

2. ABSTRACT

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Degree programme: Laboratory diagnostics in healthcare

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Title of bachelor thesis: *Legionella*

The bachelor's thesis deals with the issue of the bacterial genus *Legionella sp.*, especially its laboratory diagnostics from the water. The purpose of this work is to summarise so far known facts and a description of the methods practiced the standard laboratory practice. Then, a statistical evaluation of the occurrence of legionella in the Vysočina Region, the South Moravian Region, the Olomouc Region, the Zlín Region and the Moravian-Silesian Region from 2012 to 2022 based on information provided by the State Health Institute located in Ostrava.

There we specific mediums used for cultivation, where special filters or a small volume of water were applied. The cultivation was carried out for 7-14 days. The agglutination tests were used for the specific determination of the species.

The bacterial genus *Legionella* is characterized by its occurrence in the hot water pipes, in places with water stagnation, in air conditioners, especially in hospitals or recreational facilities. The cultivation of legionella is one of the most demanding. The colonies have a typical appearance of "ground glass". They have a solid edge and a white-gray color. The smell of the grown colonies can be described as sour, musty.

The evaluation of the provided data shows that the number of epidemiological investigations and the number of positive patients in the Czech Republic is increasing. Most often, these are men over 55 years old who use tobacco products.

Keywords: *Legionella sp.*, legionellosis, symptoms, incidence, experimental work, cultivation, agglutination, water samples, filtration, epidemiological investigation