

# The Dimensions of Reports From Around the World That Address Diversity in Oncology

Kazuaki Takabe<sup>a, g</sup>, Vidalina Day<sup>a</sup>, Matthew G.K. Benesch<sup>a</sup>

Reproducibility is one of the major principles of science. Scientific findings should be reproducible anywhere in the world. Based on this principle, basic researchers tend to assume that cancer biology is the same for all populations regardless of location, race, or ethnicity. Unfortunately, this is not the case. In reality, cancer biology is extremely heterogeneous and diverse secondary to host epidemiological factors, such as age, gender, race, and ethnicity. For example, it is well known that breast cancer incidence is higher in younger African Americans and Asians compared to Caucasian women, and these patients also have higher rates of triple-negative subtypes [1].

Medical practice is based on evidence, where the results of randomized clinical trials are given the ultimate consideration. Although there is no doubt that evidence-based medicine is far superior to experience-based or authoritarian ways of practicing medicine, it unfortunately does have weaknesses. The results of clinical trials only reflect the cohort in which it was studied. In other words, adverse effects of a drug that is unique to a minority of a cohort will not be highlighted in the trial results and may be neglected during the dissemination of the new research findings. This tragedy did occur when the safety and efficacy of an epidermal growth factor (EGFR)-tyrosine kinase inhibitor (TKI), gefitinib (Iressa) was clearly demonstrated against *EGFR* L858R-mutated non-small cell lung cancer by a multi-institutional controlled randomized clinical trial, the Iressa Pan-Asia Study (IPASS, NCT00322452 [2]),

where Japanese patients comprised less than 20% of the study population. An additional trial, a single-arm study (IFUM, NCT01203917 [3]), included only Caucasians. The positive results of these trials led both the European Medicines Agency and the United States Food and Drug Administration to approve gefitinib, followed thereafter by an accelerated approval in Japan. What then happened was that many Japanese patients died of interstitial lung disease after gefitinib treatment, making headlines and generating public mistrust. It was later found that the incidence of acute exacerbation of interstitial lung disease induced by EGFR-TKIs such as gefitinib was significantly higher among Japanese patients than other ethnic cohorts, even when compared to Korean or Taiwanese patients [4-6], who are considered ethnically very close to Japanese. Unfortunately, this high rate of toxicity among Japanese patients was never highlighted in the clinical trials because Japanese participants were a minority in these investigations.

One of the ways to avoid this kind of tragedy is to promote reports from different part of the world. As the title of our journal indicates, we wish to be the front runner in that honorable role. Since our establishment in 2010, our journal has published a total of 509 articles from all the continents except Antarctica: 218 from the Americas, 71 from Europe, 27 from Africa, 177 from Asia, and 14 from Oceania (Fig. 1). Although the top six countries, United States (178), Japan (53), India (43), China (22), Canada (20) and Turkey (18), were the origins of two-thirds of the publications, our

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<sup>a</sup>Department of Surgical Oncology, Roswell Park Comprehensive Cancer Center, Buffalo, NY 14263, USA

<sup>b</sup>Department of Surgery, University at Buffalo Jacobs School of Medicine and Biomedical Sciences, The State University of New York, Buffalo, NY 14263, USA

<sup>c</sup>Department of Breast Surgery and Oncology, Tokyo Medical University, Tokyo 160-8402, Japan

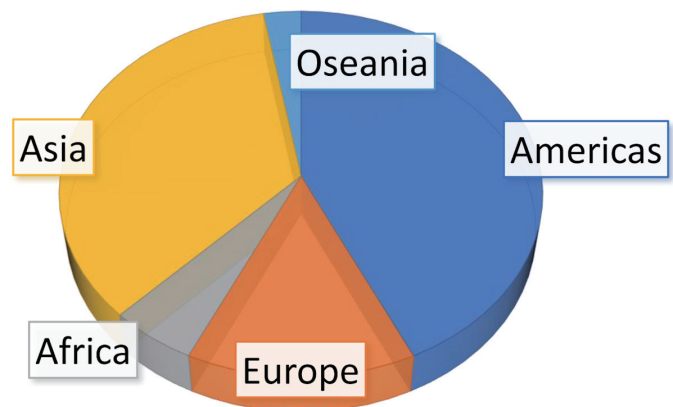
<sup>d</sup>Department of Gastroenterological Surgery, Yokohama City University Graduate School of Medicine, Yokohama, Kanagawa 236-0004, Japan

<sup>e</sup>Department of Surgery, Niigata University Graduate School of Medical and Dental Sciences, Niigata, Japan

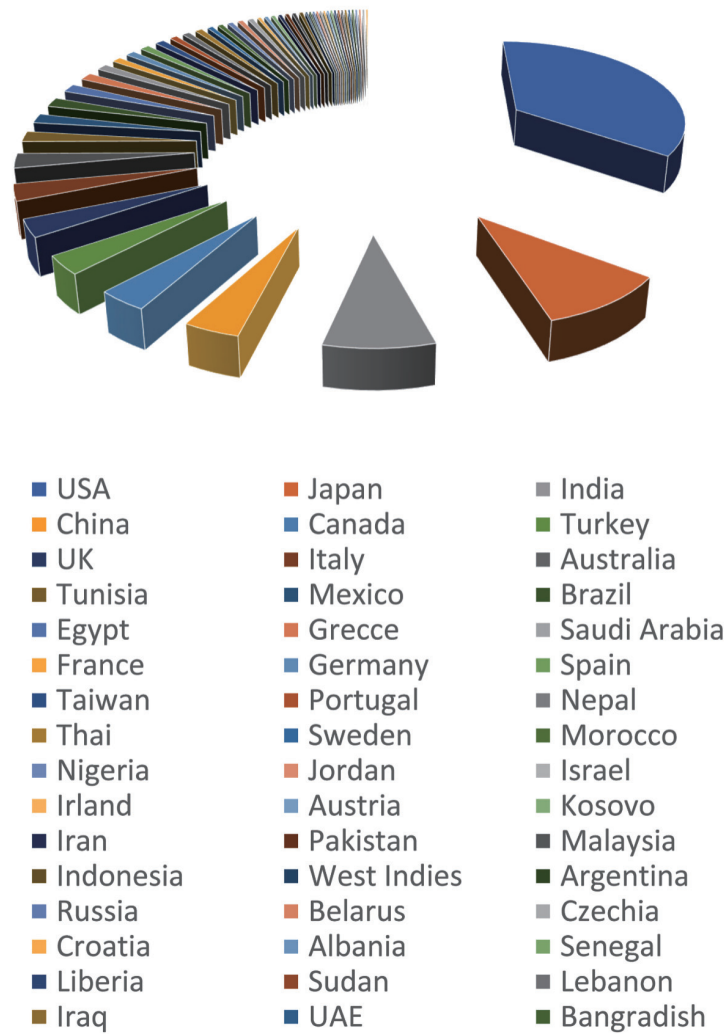
<sup>f</sup>Department of Breast Surgery, Fukushima Medical University, Fukushima, Japan

<sup>g</sup>Corresponding Author: Kazuaki Takabe, Department of Surgical Oncology, Roswell Park Comprehensive Cancer Center, Buffalo, NY 14263, USA. Email: kazuaki.takabe@roswellpark.org

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**Figure 1.** The continents of origin of the articles published in the World Journal of Oncology. Dark blue illustrates the ratio from the Americas, orange from Europe, gray from Africa, yellow from Asia, and light blue from Oceania, respectively.



**Figure 2.** Numbers of articles published in the World Journal of Oncology (2010 - 2022) from each country: USA 178, Japan 53, India 43, China 22, Canada 20, Turkey 18, UK 17, Italy 16, Australia 14, Tunisia 10, Mexico 9, Brazil 9, Egypt 8, Greece 7, Saudi Arabia 6, France 5, Germany 5, Spain 5, Taiwan 5, Portugal 4, Nepal 4, Thailand 4, Sweden 3, Morocco 3, Nigeria 3, Jordan 3, Israel 3, Ireland 2, Austria 2, Kosovo 2, Iran 2, Pakistan 2, Malaysia 2, Indonesia 2, West Indies 1, Argentina 1, Russia 1, Belarus 1, Czechia 1, Croatia 1, Albania 1, Senegal 1, Liberia 1, Sudan 1, Lebanon 1, Iraq 1, UAE 1, Bangladesh 1, Korea 1, Vietnam 1, Singapore 1, Philippines 1, respectively. UAE: United Arab Emirates.

journal has published articles from a total of 52 countries throughout the world, reflecting the diversity of our publications (Fig. 2).

Further, our journal has been diligently publishing articles that highlight racial and ethnic diversity. Padala et al from the United States reviewed the epidemiology of renal cell carcinoma around the world [7]. Adeniji et al from Nigeria collaborated with colleagues from Nepal and the United States and reviewed the barriers and how to improve personalized medicine in oncology in the developing world [8]. Dulal et al from Nepal reported the feasibility of fewer fraction palliative radiotherapy in a resource-limited setting [9]. Alqahtani et al from Saudi Arabia in collaboration with his colleagues from Sudan reviewed the risk factors of oral and oropharyngeal cancers in Gulf Cooperation Council countries [10]. Given that breast cancer subtype is so closely connected with response to specific treatments, and

because its distribution differs by race and ethnicity, Copeland et al reported on its distribution among Jamaicans [11], Adeniji et al reported that of Nigerians [12], and Macari et al of Mexicans [13]. From Mexico, Hernandez-Ruiz et al reviewed the epidemiology of non-Hodgkin’s lymphoma [14], Fernandez-Ferreira et al reported that epithelial-cadherin expression is associated with better survival in invasive lobular breast cancer [15], Fernandez-Garza et al reviewed applications of personalized medicine in ovarian cancer [16], and Dupont et al reported the relationship of laterality to testicular germ cell tumor survival [17]. Lastly, we published a review article on a conference held at the Japan Embassy on cancer and infectious diseases between the United States and Japan [18].

World Journal of Oncology has been and will continue to be the front runner in promoting and publishing reports from all parts of the world.

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## Conflict of Interest

None of the authors has any conflict to any entity in regard to the content of this editorial.

## Author Contributions

Conceptualization and design of study: KT. Data acquisition: VD. Editing of the paper: KT and MGKB.

## Data Availability

The data supporting the findings of this study have been deposited in PubMed and can be accessed free via internet. All the data were acquired through PubMed, a public database of published literature.

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