



Fund “Nauka” Project № 22019 Resume – Competition-Based Session 2022:
“Rational pharmacotherapy in the context of pharmaceutical care in patients with joint diseases”

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The aim of the project is to evaluate the rationality of pharmacotherapy in patients with joint diseases and the role of the pharmacist in improving their quality of life through the application of individualized pharmaceutical care.

Tasks to achieve the goal:

1. Analysis of established international practices for the provision of specialized pharmaceutical care (PG) for patients with joint diseases.
2. Monitoring the rationality of drug therapy (improper use, potential incompatibilities and interactions between different drugs, ADRs and other drug-related problems).
3. Evaluation of the quality of life of the examined patients with joint diseases.
4. Development of an algorithm for providing individualized PG to patients with joint diseases.
5. Evaluation of the impact of the applied PG by evaluation and analysis of the quality of life of the examined patients before and after the introduction of the algorithm.

Materials and methods: The study will be conducted in pharmacies in the city of Varna with the help of an anonymous survey – a structured questionnaire that allows a comprehensive assessment of the therapy and assessment of the quality of life with validated tools EQ-5Q-5D and EQ-Visual Analogue Scale [VAS].

Expected results:

1. Internationally, there are established standards for PG in patients with joint diseases, which can be adapted for Bulgaria.
2. Identification of the main drug-related problems, areas of irrational use of drugs and factors for reduced quality of life in patients with joint diseases.
3. As a result of the individualized PG, the safety and efficiency of the therapy as well as the quality of life of the patients are improved.
4. The developed algorithm for PG in joint diseases is applicable to the needs of pharmacy practice.

Achieved results:

The results of the project fully correspond to the initially formulated objective—to evaluate the rationality of pharmacotherapy in patients with joint diseases and to examine the role of the pharmacist in improving their quality of life through the provision of individualized pharmaceutical care. An in-depth analysis of international best practices (CPhA, PCNE, EULAR/OARSI) was conducted, forming the theoretical foundation for adapting

contemporary models of pharmaceutical care to the context of the Bulgarian healthcare system. Through structured questionnaires and a comprehensive pharmacotherapy assessment, key medication-related problems were identified in patients over 60 years of age, including improper use of medicinal products, drug interactions, therapeutic duplications, risks associated with NSAID use, and adverse drug reactions.

Patients' quality of life was evaluated using the validated EQ-5D-5L and EQ-VAS instruments, enabling objective monitoring of clinical outcomes before and after the provision of pharmaceutical care. Based on the collected data, an algorithm for individualized pharmaceutical care was developed. It is applicable in real pharmacy practice and aims to optimize pharmacotherapy, enhance pharmacotherapeutic monitoring, and improve pharmacist–patient–physician communication. Implementation of the algorithm is expected to improve treatment safety and effectiveness, as well as the quality of life of patients with joint diseases, confirming the validity of the project hypothesis and the successful fulfillment of all research objectives.

The project yields both theoretical and applied contributions. The systematization of international practices and the substantiation of the need for an individualized approach for patients with chronic joint diseases expand scientific knowledge in the field of pharmaceutical care. The developed conceptual model for assessing pharmacotherapeutic rationality, together with the pharmaceutical care algorithm, provides practical tools for application in pharmacy practice. These tools will help reduce therapeutic errors, limit irrational NSAID use, and achieve greater treatment effectiveness and improved compliance.

The scientific and practical significance of the results forms a solid basis for future research in clinical pharmacy, pharmacoepidemiology, and rational pharmacotherapy. The project is fully aligned with Institutional Priority 5 of MU–Varna (“Prevention, disease management and health systems management”), offering innovative solutions for improving pharmacotherapy in joint diseases, supporting the development of clinical pharmacy, and creating prerequisites for integrating electronic tools (eHealth) for monitoring and optimizing pharmacotherapy.