Trend and impact of international collaboration in clinical medicine papers published in Malaysia

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Abstract

Research collaboration is the way forward in order to improve quality and impact of its research findings. International research collaboration has resulted in international co-authorship in scientific communications and publications. This study highlights the collaborating research and authorship trend in clinical medicine in Malaysia from 2001 to 2010. Malaysian-based author affiliation in the Web of Science (Science Citation Index Expanded) and clinical medicine journals \( n = 999 \) and articles \( n = 3951 \) as of 30th Oct 2011 were downloaded. Types of document analyzed were articles and reviews, and impact factors (IF) in the 2010 Journal Citation Report Science Edition were taken to access the quality of the articles. The number of publications in clinical medicine increased from 4.5 \( (n = 178) \) in 2001 to 23.9 \( (n = 944) \) in 2010. The top three contributors in the subject categories are Pharmacology and Pharmacy (13.9\%), General and Internal Medicine (13.6\%) and Tropical Medicine (7.3\%). By journal tier system: Tier 1 (18.7\%, \( n = 738 \)), Tier 2 (22.5\%, \( n = 888 \)), Tier 3 (29.6\%, \( n = 1170 \)), Tier 4 (27.2\%, \( n = 1074 \)), and journals without IF (2.1\%, \( n = 81 \)). University of Malaya was the most productive. Local collaborators accounted for 60.3\% and international collaborations 39.7\%. Articles with international collaborations appeared in journals with higher journal IF's than those without international collaboration. They were also cited more significantly than articles without international collaborations. Citations, impact factor and journal tiers were significantly associated with international collaboration in Malaysia's clinical medicine publications. Malaysia has achieved a significant number of ISI publications in clinical medicine participation in international collaboration.

Keywords: Bibliometrics, Collaboration, Clinical medicine, Authorship, Citation

Introduction

In last decade, international collaboration has been intensified due to the effects of globalization and rapid development in scientific communication. With international research collaboration, there is an increased in international co-authorship in scientific communications and publications. Internationally co-authored articles have doubled since 1990s and continued to increase until now and in all field of disciplines (Prathap 2013; Wagner 2008; Wagner and Leydesdorff 2005; NSB 2002, Glanzel 2001; Georghious 1998; Dore et al. 1996). It also improves research quality and high impact publications in high impact scientific journals. International co-authored publications have shown to have greater number of citations than domestic or national co-authored publications (Levitt and Thelwall 2009; Glanzel et al. 1999; Katz and Martin 1997). Others have also shown that international collaboration enhances citation impact (Lamph-Barrantes et al. 2013; Moya-Anegon et al. 2008; Chinchilla-Rodriguez et al. 2010; Hsu and Huang 2010). There are cited up to twice as frequently as single-country