ACADEMIC STATEMENT

by Prof. Margarita Stefanova Velikova, MD, PhD
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By Order No. 131/11.01.2024 of the Rector of Medical University - Plovdiv, I have been appointed as a member of the Scientific Jury, and at a meeting of the Scientific Jury, I have been assigned to prepare an opinion on the dissertation work of Dr. Veselin Atanasov Vassilev, a self-prepared doctoral student in the Department of Physiology, Faculty of Medicine, Medical University - Plovdiv, for the award of the educational and scientific degree of "Doctor" in the doctoral program "Human Physiology."

Thesis title: "Influence of Selective Androgen Receptor Modulators (SARMs) on Physical Working Capacity and Some Side Effects in an Experimental Model."

Research Supervisor: Prof. Dr. Nikolay Boyadzhiev, Medical University - Plovdiv.

Biographical data

Dr. Veselin Atanasov Vassilev graduated in medicine from the Medical University of Plovdiv in 2018. In 2019, following a successful competition, he was appointed as an assistant in the Department of Physiology.

Relevance of the topic

Dr. Veselin Vassilev's dissertation work explores an interesting and significant scientific topic related to the study of the influence of non-steroidal substances from the group of Selective Androgen Receptor Modulators (SARMs) on the body when combined with exercise. SARMs are anabolic compounds that show promise as an alternative therapy for some socially significant diseases. The ability of SARMs to enhance the body's physical capacity has led to increasing use by athletes, despite the lack of an officially approved medication and the not fully understood adverse effects. The topic is relevant due to the possibility of supplementing the missing literature data on the effects of the non-steroidal group of SARMs when combined with exercise and establishing some of their side effects during prolonged use.

Structure of the dissertation work

The dissertation work comprises 174 pages and includes: introduction - 1 page, literature review - 28 pages; aim and objectives - 1 page; materials and methods - 8 pages; results and discussion

- 92 pages, of which 75 pages with results, and 17 pages with discussion; conclusions and contributions - 3 pages; bibliography - 31 pages. The bibliography contains 256 literary sources, of which 65 (25%) were published in the last 5 years.

Evaluation of the dissertation work

Literature review

Dr. Vassilev presents a literature review in which the structure, mechanisms of action, and effects on the body of non-steroidal selective androgen receptor modulators are competently and thoroughly examined. Alongside literature data on SARMs' favorable effects on tissues and organs of the human body, making them potential therapeutic agents, special attention is given to the adverse effects accompanying their use.

Aim and objectives, Methods

The aim and objectives are formulated precisely and clearly. The methods used are well chosen to achieve the research goal. The effects of non-steroidal SARMs, exercise, and their combination are thoroughly examined through the investigation of a large number of functional, hematological, morphological, and clinical-chemical indicators in rats. Energy expenditure and gene expression of myostatin, IGF-1, and VEGF-A in m. gastrocnemius are also studied.

Results, Discussion, Conclusions, Contributions

The results are presented informatively, comprehensively, and illustrated with 88 figures and 51 tables. Data on the effects of exercise alone or in combination with the administered substances (ostarine and ligandrol) are competently discussed. The obtained results are interesting and of scientific and practical value. The formulated conclusions are justified, and logical, and adequately summarize the obtained results. I accept the stated 5 scientific contributions. Of particular significance is the established influence of non-steroidal SARMs on certain indicators of physical working capacity in rats. New data on some adverse effects of SARMs on the lipid and hormonal profile of rats are provided, as well as their impact on carbohydrate metabolism and the expression of myostatin and VEGF-A in m. gastrocnemius.
The abstract accurately and faithfully reflects the entire dissertation work.

Publications related to the dissertation work

The results of the research have been published in 5 full-text articles and presented as 5 scientific communications at Bulgarian and international forums.

CONCLUSION

The dissertation work demonstrates an in-depth theoretical preparation of the doctoral candidate, competence in the utilization of research methods, presentation of the obtained results, and their interpretation. New data with scientific applied value have been obtained, enriching the information on the effects of non-steroidal SARMs in the body when combined with exercise.

I give a *positive assessment* and recommend to the Scientific Jury to confer the educational and scientific degree of "Doctor" upon Dr. Veselin Atanasov Vassilev in the doctoral program "Human Physiology.

5.03.2024 Prof. Margarita Stefanova Velikova, MD, PhD