

## OPINION

by Assoc. Prof. Daniela Dimitrova Kafalova, PhD

on a dissertation submitted for the award of the educational and scientific degree  
“Doctor”

Professional field 7.3 Pharmacy

Doctoral program: Pharmacoeconomics and Pharmaceutical Regulation

Author: MPharm Lada Aleksandrova Andreeva

Form of doctoral study: Independent study

Department: Organization and Economics of Pharmacy

Dissertation title: Study on the potential of pharmaceutical care for improving the therapeutic outcomes and preventing complications in patients with ankylosing spondylitis

Scientific supervisor: Assoc. Prof. Anna Todorova, PhD

### 1. General presentation of the procedure and the doctoral candidate

The submitted set of materials in electronic format complies with the section on the acquisition of the educational and scientific degree “Doctor” and the scientific degree “Doctor of Sciences” at Medical University of Varna; the regulations of Medical University of Varna, and includes a complete set of documents:

The doctoral candidate has submitted 5 publications, one of which is in a journal with an impact factor.

Lada Aleksandrova Andreeva graduated with a Master’s degree in Pharmacy from Medical University of Sofia in 2007, with excellent results and as a recipient of the “Golden Galen” award (2007).

Since 2023, Lada Andreeva has been an assistant at Ruse University Angel Kanchev, Faculty of Public Health and Health Care. Since 2024, she has been a PhD student at the Department of Organization and Economics of Pharmacy.

Lada Andreeva has extensive experience and professional practice in community pharmacies.

### 2. Relevance of the research topic

The topic of the dissertation is “ Study on the potential of pharmaceutical care for improving the therapeutic outcomes and preventing complications in patients with

ankylosing spondylitis.” The relevance of this topic is related to the growing importance of chronic inflammatory diseases and the need for a multidisciplinary approach to their treatment.

Ankylosing spondylitis is a chronic, progressive disease from the group of spondyloarthritides, which mainly affects young people and leads to a significant deterioration in quality of life, functional disability, and socio-economic consequences. Despite advances in therapy, including the use of biological medicinal products, there are still challenges related to optimal disease control, treatment adherence, and the prevention of complications.

In this context, pharmaceutical care is gaining increasing importance as part of the modern patient-centered approach. The pharmacist plays a key role in monitoring pharmacotherapy, identifying and preventing drug interactions, adverse drug reactions, and problems related to the improper use of medicinal products. Through active participation in patient education and increasing patient awareness, pharmaceutical care can improve therapeutic adherence and reduce the risk of complications.

Furthermore, the significance of the topic is reinforced by the need to optimize healthcare costs, as improper treatment and lack of disease control lead to frequent hospitalizations and additional medical interventions. The effective implementation of pharmaceutical care can contribute to better clinical outcomes and a more rational use of resources within the healthcare system.

Therefore, I consider that studying on the potential of pharmaceutical care for improving the therapeutic outcomes and preventing complications in patients with ankylosing spondylitis is both relevant and necessary, as it has the potential to improve patients' quality of life, reduce the frequency of complications, and support the sustainable development of healthcare.

The aim is to explore pharmacists' attitudes and competencies in providing pharmaceutical care for patients with ankylosing spondylitis and to analyze the potential for integrating the pharmacist into the multidisciplinary approach to prevent complications and optimize therapeutic outcomes.

To achieve the objective, the following tasks have been set:

- 2.1. To examine and analyze pharmacists' attitudes and barriers, as well as their educational needs, regarding the provision of PC for patients with AS.
- To develop algorithms for screening individuals at risk and for providing PC to patients diagnosed with AS.
- To examine and analyze the demographic and medico-social characteristics, health-behavioral habits, and the applied pharmacological and non-pharmacological therapy among patients with AS in the Ruse region.
- To investigate disease activity in patients with AS and the factors influencing it.

- To assess health-related quality of life, the factors influencing it, and its relationship with disease activity in patients with AS.

### 3. Knowledge of the research problem

The literature review is comprehensive and demonstrates strong knowledge and critical thinking.

The literature review is contemporary and presented in three sections, which sequentially provide information on the nature and characteristics of the disease ankylosing spondylitis, therapeutic approaches, and good pharmaceutical practice.

The extensive and in-depth review demonstrates that the doctoral candidate is well acquainted with the issues addressed in the dissertation. It also reflects the author's personal viewpoint and critical attitude toward the problems discussed, thereby providing the necessary arguments for defining the objective and selecting the tasks of the dissertation.

### 4. Research methodology

The methodology has been appropriately selected, is multifaceted, and corresponds to the stated aims and objectives. A comprehensive approach was employed, with suitable and scientifically grounded methods selected for each task, described precisely and thoroughly.

The application of the methodology in a logical sequence allows for the full achievement of the dissertation's aim and the completion of its objectives, while also creating the conditions for obtaining reliable and valid results.

A comprehensive scientific approach was used, including:

- document analysis;
- sociological methods (questionnaires and interviews);
- statistical analysis using modern methods and software (SPSS).

The study covers two key groups—pharmacists and patients—which allows for a comprehensive view of the problem. The sample sizes and the validated instruments used (BASDAI, EQ-5D-5L, MMAS-8) demonstrate scientific rigor and the reliability of the results.

### 5. Evaluation and contributions

The dissertation consists of 145 pages and is illustrated with 38 tables and 4 figures. A total of 254 contemporary literature sources have been cited.

The obtained results have both theoretical and practical value:

- Gaps in pharmacists' knowledge and confidence regarding ankylosing spondylitis and pharmaceutical care have been identified;
- Key barriers have been determined—lack of time, training, and organizational conditions;
- A relationship between therapy adherence and clinical outcomes in patients has been demonstrated;
- Algorithms for pharmaceutical care and screening applicable in pharmacy practice have been developed.

The results are well analyzed and interpreted, leading to practically applicable conclusions.

The citations are presented correctly and appropriately, in accordance with the stated aims and objectives of the dissertation.

The dissertation contains clearly defined contributions, which can be summarized in the following areas:

As a result of the conducted studies and analyses within the dissertation, the following contributions were outlined:

#### 1. Scientific-theoretical

1.1. The study enriches theoretical knowledge about the pharmacist's role in early recognition and comprehensive care for patients with ankylosing spondylitis by identifying specific knowledge gaps and factors influencing professional preparedness;

1.2. For the first time on a regional scale, a comprehensive characterisation of patients with ankylosing spondylitis has been performed, including socio-demographic profile, comorbidities, health-behaviour habits, types of therapies used, disease activity, quality of life, and degree of adherence to drug therapy;

1.3. Key associations between modifiable health-behaviour factors (smoking, physical activity, sleep) and disease activity have been demonstrated, contributing to deeper understanding and control of the clinical course of the disease.

#### 2. Scientific-practical

2.1. Practical algorithms, a screening checklist, and training materials were developed, addressing the identified educational and practical needs of the surveyed pharmacists, supporting pharmacists in real community-pharmacy practice in early referral to a rheumatology specialist and in providing PC for AS patients;

2.2. Factors of practical importance for controlling disease activity were identified, enabling targeted and individualised care;

2.3. A high risk of low adherence to prescribed therapy was established and the role of educational programmes for improving patient compliance was highlighted;

2.4. Arguments were formulated in support of the pharmacist's active participation in comprehensive care for AS patients.

## 6. Publications

The PhD candidate has presented 5 publications, one of which has an impact factor (IF). She has also participated in 3 international conferences.

## 7. Abstract

The dissertation contains scientific, scientific-applied, and applied results that represent an original contribution to science and meet all the requirements of the Law on the Development of the Academic Staff in the Republic of Bulgaria (LDASRB), the Regulations for its implementation, and the regulations of Medical University of Varna. The submitted materials and dissertation results fully comply with the specific requirements adopted in accordance with the regulations of Medical University of Varna for the implementation of the LDASRB.

The dissertation demonstrates that the PhD candidate, Lada Aleksandrova Andreeva, possesses in-depth theoretical knowledge and professional skills in the scientific specialty of Pharmacoeconomics and Pharmaceutical Regulation, and shows the ability to independently conduct scientific research.

Based on the above, I confidently give my positive evaluation of the conducted research presented in the dissertation, the abstract, the achieved results, and the contributions, and I propose that the esteemed scientific jury award the educational and scientific degree of "Doctor" to Lada Aleksandrova Andreeva in the doctoral program in Pharmacoeconomics and Pharmaceutical Regulation.

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