

A STATEMENT

**Professor Dimcho Zahariev Ivanov, PhD,
University of Shumen "Bishop Konstantin Preslavski",
a member of the scientific jury by Order №P-109-334/06.08.2021 of the Rector of the
Medical University of Varna "Prof. Dr. Paraskev Stoyanov"**

About: procedure for awarding the educational and scientific degree "Doctor of Philosophy" under the doctoral program "Medical Biology", in the field of higher education 4. Natural Sciences, Mathematics and Informatics, professional field 4.3. Biological sciences, scientific specialty "Medical Biology", with candidate Assistant Tsonka Slavova Dimitrova

All necessary documents on the procedure are presented, according to the requirements of the Law for development of the academic staff in the Republic of Bulgaria and the Regulations for development of the academic staff in the Medical University of Varna "Prof. Dr. Paraskev Stoyanov".

Biographical data

Assistant Tsonka Slavova Dimitrova was born in 1972. She graduated with a master's degree in Biology, specialization in Plant Biotechnology at the University of Plovdiv "Paisii Hilendarski" in 2000. In 2016 she received a certificate for a recognized specialty "Medical Biology" from the Medical University of Varna "Prof. Dr. Paraskev Stoyanov". Since 2010 she has been working as an assistant at the Department of Biology, Faculty of Pharmacy at the Medical University of Varna "Prof. Dr. Paraskev Stoyanov". She is fluent in English and holds a category B driving license. She has registered accounts with ORCID and Google Scholar.

Relevance of the topic

The topic of the dissertation is relevant and socially significant, as wild mushrooms have been the subject of cooking for thousands of years and despite the accumulated knowledge and experience, poisoning with them remains a serious problem. In our country there is a lack of systematic research on the social epidemiology and early diagnosis of poisoning with wild mushrooms, as well as on the level of knowledge of different groups of the population about them and their use as food. Therefore, it is appropriate to prepare an analysis of cases of poisoning with wild mushrooms among the population in Varna District on the one hand, and on the other - a study of public awareness of wild mushrooms to improve prevention.

Brief description of the presented dissertation

The dissertation contains 146 pages and is illustrated with 17 tables, 71 figures and one appendix. The text is structured in 10 chapters: Introduction (1 page), Literature review (7 subchapters, 12 paragraphs and 40 pages), Purpose and tasks (1 page), Material and methods (2 subchapters, 5 paragraphs and 9 pages), Own results (5 subchapters and 41 pages), Discussion (4 subchapters and 24 pages), Conclusion (1 page), Inferences (1 page), References (19 pages), Contributions of the dissertation (1 page), Publications related to the dissertation (1 page), Appendix (3 pages).

Introduction. The summarized information, which is necessary for introduction to the topic of the dissertation, is presented in a clear and concise form. Special attention is paid to

the application of the interdisciplinary approach in the studies of mushrooms and their chemical composition.

Literature review. It gives an in-depth idea of the information known so far, which is necessary to justify the need for research in the dissertation. A place is given for a general characteristic of the wild mushrooms, after which a study of the available literature regarding the general characteristic of the poisonous mushrooms is included. Poisonings with wild mushrooms are considered. The modern laboratory diagnostics of poisonings with wild mushrooms is presented. Attention is paid to both treatment and prevention in order to avoid poisoning with wild mushrooms. At the end of the literature review, a critical evaluation of the literature on the problem circle is made.

I approve of the doctoral student's approach to focus the analysis of publications in the available literature mainly on the last few years (from the list of used literature it can be seen that these are the last 5 years), as the number of studies and publications in these areas is large and is constantly enriched.

Purpose and tasks. The purpose of the dissertation is well formulated. To achieve it, 5 tasks have been set. Their wording shows that the main points in the study are correctly identified and there is a clear concept for the successful achievement of the purpose. At the beginning of the research there is a clearly formulated working hypothesis, which is indicated after the definition of the purpose and tasks.

Material and methods. Appropriate objects and methods for their research have been selected, which is proved by the successfully achieved purpose and tasks. The clinical trial was conducted in two ways: retrospectively and prospectively. The retrospective study is based on data obtained in the period 1991 - 2015 in the Clinic for Intensive Care of Acute Poisoning and Toxic Allergies of the Military Medical Academy - Multi-profile hospital for active treatment - Varna. The prospective study was conducted in the same clinic. Two diagnostic tests were performed on each patient - a Meixner test and an enzyme-linked immunosorbent assay (ELISA). In order to establish the level of awareness of the population in Varna District about the edible and poisonous wild mushrooms and the main ways of using the edible wild mushrooms, a survey was conducted through a face-to-face interview through an anonymous survey. A significant number of respondents (100 men and 100 women) living in settlements on the territory of Varna District took part in the survey.

Own results. The results obtained in the course of the research are well systematized and illustrated. They show that the planned purpose and objectives have been fulfilled. The studied indicators are presented mainly graphically, and where necessary in tabular form. Bar charts are used, which are most suitable for presenting the results of the study. Various graphic design techniques have been applied in order to avoid uniformity, which I consider to be a good approach.

Discussion. The analysis of the results is presented systematically. Necessary comparisons have been made with other similar studies. Similar studies are only abroad, due to lack of data for this type of research in Bulgaria. This is not a disadvantage, but an advantage that shows the pioneering nature of research in our country.

Conclusion. In the framework of the present dissertation work, dedicated to a socially significant problem, some peculiarities are highlighted. They can be grouped into two groups: On the one hand, they are related to the dynamics of the social epidemiology of intoxications with wild mushrooms on the territory of Varna District. On the other hand, they are related to the level of awareness of the population about edible and poisonous wild mushrooms and the main ways of using edible wild mushrooms - mainly for food. Based on the comparison with other countries, such as Ukraine and Russia, made in the previous section, the weak application by the population in Varna District of the possibility to freeze mushrooms for later use and also as a means of treatment is noted here. A recommendation has been made for training to prevent poisoning with wild mushrooms.

Inferences. As a result of the study, 6 inferences were formulated. They show that the purpose and tasks set at the beginning of the study have been successfully completed. The working hypothesis formulated at the beginning of the study was confirmed, that the tested diagnostic methods can contribute to the improvement of early laboratory identification and timely treatment of poisoning with wild mushrooms, and the findings of the surveys - to improve the prevention of these socially significant intoxications.

References. The list of cited literature includes 219 titles, of which 13 in Cyrillic and 206 in Latin. The number of literature sources is perfectly suitable for a serious and at the same time balanced study. The literature used is modern and is almost entirely composed of publications from the last 5 years, which makes a very good impression.

Contributions of the dissertation. They are divided into two groups: original scientific and applied contributions and contributions of a confirmatory nature. The original scientific and applied contributions are 3 in number. They are related to the application of tests to detect the presence of fungal toxins. One of the methods can be applied in out-of-laboratory conditions, which makes it especially suitable for early diagnosis of mushroom poisoning. The contributions of a confirmatory nature are also 3 in number. They confirm the diverse use of edible wild mushrooms, but at the same time due to the continued intoxication with poisonous wild mushrooms, the need for effective prevention has been confirmed.

Publications related to the dissertation. The attached list contains 5 publications related to the topic of the dissertation. They are in 2 scientific journals and in a proceedings of a scientific conference on medicine. Three of the publications are in a journal that is indexed in the world-famous databases Scopus and Web of Science.

Appendix. It includes a questionnaire with 27 questions, used to conduct a survey on the level of public awareness about edible wild mushrooms and how to use them.

Evaluation of an abstract of the PhD thesis

The abstract of the dissertation is structured according to the accepted requirements and fully reflects the main points in the dissertation. It is written on 36 pages and is illustrated with 2 tables and 32 color figures.

Critical remarks, recommendations and questions

I recommend using the "territory of Varna District" everywhere in the text instead of "the territory of the Northern Black Sea Coast", which also includes part of Dobrich District. By default, all Latin names of the species and genera mentioned in the text must be in *Italic*.

Conclusion

The dissertation of Tsonka Slavova Dimitrova, the presented publications related to it and the abstract of the dissertation meet the criteria for awarding the educational and scientific degree "Doctor of Philosophy" of the Law for development of the academic staff in the Republic of Bulgaria and the Regulations for development of the academic staff in the Medical University of Varna "Prof. Dr. Paraskev Stoyanov". Therefore, I give a positive assessment and recommend to the members of the esteemed Scientific Jury to award Tsonka Slavova Dimitrova the educational and scientific degree "Doctor of Philosophy" in the field of higher education 4. Natural sciences, mathematics and informatics, professional field 4.3. Biological sciences, scientific specialty "Medical Biology".

Shumen
August 31, 2021

Member of the scientific jury:



(Professor Dimcho Ivanov, PhD)