



Statement

By Prof. Dr. Mariela Geneva-Popova, Phd

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Regarding the defense of a dissertation work for the acquisition of a scientific degree "Doctor of Sciences"

professional field Medicine

doctoral program in Rheumatology

Author: Prof. Dr. Stoyanka Georgieva Vladeva, Phd on the topic: "CURRENT ASPECTS OF THE OSTEOPOROSIS FRACTURE RISK"

The presented set of materials on paper and electronic media is in accordance with the LDASRB, with its rules of application, with the Rules of MU-Plovdiv for the acquisition of the scientific degree Doctor of Sciences. The applicant has attached all the necessary documents.

**1. Presentation of the candidate**

Prof. Dr. Stoyanka Vladeva obtained a master's degree in medicine at the Medical University of Plovdiv in 1987. She defended her doctorate in rheumatology at IMPC, Medical Academy, Sofia in 1996. She holds the academic positions of Chief Assistant in Internal Medicine - since 1998, Associate Professor of Rheumatology - since 2012 and Professor of Rheumatology - since 2014 at the Faculty of Medicine, Thrace University, Stara Zagora. Prof. Vladeva acquired three clinical specialties - internal medicine /1998/, rheumatology /2003/ and cardiology /2021/. She has a long-standing ambulatory rheumatology practice, was Head of the Second Internal Clinic

/2012/, Head of the Rheumatology Clinic /2013/ of UMBAL "Prof. Dr. Stoyan Kirkovich" Stara Zagora. She achieved a number of international qualifications which include a postgraduate course in joint ultrasound, DEXA and REMS-osteodensitometry. Prof. Vladeva is a proven leading national scientist and specialist in the field of rheumatology, with many qualities and a marked interest in osteoporosis, which is the subject of the dissertation submitted for review. From 2000 until now, he has been working on the problem of osteoporosis with observation of a large dispensary group of patients. Prof. Vladeva has been the Chairman of the Association "Stara Zagora against Osteoporosis" since 2001 and the Director of one of the 54 National Osteoporosis Centers. With her participation, the Bulgarian FRAX model was created, which can be successfully used both by every Bulgarian citizen and by modern medical science for the purpose of important summaries of health, the need for prevention and treatment of osteoporosis.

## **2. Actuality of the topic and appropriateness of the set goals and tasks**

The topic of the dissertation "Actual aspects of the osteoporosis fracture risk" is modern in both theoretical and practical aspects. It meets the scientific interests and the need for research in this area of rheumatology, having an interdisciplinary character. Currently, new data and evidence are needed for the bone health of Bulgarians - BMD, FRAX, ethnic details and application of innovative diagnostic tools.

## **3. Knowing the problem**

I believe that the many years of academic and clinical experience allow Prof. Vladeva to cover in a large-scale study the core of the osteoporosis problem, namely the fracture risk and its aspects. This determines the high quality of the carried out scientific work.

## **4. Research methodology**

The methods used correspond to the set goal and the tasks. They are original and do not repeat the research from Prof. Vladeva's previous dissertation. Corresponding statistical analyzes were made and the data were correctly interpreted and well illustrated in tables and graphs. A reliable statistical program (SPSS software, vs.19) was used for statistical processing.

#### **5. Characterization and evaluation of the dissertation work**

The literature review is comprehensive and thorough, covering 44 pages and 255 literary sources. The chapter "Clinical material and methods" is written on 13 pages. The DEXA osteodensitometries of 12,478 individuals were described, 12,119 were women (10,420 women aged 50 years or older and 1699 women younger than 50 years) and 359 were men. Osteodensitometry of the axial skeleton was also done prospectively in 324 women with the innovative REMS technology. For these patients, they were examined with an additional innovative method as part of the modern evaluation of bone qualities in the definition of osteoporosis. The results of the discussion are presented on 62 pages. The obtained results are compared with the studies published so far and are critically discussed with previous studies. Conclusions and contributions are described precisely and briefly. Prof. Vladeva applies in clinical practice for the first time in Bulgaria the innovative methodology for assessing the index of bone fragility with REMS axial osteodensitometry.

#### **6. Contributions and significance of the development for science and practice**

The defined contributions have both a theoretical and a markedly scientifically applied nature in the clinical medical practice of such an interdisciplinary associated health problem as osteoporosis. The significance of this largest national epidemiological population study on BMD and fracture risk among the Bulgarian population is indisputable. For the first time, the ethnic characteristics of BMD in Bulgaria are assessed. This new direction marks the beginning of the

global trend in our country to search for the cause of the spread of osteoporosis in this aspect. In the conditions of a general financial deficit of health care, the determination of bone fragility with an accessible, accurate and reliable method such as REMS can serve in the daily clinical practice of all osteoporosis specialists.

#### **7. Evaluation of publications on the dissertation work**

The total number of published articles and reports is 37. The full-text 12 publications are in journals from global databases, 10 full-text articles in national peer-reviewed journals. Two of the articles have been accepted for publication. The scientific reports presented at world forums are also published in prestigious journals with an impact factor. The total number of citations is 27, of which 10 are in journals in global databases.

#### **8. Abstract**

The abstract is written on 67 pages with 8 tables and 22 figures. It has been prepared in accordance with the requirements of the rules of the MU Plovdiv, reflecting the dissertation studies, results and conclusions.

#### **9. Critical remarks and recommendations**

Prof. Vladeva has designed her scientific work extremely precisely and has presented the results and conclusions of her research in an accessible way. I have no critical comments on the reviewed procedural documents.

### **CONCLUSION**

The presented dissertation has a significant scientific contribution, it contains scientific and applied results that represent an original contribution to science. Due to the qualities of the work, the observed requirements of the LDASRB and the Rules for its application with the minimum

requirements, as well as the criteria of the Regulation of the MU Plovdiv for the acquisition of the scientific degrees, I give my positive statement and propose to the Scientific Jury to award a scientific degree "Doctor of Sciences" in doctoral program "Rheumatology" in professional direction 7.1. Medicine of Prof. Dr. Stoyanka Vladeva.

19.12.2023

Prepared the statement:

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