The Journal of Rheumatology 2023;50:144–6
doi:10.3899/jrheum.220588

The Journal of Rheumatology

Panorama

Reflections for the 50th Anniversary of *The Journal of Rheumatology*: The Past, Present, and Future of Rheumatology

Alfonse T. Masi, MD, DrPH, Professor Emeritus of Medicine and Professor of Epidemiology, University of Illinois College of Medicine at Peoria (UICOMP), Peoria, Illinois; Richard J. Bucala, MD, PhD, Professor of Medicine, Pathology, Epidemiology and Public Health, Yale School of Medicine, New Haven, Connecticut, USA. Address correspondence to Dr. A.T. Masi, One Illini Drive, Peoria, IL 61605, USA. Email: amasi@uic.edu. ATM served on the Editorial Board of *The Journal of Rheumatology* from 1974 to 2017. ATM and RJB declare no conflicts of interest relevant to this article.

In 1974, the first 4 issues of *The Journal of Rheumatology* were published. In the very first issue, released in March, an editorial by Phil Rosen, then president of the Canadian Rheumatism Association (now the Canadian Rheumatology Association), described Dr. Metro Ogryzlo's outstanding qualifications in academic and clinical research in rheumatic diseases.[1] In the same issue, Dr. Ogryzlo formally introduced *The Journal of Rheumatology*.[2] His editorial began and ended with quotes on learning and gathering knowledge as the noblest occupation of the physician.[2] The concept of rheumatology as a separate specialty was pioneered in European countries, followed by the United States and Canada.[2] The objective of *The Journal* was to print original communications contributing to a better understanding of rheumatic diseases. Etiology, pathogenesis, physician management, and basic research of these disorders were topics invited for submission to *The Journal*, without "geographic or international boundaries."[2]

The broad clinical research philosophy of Dr. Ogryzlo and *The Journal* coincided with Dr. Masi's perspectives in 1974, as he was the Director of the Division of Connective Tissue Diseases at the University of Tennessee Center for the Health Sciences (1967-1978), with the responsibility for rheumatology fellowship training. The policy and philosophy of rheumatology training was to involve each fellow in a research project of their respective interests, and they were encouraged to be a primary investigator with first authorship on manuscripts submitted to academic journals. Fellows were advised that it was relatively more difficult to have clinical descriptive papers accepted for publication compared to a defined laboratory experimental study. Therefore, in September 1973, when a letter from Dr. Ogryzlo confirmed acceptance of 2 manuscripts from Dr. Masi and his colleagues for inclusion in the inaugural issue of *The Journal of Rheumatology*,[3,4] it was a timely culmination of the infectious agent arthritis clinical[3] and therapy[4] research activities. The launch of *The Journal* was a welcome addition to the publications available to disseminate critical clinical research.

The introduction of *The Journal* came a decade after Dr. Masi initiated his clinical epidemiologic research in rheumatic disorders (https://pubmed.ncbi.nlm.nih.gov/?term=Masi+AT&filter=-years.1965-1974&sort=pubdate). He and his collaborators published an average of 10 articles per decade in *The Journal* during its first 3 decades, and 6 since 2005, for a total of 35 accepted articles.

The publication of case reports and clinical descriptive studies is informative to practicing physicians, although these do not usually achieve the highest-quality research status. Nevertheless, patient care includes innumerable diverse approaches that may not be revealed in controlled therapy trials. In March 2022, we were pleased that the American College of Physicians and the American Heart Association introduced a new journal, *Annals of Internal Medicine Clinical Cases*, to encourage practicing clinicians from all fields of medicine to learn by sharing clinical cases.

On May 5, 1977, Dr. Ogryzlo died at the age of 62 years, after a sudden and unexpected illness; he was mourned by family, friends, and colleagues throughout Canada and the world. His obituary by the renowned English rheumatologist, E.G.L. Bywaters, highlighted his most outstanding academic, research, and administrative career (https://ard.bmj.com/content/annrheumdis/36/4/383.full.pdf). Dr. Ogryzlo was applauded for establishing *The Journal of Rheumatology*, which was considered required reading throughout the international medical community. Dr. Bywaters praised his "great success both in the practice of medicine, in its science, and in its teaching." Unfortunately, Dr. Ogryzlo did not survive long enough to reflect on *The Journal*'s contributions to rheumatology literature.

Consideration of *The Journal*'s past and present contributions to rheumatology may be reflected by its share of total PubMed citations in various arthritis diagnostic categories from 1974 to the present (Table). *The Journal* contributed 3.5% of arthritis citations over that interval, with similar or larger proportions for rheumatoid arthritis, ankylosing spondylitis, spondyloarthritis, and fibromyalgia (FM) citations. However, *The Journal* contributed a lower 1.6% of total PubMed osteoarthritis (OA) citations (Table).

In the 10-year interval from 1970 to 1979 vs 2013 to present, the ratio of PubMed arthritis citations was 5.1 during the recent period compared to early periods, reflecting the great surge in publications. Particularly, the ratio of recent to early 10-year PubMed citations was 15.6 for OA and 30.4 for FM. The sharp rise of OA citations over the decades may have contributed to the lower proportion cited since 1974 from *The Journal* vs PubMed.

Table. PubMed citations to April 13, 2022, by arthritis diagnostic categories in early and recent decades.

Arthritis Diagnostic Categories	PubMed 1970-79	PubMed 2013-22	Ratio of Recent to Early Decades	PubMed 1974-2022	J Rheumatol 1974-2022[a]	
Arthritis (all categories)	26,050	131,478	5.1	329,385	11,540	(3.5)
Arthritis drug trial	1125	8097	7.2	21,179	1278	(6.0)
RA	13,345	49,754	3.7	142,514	6537	(4.6)
RA drug trial	791	3938	5.0	11,705	826	(7.1)
AS	1933	7419	3.8	18,310	1129	(6.2)
AS drug trial	70	625	8.9	1470	118	(8.0)
SpA	2278	11,799	5.2	27,199	2012	(7.4)
SpA drug trial	68	1195	17.6	2375	218	(9.2)
OA	3359	52,313	15.6	98,884	1609	(1.6)
OA drug trial	240	2006	8.4	5312	182	(3.4)
SLE	6635	31,437	4.7	89,129	2542	(2.9)
SLE drug trial	64	1284	20.1	2951	100	(3.4)
Gout	2196	8076	3.7	16,965	446	(2.6)
Gout drug trial	81	630	7.8	1129	42	(3.7)
Experimental arthritis (animal)	767	9792	12.8	21,969	364	(1.7)
Fibromyalgia	191	5815	30.4	12,672	616	(1.9)
MSK disorders	103,912	331,990	3.2	1,017,061	13,557	(1.3)

[a] Numbers in parentheses are percentages of J Rheumatol citations out of total PubMed citations. J Rheumatol: *The Journal of Rheumatology*; AS: ankylosing spondylitis; MSK: musculoskeletal; OA: osteoarthritis; RA: rheumatoid arthritis; SLE: systemic lupus erythematosus; SpA: spondyloarthritis.

Anticipating the future of rheumatology or of *The Journal* is challenging. From a clinical epidemiologic perspective, we anticipate that rheumatology will develop according to the population's needs.[5] Populations are increasing in numbers, age, and obesity rates, all of which affect health and well-being. Regarding musculoskeletal conditions, such population trends will likely result in a higher occurrence of degenerative and biomechanically induced structural disorders. As the marked increase of OA PubMed citations from 1970-1979 to 2013-2022 shows (Table), the next decades will likely see a continued growth in rheumatologic attention on such conditions. Correspondingly, one might expect basic rheumatologic research in biomechanical processes to multiply, perhaps even relatively more rapidly than immunologic mechanisms.

In inflammatory disorders, recent epidemiologic surveys estimate a population prevalence of approximately 5% for autoimmune diseases, with a 45% increase in antinuclear antibody positivity among individuals over the past 25 years.[5] Although molecular pathogenesis is still undefined, autoimmunity is believed to result from the interplay of genetic susceptibility and environmental exposures.[5] Multidisciplinary efforts will be needed to prevent disease development in susceptible populations, and well-trained rheumatologists are needed to achieve a goal of rheumatic disease prevention.[5] Since the advent of effective biologics in inflammatory disease, it has become easier to control symptoms and retard disease progression. Unfortunately, we are not curing any of these diseases. Effort must be placed on identifying environmental factors to prevent the development of autoimmune diseases.[5]

In degenerative and biomechanical processes, orthopedic surgery and physical therapy procedures might provide the best advances. The overwhelming PubMed citations in the category of "musculoskeletal disorders" (Table) are associated primarily with articles on surgery, trauma, pain, and rehabilitation. Musculoskeletal disorders have associations, to a lesser degree, with citations on occupation, physical therapy, injury, obesity, and strain. These conditions will likely become increasingly prevalent for future rheumatologists. Mechanobiology is very difficult to study experimentally because its influence is exerted over many years.

The above commentary reflects the relative frequency of PubMed citations in total and from *The Journal* over time intervals and by arthritis and musculoskeletal categories. It does not consider quality of the articles by an objective metric, be it impact factor or citation analysis, or its relevance for intended readership (eg, clinical or therapeutic importance, objectivity, and accuracy of the data). *The Journal* will rely on its Editorial Board to guide the quality and relevance of its contents over the next decades. The challenge is to continue the legacy of Dr. Ogryzlo, which is to promote learning and, as described by his colleague Hugh Smythe in the obituary by Dr. Bywaters, to blend "science and medical practice to the best benefit of the patient."

Likely, rheumatologist availability will be in short supply, with growing demand for their expertise and services. A future challenge in rheumatology is educating skilled physicians with effective knowledge—not only rheumatologists but also others such as internists, geriatricians, physician assistants, and advanced practice registered nurses. Education is an important mission of our specialty. A recent American College of Rheumatology (ACR) workforce survey indicated 6200 rheumatologists in the US, with a projected shortfall of approximately 4000 by 2030 (https://pubmed.ncbi.nlm.nih.gov/29400009). The shortfall is due to retirement and the projected aging population, the increasing burden of OA, and the expert monitoring required by biologics.

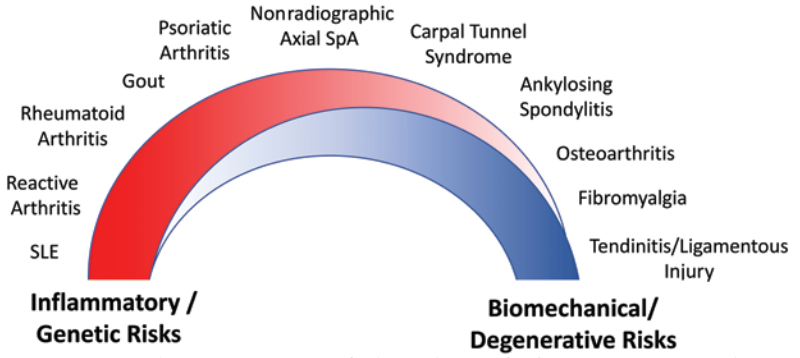

Figure. Bivariate schematic continuum of relative degree of inflammatory/genetic vs biomechanical/degenerative risk factors affecting arthritis and musculoskeletal disorders. Figure does not include environmental and behavioral risk factors. The relation is not documented but is offered to stimulate conceptualization and research. SLE: systemic lupus erythematosus; SpA: spondyloarthritis.

The Journal can strive to provide relevant and quality literature that directly supports rheumatologists' educational and practice needs, especially as future research advances our knowledge on the interaction of inflammatory/genetic and biomechanical/degenerative mechanisms in the spectrum of rheumatic disease risk factors (Figure). Such expanding knowledge may require subspecialization in rheumatology to provide the best achievable care in the future. Anticipating higher costs of specialized therapy, rigorous high-quality economic and clinical outcome reporting will also be essential to determining appropriate interventions. The first 50 years of success for *The Journal* can be expected to continue in the decades to come.

ACKNOWLEDGMENT

We thank Deborah Lauseng, Senior Research Librarian, UICOMP, for editing the table of PubMed citations, and for comments received from Dr. Masi's past rheumatology fellows who progressed to ACR Masters: Profs. Abraham Garcia-Kutzbach, Jose Maldonado Cocco, and Thomas A. Medsger, Jr.

REFERENCES

1. Rosen PS. The editor: Metro A. Ogryzlo. J Rheumatol 1974;1:1-2.
2. Ogryzlo MA. Editorial: introducing The Journal of Rheumatology. J Rheumatol 1974;1:3-4.
3. Garcia-Kutzbach A, Masi AT. Acute infectious agent arthritis (IAA): a detailed comparison of proved gonococcal and other blood-borne bacterial arthritis. J Rheumatol 1974;1:93-101.
4. Garcia-Kutzbach A, Dismuke SE, Masi AT. Gonococcal arthritis: clinical features and results of penicillin therapy. J Rheumatol 1974;1:210-21.
5. Bucala RJ. Rheumatology forecast: why prevention matters. Arthritis Rheumatol 2020;72:868-9.