the time period between 1996 and 2011 was performed.

- The absolute number of patients with first time registered occupational diseases and initially registered occupational diseases was analysed.
Material and methods

- **The structure** of occupational diseases was analysed.
- **The comparison** of Occupational morbidity in several European countries was performed.
- Analysed **ways to reduce the incidence of** the most widespread occupational diseases – **musculoskeletal disorders**.
Results

- The number of firstly diagnosed occupational diseases and patients has gradually increased from 1996 until 2011 except small decline for year 2010 - 2011.

- The total number of firstly diagnosed and registered occupational patients per 100 000 employees has risen from 11.5 in 1996 to 84,1 – in 2011 (exceeded by 12 times).
Dynamics of Occupational Morbidity per 100 000 Employees

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of new occupational patients</th>
<th>Number of occupational diseases revealed for the first time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996</td>
<td>26.4</td>
<td>35.1</td>
</tr>
<tr>
<td>1997</td>
<td>26.3</td>
<td>47.5</td>
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<tr>
<td>1998</td>
<td>35.1</td>
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<td>1999</td>
<td>47.5</td>
<td>95.4</td>
</tr>
<tr>
<td>2000</td>
<td>83.6</td>
<td>121.9</td>
</tr>
<tr>
<td>2001</td>
<td>95.4</td>
<td>156.2</td>
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<tr>
<td>2002</td>
<td>121.9</td>
<td>184.5</td>
</tr>
<tr>
<td>2003</td>
<td>156.2</td>
<td>162.7</td>
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<tr>
<td>2004</td>
<td>162.7</td>
<td>182.7</td>
</tr>
<tr>
<td>2005</td>
<td>182.7</td>
<td>302.8</td>
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<td>2006</td>
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<td>2008</td>
<td>302.8</td>
<td>239.3</td>
</tr>
<tr>
<td>2009</td>
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<td>302.8</td>
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<tr>
<td>2010</td>
<td>302.8</td>
<td>184.5</td>
</tr>
<tr>
<td>2011</td>
<td>184.5</td>
<td>123.2</td>
</tr>
</tbody>
</table>
Comparison of Occupational Morbidity in Several European Countries in 2005

<table>
<thead>
<tr>
<th>Country</th>
<th>Morbidity per 100,000 Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>25.5</td>
</tr>
<tr>
<td>Belarus</td>
<td>3.2</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>18.4</td>
</tr>
<tr>
<td>Denmark</td>
<td>397.1</td>
</tr>
<tr>
<td>Croatia</td>
<td>3.9</td>
</tr>
<tr>
<td>Estonia</td>
<td>10.6</td>
</tr>
<tr>
<td>Latvia</td>
<td>16.1</td>
</tr>
<tr>
<td>Lithuania</td>
<td>105.7</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>59.4</td>
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<tr>
<td>Norway</td>
<td>12.4</td>
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<tr>
<td>Poland</td>
<td>74.9</td>
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<tr>
<td>Slovakia</td>
<td>12.1</td>
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<tr>
<td>Finland</td>
<td>10.7</td>
</tr>
<tr>
<td>Ukraine</td>
<td>193.6</td>
</tr>
<tr>
<td>Hungary</td>
<td>16.2</td>
</tr>
<tr>
<td>Sweden</td>
<td>349.5</td>
</tr>
</tbody>
</table>

Safety and Environmental Health, Riga, Latvia
Occupational diseases

- Main reasons in increase of registered occupational diseases:
  - System for workers health surveillance established in 1997
  - Correct decision to give over rights to carry out health examinations only to occupational physicians
  - Presently there are 480 occupational physicians in Latvia
  - Training of occupational physicians since 1996
Number of first registered occupational diseases (absolute numbers) and registered occupational physicians
Top 10 of Occupational Diseases in 2011

- 20.0: Connective tissue disorders (tendinitis, enthesopathy, Dupuytren contracture etc.)
- 19.9: Vertebral column disorders
- 16.8: Carpal tunnel syndrome
- 13.2: Arthrosis
- 9.9: Vibration disease
- 7.3: Noise induced hearing loss
- 3.1: Upper airway disorders
- 2.5: Ulnar nerve neuropathy
- 1.5: Bronchial asthma
- 0.7: Varicose veins
Top 5 of Sectors of Economical Activity with High Occupational Morbidity (% of total number of new occupational patients in 2011)

- Manufacturing: 24.0%
- Transport, storage and communication: 22.0%
- Health and social work: 14.0%
- Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods: 8.1%
- Construction: 7.6%
Musculoskeletal disorders

- Occupational MSDs were 53.1% of all occupational diseases revealed for the first time in 2011.

- In 94.8% of all patients with firstly revealed occupational disease, as harmful working risk factor **physical overload** was mentioned (i.e. heavy lifting, repetitive motions or awkward working posture, manual handling).
Musculoskeletal disorders

- Of all firstly revealed occupational disorders in 2011: **20 %** were connective tissue MSDs, such as tendinitis, bursitis, rotator cuff syndrome, etc. These disorders were localized mostly in hand and arm.

- **19.9%** were diseases of **vertebral column**.

- **13.2%** were arthroses of different localization.
There are four natural curves in the vertebral column:

- Cervical curvature
- Thoracic curvature
- Lumbar curvature
- Sacral curvature

- Intervertebral disk
- Annulus fibrosus
- Nucleus pulposus
- Spinal cord
- Transverse process
- Spinous process
- Superior articular facet
Wrist Tendinitis
Rotator Cuff Tendinitis

Infraspinatus
Acromion
Supraspinatus
Spine of Scapula
Edge of Scapula
Teres Minor
Sectors of economic activity

- Main sectors with the highest occupational morbidity were manufacturing; transport, storage and communication; health and social work, wholesale and retail trade, repair of motor vehicles, motorcycles and personal and household goods; construction.
Main conclusions

- Number of occupational diseases and patients revealed annually for the first time has been gradually increasing. Increase of registered occupational diseases is also related to growing awareness of employees, increasing number of occupational physicians, as well as possibility to receive compensation.
Main conclusions

- Occupational MSDs were 54.5% of all occupational diseases revealed for the first time in 2011.
- The mean age of patients was 54 years, work stage -20 - 30 years.
MSD health promotion and re-integration program

- Employees in raising awareness of MSDs and their prevention capabilities.
- Occupational health and safety measures to prevent development of MSD (employees/employers).
- Employers 'and employees' own role in the prevention of MSDs.
MSD health promotion and re-integration program

☐ Early diagnosis and treatment improvement (general practitioners and occupational health services tactics).

☐ Early rehabilitation provision.

☐ Recovery criteria and guidelines for the physicians.

☐ MSD patients return to work - the mechanism and conditions for use.

☐ Disabled custom jobs as possible.
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