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COLLEGIUM MEDICUM
W KRAKOWIE

Wydział Lekarski

External Scientific Consultant Opinion

On Doctoral student's research work by Dana S. Bekaryssova titled «Articular Syndrome in Rheumatic Diseases and Reactive Arthritis at the current Stage: Optimizing Diagnostics, Prevention, and Treatment (based on an example of Turkestan Region)» presented for PhD degree (8D10141 – Medicine)

Actuality of the Theme

The current Doctoral student's research work aims to explore the changing trends in articular syndrome in rheumatic diseases with a focus on reactive arthritis. Undoubtedly, this is an important interdisciplinary topic that may help to improve timely diagnosis, treatment, and prevention of a number of musculoskeletal diseases. Importantly, this research work is based on an example of Turkestan region of Kazakhstan where rheumatology services are well organized and coordinated by specialists in public and private healthcare organizations. The results of this work can be successfully implemented by rheumatologists and general practitioners in Kazakhstan.

Scientific results and their reliability

The obtained results stem from well-organized scientific activities coordinated by highly skilled specialists in South Kazakhstan Medical Academy. As a result, there have been 7 high-quality publications visible in Medline, Scopus, and Web of Science. The research work includes comprehensive reviews on articular syndrome and reactive arthritis, information-analytical research study, online survey, and retrospective observational research based on Turkestan region of Kazakhstan. Each publication of the Doctoral student's research work brings about a valuable conclusion for practising rheumatologists and general practitioners. Overviews of literature data are based on comprehensive searches through global bibliographic databases shedding the light on the importance of articular syndrome in various inflammatory rheumatic diseases and the changing profile of reactive arthritis. The main focus of the overviews is on articular syndrome and reactive arthritis in the era of the COVID-19 pandemic, outlining the emergence of a new clinical entity that should be timely diagnosed and treated to prevent its progressive course and transformation into autoimmune rheumatic diseases. The information-analytical article presents the trends of musculoskeletal diseases in

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Kazakhstan in 2011-2020 and highlights a decline in the incidence of rheumatic diseases during the COVID-19 pandemic. The latter can be a reflection of the quarantine and decreased referrals to specialists. The online survey report stresses the importance of increasing the awareness of the changing face of reactive arthritis due to the COVID-19 pandemic. And finally, the observational research work presents the structure of arthritis and musculoskeletal diseases in Turkestan region of Kazakhstan, emphasizing directions for future diagnostic and preventive measures to avoid an increase of articular syndrome after the COVID-19 pandemic.

Practical and theoretical importance of the obtained results

This Doctoral student's research work is exemplary in view of its structure incorporating a comprehensive review, information-analytical research, survey of doctors, and observational research based on Turkestan region. The main practical point is that first-contact healthcare professionals should be well aware of the changing trends in the incidence of rheumatic diseases and the emergence of a new clinical entity, namely arthritis associated with COVID-19. Examining subjects with articular syndrome will require more detailed recording of past medical history, exposure to COVID-19, and suspicion of long COVID syndrome. The obtained results may attract the attention of rheumatologists and general practitioners to the issue of timely diagnostics of reactive arthritis and prevention of progressive autoimmune rheumatic diseases.

Publication of research work materials

The results of the doctoral student's research work have been completely presented in the following articles:

1. «Reactive arthritis before and after the onset of the COVID-19 pandemic» (*Clinical Rheumatology*);
2. «Revisiting reactive arthritis during the COVID-19 pandemic» (*Clinical Rheumatology*);
3. «Knowledge and Perceptions of Reactive Arthritis Diagnosis and Management Among Healthcare Workers During the COVID-19 Pandemic: Online Survey» (*Journal of Korean Medical Science*);
4. «Trends in the incidence of musculoskeletal diseases in Kazakhstan in 2011–2020: an information-analytical study» (*Rheumatology International*);

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5. «Structure, demography, and medico-social characteristics of articular syndrome in rheumatic diseases: a retrospective monocentric analysis of 2019-2021 data» (*Rheumatology International*);
6. «Revisiting Articular Syndrome in the Peri-Pandemic COVID-19 Era» (*Rheumatology International*);
7. Reactive arthritis following COVID-19: clinical case presentation and literature review (*Rheumatology International*).

All the listed articles were published in leading journals such as *Clinical Rheumatology* (quartile (Q) 2, percentile 70 in Scopus database; quartile (Q) 3 by JCR), *Journal of Korean Medical Science* (quartile (Q) 1, percentile 89 in Scopus database; quartile (Q) 2 by JCR), *Rheumatology International* (quartile (Q) 2, percentile 71 on Scopus database; quartile (Q) 2 by JCR).

Dana Bekarysova is the first author in 6 published articles and the corresponding author of 4 articles. Dana Bekarysova's current H-index is 3. Such great achievements in a rather short period are exemplary. All published results have passed through robust peer review and are now open to comments of the global medical community. The international medical community cites the doctoral student's articles, and the publications have more than 21 citations in the Scopus database.

Comments and suggestions

I do not have objections on the performed work. My optional suggestion is to incorporate the main points of the research work in the recommendations for practice of Kazakhstani general practitioners and rheumatologists. It would be helpful to revise the current recommendations on diagnosis and treatment of reactive arthritis and articular syndrome and draft evidence-based recommendations on justified use of glucocorticoids, their side effects, and complications such as avascular necrosis due to their unjustified administration in the COVID-19 pandemic.

Final comments

I am well aware of professional skills of Dana Bekarysova in the field of general medicine and rheumatology. She has deepened her knowledge and skills in diagnosing and preventing arthritis due to hard research work and studies over the past 3 years. Dana Bekarysova is a qualified specialist who deserves a PhD degree in medicine.

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Her research work is accomplished with high scientific and practical outcomes that meet international standards of a PhD degree.

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