

STATEMENT

By Assoc.prof. Dr. Miglena Asenova Kolarova - Dimitrova, MD, PhD

Department of Hygiene and Epidemiology

Faculty of Public Health, Medical University - Varna

Member of the Scientific Jury, according to the order of the Rector of the Medical University
- Varna with No.: R-109-505/10.12.2025

Regarding the defense of the Dissertation on **the Topic: "Efficacy of Influenza Vaccines in Preventing Morbidity Among Adults Over 80 Years of Age"**

For awarding the scientific and educational degree "**Doctor**" in the Field of Higher Education: 7. Health and Sports, Professional Field: 7.4 Public Health, Scientific Specialty: "Public Health Management" to candidate Pavel Mutter, doctoral student in independent (individual) doctoral studies at the Department of Social Medicine and Organization of Health Care, Faculty of Public Health, Medical University – Varna, enrolled by order No.: R-109-385/29.09.2022 .with Scientific Supervisor: Prof. Ts. Paunov, MD, PhD.

1. General presentation of the procedure and the doctoral student

The procedure documents provided by the doctoral student are in compliance with the Law for Development of the Academic Staff of the Republic of Bulgaria (LDASRB), the Regulations for implementation of the Law for development of academic staff in the Republic of Bulgaria (RILDASRB), and the Rules for the Development of the Academic Staff at the Medical University Varna (RDAS-MU-Varna) regarding the procedure for acquiring the educational and scientific degree of "Doctor"

Brief biographical data Pavel Mutter Date and place of birth: 02/04/1977, Vitebsk Nationality: Jewish, Current residence: Israel

Education: BBA – 2001 Hadassah – Hebrew University School of Nursing

MSc Advanced Clinical Nursing – 2008 Hadassah – Hebrew University School of Nursing

Geriatric Nurse Practitioner – 01/2018 Hadassah – Hebrew University School of Nursing

The candidate reports the following professional and social skills: community and home healthcare services such as providing medical services and care to patients with chronic and acute conditions; explaining medications and their side effects to patients, family members, and caregivers; thorough review of physician-prescribed examinations; discussing care plans with patients; explaining test results and the correct use of medications.

The doctoral candidate is fluent in Russian, English, and Hebrew.

2. General characteristics of the dissertation

The dissertation developed by doctoral student Pavel Mutter consists of 87 pages and is illustrated with 12 figures and 3 tables. It includes the following chapters: Introduction, literature review, Aim and Objectives, Working Hypotheses, Materials and Methods, Results and Discussion, Conclusions, Contributions, Final Conclusion, and Published Articles.

The bibliography includes 154 references.

Relevance of the topic The present dissertation examines the effectiveness of influenza vaccination in individuals aged ≥ 80 years with dementia, by analyzing the relationship between immunization status, morbidity, hospitalization rates, and the need for medication.

With increasing life expectancy, a growing number of people are reaching advanced ages, particularly over 85 years. With advancing age, individuals become more vulnerable to chronic diseases such as cardiovascular diseases, cancer, diabetes mellitus, and neurodegenerative diseases such as Alzheimer's disease and dementia, often accompanied by nutritional disorders, functional limitations, and an increased need for multiple medications.

However, the healthcare system in Israel is relatively advanced, and the elderly population generally has access to high-quality medical care.

All citizens and residents of Israel are covered by the national health insurance system for medical treatments, including those related to dementia and Alzheimer's disease.

One of the serious threats to the health of patients with dementia is the risk of infections, including those caused by influenza viruses. Seasonal influenza is a leading cause of mortality among adults over 65 years of age, due to complications such as pneumonia, which can be prevented through immunization. Influenza vaccines provide effective protection in preventing influenza complications during the winter season among large populations, which in turn reduces hospitalization days and decreases the burden on the healthcare system, while simultaneously increasing life expectancy. Influenza vaccination in elderly patients with dementia represents an important element of public health strategies. However, assessing its effectiveness requires a complex approach, taking into account the biological characteristics of aging, comorbidities, and socio-medical factors influencing health outcomes.

The **literature review** is focused, comprehensive, and well structured. The doctoral student demonstrates the ability to critically evaluate, summarize, systematize, and interpret scientific literature.

The **aim** of the dissertation is clearly and precisely defined. The five tasks are well formulated and meet the stated aim.

Methods The research methodology used allows the achievement of the stated aim and provides adequate answers to the objectives addressed in the dissertation.

A total of 2396 participants were included in the study, selected according to a number of inclusion and exclusion criteria. Patients with dementia were followed over the last five years (2018–2023). The main dependent variables in this study include various background diseases and severe dementia. The main independent variable in the study is influenza vaccination, comparing patients who received influenza vaccination with those who did not.

For statistical analysis, the SPSS statistical method, version 27, was used. Kruskal Wallis tests were also used for each outcome separately (morbidity, diseases and hospitalizations).

Permissions for conducting the study were obtained from Kupat Holim Meuhedet Home Care, the Helsinki Committee, and the Ethics Committee.

Results and Discussion

The presentation of the results follows the objectives set in the dissertation.

The obtained results emphasize the complex nature of evaluating the effectiveness of influenza vaccination in very elderly patients with dementia.

Impaired immunity, multiple comorbidities, and differences in health status have a significant impact on clinical outcomes and may modify the observed effect of immunization. This partly explains the discrepancies between some indicators and the data reported in the international scientific literature.

3. Evaluation of the dissertation and its contributions

The dissertation is well structured and includes all necessary components required for a doctoral thesis. The literature review is detailed, and the objectives correspond well to the stated aim. The results are presented clearly using graphs and tables. In discussing the obtained results, the doctoral student successfully compares the findings with those reported in the scientific literature. The stated contributions correspond to the aim and objectives and logically follow from the results and statistical analysis. They are well justified and can be categorized as: Theoretical, Methodological, Scientific-applied, Practical-applied.

The doctoral candidate has submitted two scientific publications related to the dissertation topic.

CONCLUSION

The dissertation meets the requirements of the Act on the Development of the Academic Staff in the Republic of Bulgaria. The work is presented in a complete and finalized form.

The content of the dissertation is legitimate, thoroughly developed, and well illustrated.

I give a positive evaluation of the dissertation entitled "Efficacy of Influenza Vaccines in Preventing Morbidity Among Adults Over 80 Years of Age" and vote in favor of awarding Pavel Mutter the scientific and educational degree "**Doctor**" in the Field of Higher Education: 7. Health and Sports, Professional Field: 7.4 Public Health, Scientific Specialty: "Public Health Management."

09.03.2026

Varna

Prepared the statement:

Assoc.prof. Dr. Miglena Asenova Kolarova - Dimitrova, MD, PhD /

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