

OPINION

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REGARDING: dissertation work for acquisition of the educational and scientific degree "Doctor" in scientific area 7 Healthcare and sports, professional direction 7.1. Medicine, in specialty "Physiotherapy, resort science and rehabilitation", prepared by Dr. Denitsa Grozdeva – a PhD student at the Department of Physiotherapy, Rehabilitation and Thalassotherapy. Faculty of Public Health, Medical University "Prof. Dr Paraskev Stoyanov" – Varna.

Dissertation topic: **"Quality of life and rehabilitation in patients with total hip replacement"**

Basis for drawing up the opinion: By order of the Rector of MU-Varna № P-109-234/11.04.2023 r. I am determined to participate with an opinion on the defense of Dr. Grozdeva.

1.Characteristic and evaluation of the content of the dissertation.

Significance and relevance of the research topic. The dissertation work of Dr. Denitsa Nedelcheva Grozdeva is dedicated to a topical issue regarding the Quality of life changes after total hip replacement rehabilitation. In the last decade, hip arthroplasty has seen growth, which is related on the one hand to the increased length of human life, and on the other to the new possibilities offered by modern orthopedic implantology. For full postoperative recovery and return to the usual activities and functioning in everyday life and the social environment, the correct setting of the individual rehabilitation program is of primary importance. Adequate and timely rehabilitation is a guarantee of success and achieving a significant improvement in the quality of life of total hip replacement patients. It is for this reason that the topic of Dr. Grozdeva's dissertation work, "Rehabilitation and quality of life in patients with hip arthroplasty" is significant and relevant.

In the dissertation work of Dr Grozdeva is conducted a comparative analysis and evaluation of the effects of post-operative rehabilitation in terms of the change in the quality of life in hip arthroplasty patients who underwent an individual rehabilitation program. An in-depth analysis of the rehabilitation approach to patients who underwent hospital rehabilitation after total hip replacement patients was made. Based on which, a model of the rehabilitation approach and behavior after total hip replacement is proposed depending on the type of endoprosthesis.

Structure of the dissertation work: The dissertation work of Dr. Denitsa Nedelcheva Grozdeva consists of 126 standard pages, including 24 tables and 3 appendices.

Literary awareness of the PhD candidate. The literature review contents of 48 pages, where the author demonstrates considerable knowledge of the issue discussed in the dissertation. The bibliography includes 134 titles, of which 53 are in Bulgarian and

81 in English, with around 72 % dating from last ten years and 42 % published in the last five years

Methodology and design of the research.

For the purposes of the study, 72 hip arthroplasty patients were examined, representing a heterogeneous group, divided into two subsamples - before and after an individual rehabilitation program within a 7-day hospital stay according to clinical pathway 265, Z96.6. The change in the quality of life is investigated by means of the method of interpenetrating samples, and the statistically significant differences in quality of life distributed in the 4 domains (physical, psychological, were proven by means of a t-test (hypothesis testing). The reliability of the WHOQOL-BREF questionnaire in hip arthroplasty patients was investigated by calculating the Cronbach's alpha coefficient. Data processing and analysis were performed with a statistical package. The survey data were organized in MS Office Excel 2013, and SPSS v 19.0 for Windows software was used for analysis.

The selected statistical methods provide a complete and reliable assessment of the data, in accordance with the purpose of the presented study.

Review of the dissertation work and analysis of the results.

Dr. Denitsa Nedelcheva Grozdeva has a thorough understanding of the issue of total hip replacement rehabilitation. The aim of dissertation work is clearly stated. The stated aim and objectives logically follow the literature review, which summarize the main data of the last fifteen years, related to the application of physical modalities for rehabilitation after total hip arthroplasty.

The results are adequately interpreted, discussed and concrete conclusions were drawn, corresponding to the objectives of the dissertation work. The detailed, analytical and detailed description of the results and discussion show that PhD candidate has a good comprehension of the subject. The conclusion follows logically the structure of the dissertation and is formulated clearly and exhaustively.

II. Contributions and practical relevances of the research

The contributions are logically formulated in two fields: theory and practice.

Theoretical and methodological contributions:

1. The first targeted study of the problems of rehabilitation after THR is being conducted in our country.
2. For the first time in Bulgarian clinical and scientific knowledge, a self-assessed, validated generic tool is being applied to assess QOL in all spheres and the degree of influence from rehabilitation after THR.
3. Through QOL assessment by an independent PRM specialist, the role of the extended, individual rehabilitation program for change in the 4 areas of study: physical, psychological, relational and environmental has been proven.

Practical-applied contributions:

1. The contribution of early rehabilitation in hospital conditions to the overall impact on QOL has been proven.
2. The importance of the patient-centered approach in the rehabilitation of multimorbid patients has been proven.

3. The principles for the effectiveness of rehabilitation after THR are systematized and a model of organization of the rehabilitation process with the aim of resource optimization is proposed.

Particular attention should be paid to the proposals to the institutions, which, if taken into account, will be of great benefit to the practice of physical and rehabilitation medicine specialists and to the patients themselves

1. To provide funding for pre-operative rehabilitation.

2. To increase the volume of activities financed by National Health Insurance Fund within a course of outpatient physiotherapy.

3. To develop an up-to-date, unified strategy for increasing the awareness of patients and health professionals about the need for endoprosthetics, the principles and stages of rehabilitation.

III. Abstract and publications

The abstract summarizes the content of the dissertation work and emphasizes the results and conclusions of the research.

The PhD candidate Dr. Denitsa Nedelcheva Grozdeva has presented one full-text publication and one scientific report, which fulfills the quantitative requirements.

IV. Critical notes and remarks

I have no critical remarks.

V. Personal impressions of the PhD candidate

I have known Dr. Denitsa Grozdeva for more than 15 years. I highly appreciate her theoretical and practical knowledge and skills. An extremely correct and dedicated colleague, with a continuous pursuit of self-improvement, and indisputable qualities of an excellent teacher and scientist.

VI. Conclusion

The presented dissertation work of Dr. Denitsa Nedelcheva Grozdeva includes original and scientifically proven contributions, which are own work of the author. The presented materials, related to the procedure fulfills the requirements of the Law for the Development of Academic Staff of the Republic of Bulgaria and the Regulations and the order for acquiring scientific degrees and holding academic positions in the Medical University "Prof. Dr. Paraskev Stoyanov" – Varna for awarding the scientific degree "Doctor".

Based on all the above, I do give my positive assessment of the conducted scientific research and do recommend to the members of the highly respected scientific jury to award the educational and scientific degree "Doctor" in area 7. Health care and sports, professional directional 7.1. Medicine, in the scientific specialty "Physiotherapy, resort science and rehabilitation".

Varna 12.05.2023

Assoc. Prof. Mariyana Mihaylova Krasteva-Ruseva, MD, PhD

