

10-4-2021

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Recommended Citation

Karimov, Marif Sh.; Eshmurzaeva, Aida A.; and Marufhanov, Khamid M. (2021) "FEATURES OF THE PREVALENCE OF RHEUMATOID ARTHRITIS (LITERATURE REVIEW)," *Central Asian Journal of Medicine*: Vol. 2021 : Iss. 3 , Article 4.

Available at: <https://uzjournals.edu.uz/tma/vol2021/iss3/4>

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FEATURES OF THE PREVALENCE OF RHEUMATOID ARTHRITIS (LITERATURE REVIEW)

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ABSTRACT

According to the results of modern research, it is obvious that rheumatoid arthritis is widespread among the world population. The polymorphism and severity of clinical manifestations, with a high incidence of extra-articular complications, inevitably leading to an increase in the number of disability and mortality in RA patients, emphasize the importance and need for a deeper study of this complex medical and social problem. In turn, this will increase the level of medical care provided in the early prognosis of the development of severe forms and treatment of rheumatoid arthritis, which will lead to a significant improvement in the RA patients' life quality.

Key words: rheumatoid arthritis, autoimmune diseases, prevalence, world populations, age category, gender.

INTRODUCTION

Among all the variety of inflammatory diseases of the joints, rheumatoid arthritis (RA) is among the most common nosology, which affects about 1% of the adult population worldwide [4,7]. At the same time, the results of population studies have established differences in the prevalence of the disease among the

world's populations [19]. At the same time, the highest incidence of RA, reaching 7%, was recorded among the American Indian population, while the same indicator was only 0.2–0.4% among other nationalities [15]. With regard to gender differences, in terms of the prevalence of RA, the sources give the highest frequency of registration of the disease among the female population, which in relation to men, according to some authors, is 2-3 (women): 1 (men) [15], according to others - 2.5-3.5 (women): 1 (men) [7]. Hence, as with most other autoimmune diseases, RA is more common in women than in men, in proportion. The age indicator of the onset of the disease has some differences [5, 7, and 8]. For example, according to the data given in the publications of M. Cross et al. (2014), from the age of 25, there has been an increase in the cases of RA, reaching the peak of its development by the age of 55 [5]. According to W.P. Arend, G.S. Firestein (2012, 2018) the average range of the onset of RA falls on the category of persons from 30 to 50 years old [2,7]. Meanwhile, J. Melorose, R. Perroy, S. Careas, (2015) indicate the onset of the disease from the age of 18 and an increase in its occurrence by more than 6 times among the female population who have reached the age of 60-64 years [13]. Siebert, S., Lyall, D. M., Mackay, D. F., et al. (2016) based on a retrospective study using data from RA patients (n = 502 649) from the UK Biobank, taking into account their socio-demographic indicators, established a significantly high prevalence of RA among women with pathologies such as cardiovascular diseases (95% CI: 1.39- 1.67, p <0.01), arterial hypertension (95% CI: 1.21-1.27, p <0.001) and type 2 diabetes mellitus (95% CI: 1.06-1.32, p <0.01) [20].

In order to clarify the association of RA development with age, Japanese researchers E. Kato, T. Sawada, K. Tahara (2017) analyzed the age characteristics of RA patients. Therefore, the median age of onset of the disease in the period from 2002-2003 and 2007-2008 to 2012-2013 increased from 55.8 years and 57.0 years, respectively, to 59.9 years. At the same time, the peak of the onset of RA from the age of 50-59 years (2002-2003) over these 10 years began to be recorded among patients aged 60-69 years (2012-2013) without differences among males

and females. The data obtained show that in Japan for 10 years the onset of RA began to be registered among patients of the older age group [12]. The results of the analysis of sources on the prevalence, frequency and severity of RA, available in the Medline and EMBASE databases, conducted by American researchers E. Minichiello, L. Semerano, M.C. Boissier (2016) show stability in terms of the prevalence of the disease, a decrease in the severity, activity and number of extra-articular manifestations of RA in recent years.

The authors associate these facts with new advances in the treatment of RA patients with the use of more effective drugs [14]. The existing data on the incidence of RA incidence and the trend towards its decrease are contradictory. Some researchers argue that there is a tendency over time to decrease the incidence of RA, while others note its stability, or, on the contrary, its increase [3, 16]. According to Swedish authors S. Bernatsky, D. Feldman, M. De Civita et al. the incidence of RA in Sweden is relatively stable with an overall incidence of 41 cases per 100,000 adult population per year in a ratio of 1 (men): 2.24 (women) [3]. However, over several years by 2010, an increase in the incidence of RA from 45 to 78 new cases per 100,000 population was registered in Denmark [16]. In addition, according to the results of Polish studies, the incidence of RA in the period from 1990 to 2013 tended to increase worldwide (95% CI: 54.7-59.1) with a simultaneous increase in the proportion of patients with low RA activity from 16.0% to 17.8% and a decrease in the mortality rate by 2.3% per year (95% CI : 2.1–2.6) [11]. Polish scientists from 2008 to 2012 an increase in the incidence rate of RA was established from 5.08 to 8.14 new cases in urban areas and from 3.74 to 3.98 cases in rural areas, with a more frequent registration of 3.5 times among the female population. The authors associate an increase in the incidence of morbidity in Poland with an increase in the life expectancy of the population [11]. Information on the prevalence of RA in Southern Europe is presented in the publications F. Fina-Aviles, M. Medina-Peralta, L. Mendez-Boo et al. (2016), who assessed the incidence and prevalence of RA in Catalonia, taking into account age and gender characteristics.

In total, among the five million participants in the study, RA was established in 20,091 followed up for 4 years (2012-2015). The authors noted an increase in morbidity with age both among men and women (95% CI: 4.11–4.23), reaching the peak of registration at the age of 65–70 years (95% CI: 0.19–0.20) [6,21]. According to National Register of India RA prevalence cases range from 0.28% to 0.7% per year. At the same time, in studies comparing rural and urban areas of the Indian district of Pune, the share of this indicator in urban areas on average accounts for 0.28%, and in rural areas - 0.5%, which coincides with similar data in China, Indonesia, Iran and Australia. A large registration of morbidity among the population of rural areas is associated with more frequent characteristic injuries of the musculoskeletal system in rural residents [8]. Comparative analysis of the prevalence of RA in Pakistan and India conducted by E. Akhter, S. Bilal, A. Kiani, U. Haque (2011) showed an annual registration of 5 new cases per 1000 population in Pakistan and from 2 to 10 cases per 1000 population in India [1]. Later R. Handa, U. R. K. Rao, J. F. M. Lewis et al. (2015) published data on the registration of 2.8-10 new cases of the disease per 1000 population per year, emphasizing that the differences in the registration of new cases of the disease largely depend on the methodology and diagnostic criteria used in the studied populations [9]. Meta-analysis results I. Rudan, S. Sidhu, A. Papan et al. (2015) on the study of regional RA prevalence rates in different countries indicate some differences: in America, this indicator was 0.62% (95% CI: 0.47-0.77%), in the Western Pacific regions - 0.42% (95% CI : 0.30–0.53%), in Europe - 1.25% (95% CI: 0.64–1.86%), in the Eastern Mediterranean region - 0.37% (95% CI: 0.23–0.51%), in Southeast Asia - 0.40% (95% CI: 0.23-0.57%). At the same time, on average across all regions, the prevalence of RA among men and women was 0.16% (95% CI: 0.11-0.20%) and 0.75% (95% CI: 0.60-0.90%), respectively (P = 0.353) [18]. Results of a retrospective study Hunter, T.M., Boytsov, N.N., Zhang, X. et al. (2017) aimed at identifying the RA prevalence among the US adult population over a ten-year period (2004-2014) showed that this indicator ranged from 0.41 to 0.54%, which varied depending on gender, having more high rates among women (0.73–0.78%

versus 0.29–0.31% for men) [10]. S. Safiri, A. A. Kolahi, D. Hoy et al. (2019) noted an increase in the RA incidence in Canada to 54.7% (95% CI: 49.2-59.7), Paraguay to 41.8% (95% CI: 35.0-48.6) and Guatemala to 37.0% (95% CI: 30.9-43.9) from 1990 to 2017 [19]. Thus, the results of the analyzed studies for the most part indicate an increase in the incidence of RA, which is possibly associated with an improvement in the early diagnosis of the disease in recent years due to the use of the most informative tests.

Conclusion. Having studied the state of the problem of the prevalence of RA according to the results of modern studies, it is obvious that its wide and ubiquitous occurrence among the population of the whole world. In addition, the polymorphism and severity of clinical manifestations, with a high incidence of extra-articular complications, inevitably leading to an increase in the number of disability and mortality in RA patients, emphasize the importance and need for a deeper study of this complex medical and social problem.

In turn, this will increase the level of medical care provided in the early prognosis of the development of severe forms and treatment of rheumatoid arthritis, which will lead to a significant improvement in the quality of life of RA patients.

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