NEW TENDENCIES AND CONSEQUENCES REGARDING OCCUPATIONAL PATHOLOGY IN ARAD COUNTY

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ABSTRACT. Phytoncides and phytoalexins are antibiotic substances that have been isolated from a large number of plants. Tropical plants in particular possess many antibacterial compounds, such as sophoraflavanone G (Sophora), calozenylxanthone (Calophyllum), α-mangostin, and the stilbene oligomers of gnomonal B and gnetin E. Other plants like garlic (Allium sativum) and onion (Allium cepa), mustard (Sinapis alba), horseradish (Armoracia rusticana), radish (Raphanus sativus) and lichens (like Centraria islandica and Usnea barbata) also manifest antibiotic properties. The antibacterial activities of sophoraflavanone G.

Keywords: Phytoncides, phytoalexins, vegetal antibiotic, bacteria, antibacterial effects

INTRODUCTION
Changes regarding the types of industrial activities have taken place in Arad County over the last 11 years, leading to new occupational hazards. These potential hazards should have been therefore reflected in the increase of the number of reported occupational health diseases.

PURPOSE
The aim of our study is to underline the existence of new hazards, that can lead to Occupational pathology, hazards that are nowhere to be found among reported cases of occupational disease in the last few years, despite the growth of the number of Occupational Health clinics and specialists.

GOALS
Our goals are to increase the level of awareness and to optimize the practice of prophylaxis in Occupational Health, within the limits of the current legislation, in order to improve both the medical process in our domain and the level of health of employees.

MATERIALS AND METHODS
Data collected during the past 11 years, regarding the number of employees, number of new cases of Occupational disease and Occupational exposure has been used:

- the number of employees in the county of Arad;
- the number of newly reported cases of Occupational diseases, classified by the type of disease;
- occupational exposure measurements performed in the past 11 years, that have shown excesses in the Weighted Mean Concentration/ 8 hours (WMC/ 8 h);
- the number of admissions due to diagnosed occupational diseases and occupation-related disease, during the past 11 years, in the Clinical Department of Occupational Health;

RESULTS AND DISCUSSIONS
We can observe that the total number of workers exposed to toxic emissions has been of a constant level during the period of the study. (Table I). However, we can also observe that the number of workers exposed to dusts, other than free crystalline silica dioxide, as well as the number of workers exposed to organic solvents and irritating gases has risen. We can also notice a rise in the number of excesses regarding the Weighted Mean Concentration/ 8 hours.

Table 1. Number of employees exposed to occupational emissions, in Arad County, during 2001-2011

<table>
<thead>
<tr>
<th>Nr.</th>
<th>Year</th>
<th>Number of employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2001</td>
<td>123 578</td>
</tr>
<tr>
<td>2</td>
<td>2002</td>
<td>124 688</td>
</tr>
<tr>
<td>3</td>
<td>2003</td>
<td>129 710</td>
</tr>
</tbody>
</table>

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Article received: April 2011; published: July 2011
The number of signaled and reported new cases of occupational diseases in the period of study has fallen since 2001. The number of admissions of patients suffering from occupational disease and occupation related diseases in the Clinical Department of Occupational Health has remained at a constant level.

### Table 3. Newly reported cases of Occupational diseases and number of Occupational Health Clinic in Arad County, during the period of the study (2001-2011)

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Occupation Health clinics</th>
<th>Number of newly reported cases of Occupational diseases</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>1</td>
<td>52</td>
</tr>
<tr>
<td>2002</td>
<td>1</td>
<td>26</td>
</tr>
<tr>
<td>2003</td>
<td>11</td>
<td>17</td>
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<tr>
<td>2004</td>
<td>17</td>
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<td>2005</td>
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<td>2006</td>
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<td>2007</td>
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<td>2008</td>
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<tr>
<td>2009</td>
<td>32</td>
<td>31</td>
</tr>
<tr>
<td>2010</td>
<td>35</td>
<td>45</td>
</tr>
<tr>
<td>2011</td>
<td>37</td>
<td>32</td>
</tr>
</tbody>
</table>
Among the total number of newly reported Occupational diseases, the greatest percentage is detained by Occupational respiratory diseases.

Most of the cases regarding possible Occupational Health diseases have been signaled by family doctors or by doctors of a specialty other than Occupation Health, despite the significant increase in the number of Occupational Health Clinics as well as the number of ambulatory Occupational Health specialists, since 2001.

Medical Doctors, regardless of their specialty, have the obligation to signal and report to the Occupational Health Department/Clinic any suspicion of Occupational disease, as stated in H.G. 955/2010. This especially concerns Occupational Health doctors.

The existence of a certain hazard in a working environment does not necessarily mean exceeding the maximum allowable Weighted Mean Concentration, what it implies is the presence of certain emissions in the working environment.

We might hence ask ourselves why certain workers develop a certain Occupational disease, whilst others do not, despite working in the same environment. The answer to this question lies in the individual susceptibility of a particular worker, that is represented by a certain genetic conformation that predisposes the individual to a certain category of diseases.

Currently, the number of workers exposed to free crystalline silica dioxide has fallen, yet the possibility of developing silicosis for those with a prolonged exposure to silicosis inducing dusts has not diminished.

The paradoxical situation we are currently facing due to the relatively constant number of workers exposed to emissions, the rising number of Occupational Health Clinics, and the small number of newly reported cases of Occupational diseases raises numerous questions regarding the quality and efficiency of the periodic health assessments.

The possible causes of this situation could be represented by the lack of knowledge of Occupational diseases, disobedience regarding the current laws or the direct contractual relationship between the Occupational Health physician and the employer.

CONCLUSIONS

The new hazards to which the workers in Arad County are exposed is not reflected in the Occupational pathology reported in the last years, leading to the accentuation of a state of underreported Occupational diseases.

It is of paramount importance that that all Occupational Health practitioners respect the current law regarding both the way periodic health assessments are performed and the way Occupational disease are reported.

REFERENCES