

SCIENTIFIC STATEMENT

By

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**Appointed member of the Scientific Jury, according to Document P- 109- 37/ 25.01.2023
of the Rector of Medical University Varna**

**On dissertation thesis for obtaining scientific and academic degree
"Philosophy Doctor"**

"PROFESSIONAL PREDISPOSITION IN ASYMPTOMATIC STROKE"

**authored by Dr. Vladina Miroslavova Dimitrova- Kirilova,
fulltime PhD student in Department of Optometry and Occupational Diseases,
Medical University of Varna**

Dr. Dimitrova's thesis is 122 pages long, 507 papers are included in the literature review, 10 of them by leading Bulgarian experts and 497 by foreign authors. Most of the reviewed sources (60%) are published during the last decade.

The thesis is illustrated with 17 tables, 21 figures and 5 applications. Statistical analysis is made using the most up to date statistical instruments like SPSS v 25 и Jamovi 2.2.0.

Cerebrovascular diseases are of great social significance and one of the major contributors to quality of life decline, disability and death in general, but also in working population.

In mid- income countries mean age for stroke realization is 15 years lower than in developed ones, affecting also working population, and leading to negative socioeconomic impact. Silent cerebrovascular disease is significantly more common than stroke, and is also a major threat for general population health. Assessing the influence of professional factors on the development of silent cerebrovascular disease is very important, due to their integral part of working life, long term effects and high intensity.

The thesis has a clearly defined research aim, namely to study the role of the professional factors in the development of asymptomatic ischemic disturbances of brain hemodynamics in working age. Six research goals and five working hypotheses are logically formulated.

A total of 151 patients were included in the study, divided into two groups. First group comprised of 41 patients with risk factors, but without history or clinical evidences of stroke or TIA, with MRI data suggestive of lacunar strokes, micro hemorrhages or brain atrophy. The second group comprised of 110 patients with risk factors, but without history, clinical nor MRI data of stroke or TIA.

All the patients underwent detailed professional and risk factor history assessment, clinical, laboratory and MRI investigations. The following rating scales were performed: The Workplace Stress Scale (WSS), Montreal Cognitive Assessment Test (MoCA), Patient Health Questionnaire- 9 (PHQ-9) to assess depression severity.

The results obtained were analysed and clearly demonstrated in tables and graphics.

Patient`s demographic and general data did not differ statistically between groups with exception of mean age, higher in MRI changes group.

The presence of arterial hypertension, diabetes mellitus and ischemic heart disease correlated with MRI changes and determine higher risk.

There was a correlation between MRI lesions and the longer duration of employment, longer working week, position and work in the open. Compared to duration of employment of 10- 20 years, those with 20- 30 and 30- 40 years had higher risk for MRI changes. Working week of more than 55 hours significantly increased the risk for asymptomatic MRI lesions. The arterial hypertension correlated with most of the professional factors.

The MRI lesions correlated statistically with the presence in the working environment of organic solvents, gases, noise and vibrations, as well as with significantly higher values of WSS.

MoCA results did not differ statistically between groups.

The most important results of the study are summarized and eight general conclusions are drawn.

Also eight contributions are defined, four with original and four with confirming character, all of them fully acceptable.

Dr. Dimitrova`s study, in my opinion, contributes to both scientific and clinical aspects of the problems discussed.

The abstract of the dissertation is structured according to institutional requirements, corresponded exactly to the main study and is illustrated with ten tables, sixteen figures and five applications.

As a remark I would like to specify the following: the list of Bulgarian studies and authors cited could be substantially enlarged. Also, the development of a specific questionnaire card for study purposes could be pointed out as a contribution.

In conclusion, I find Dr. Dimitrova`s thesis to treat a question of important current interest, interdisciplinary oriented, well structured, and well written. The aim of the study was clearly defined and accomplished. The conclusions directly correspond to the aim and purposes and are useful for clinical practice in both professional diseases and neurology.

All mentioned above gives me the grounds to appeal that the members of the Honorable Jury stand in support of awarding the research doctoral degree Philosophy Doctor to Dr. Vladina Dimitrova- Kirilova.

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Signed:

