

A Glimpse of Research Output from Nepal and the Way Forward

Raju Vaishya¹

¹Indraprastha Apollo Hospitals, Sarita Vihar, New Delhi, India.

Nepal is a developing country, which ranks 165th in the world and is considered the Lower-Middle-Income-Country (LMIC). It is one of the ten least urbanized, but the 10th fastest urbanizing country, globally. A substantial population of it lives in urban areas.¹ There has been a recent surge in Non-communicable diseases (NCDs) as the main public health concern and account for more than 2/3rd of total mortality in the country. In rural areas, there is an increased risk of infections and mortality by communicable diseases, malnutrition and other health-related events. Health care services in Nepal are not adequate and fail to meet the international standards, currently. Moreover, the prevalence of diseases is significantly higher in Nepal than in other South Asian countries, especially in the rural areas.²⁻⁴

Research deficit in Low-Income Countries

It is known that global research is not addressing health needs in a balanced way, as substantially more research is conducted on such diseases that are common in high-income countries (HIC) than on those which are more prevalent in lower-income countries (LIC) and LMIC. This imbalance between research needs and efforts is causing 10-fold more attention by HIC research than those in

LIC.⁵ Hence, it is crucial that the research output from LIC and LMIC is substantially increased to address their local health-related issues, cost-effectively and need not depend on the recommendations coming out of the research from HIC, which may not be affordable and applicable to the population of these countries.⁶

Research output from Nepal

We studied the research output of Nepal from 1996 to 2022, using Scopus data from the SCImago website.⁷ We collected the data related to all subjects (medical and non-medical), all medical subjects, and orthopaedics and sports medicine, and tabulated the important country's research metrics in Table 1. The following observations are made:

1. In all subject areas, the global ranking of Nepal was 89, and among Asian countries, it was 18, during 1996-2022.
2. In all medical subjects, the global ranking of Nepal was 78, and among Asian countries, it was 14 from 1996-2022.
3. In orthopaedics and sports medicine, the ranking of Nepal was 69, and amongst Asian countries, it was 13 during 1996-2022.

Table 1. Research output of All Countries and Nepal in All Subjects, All Medical Subjects, and Orthopaedics and Sports Medicine between 1996 and 2022. (Source: SCImago⁷)

YEAR	REGION	SUBJECT	COUNTRY RANK (Nepal/ All)	DOCUMENTS	CITATIONS	CITATIONS PER DOCUMENT	H-INDEX
1996-2022	All Countries	All Subjects	89/243	27,271	379,650	13.92	179
	Asiatic Countries	All Subjects	18/33	27,271	379,650	13.92	179
2022	All Countries	All Subjects	78/233	3,556	3,385	0.95	179
	Asiatic Countries	All Subjects	18/33	3,556	3,385	0.95	179
1996-2022	All Countries	All Medical Subjects	68/240	15,351	198,400	12.92	136
	Asiatic Countries	All Medical Subjects	14/33	15,351	198,400	12.92	136
2022	All Countries	All Medical Subjects	67/225	1,940	1,795	0.93	136

Correspondence: Prof Dr Raju Vaishya, Indraprastha Apollo Hospitals, Sarita Vihar, New Delhi, India. Email: raju.vaishya@gmail.com.

	Asiatic Countries	All Medical Subjects	15/33	1,940	1,795	0.93	136
1996-2022	All Countries	Orthopaedics & Sports Medicine	69/199	190	1,772	9.33	20
	Asiatic Countries	Orthopaedics & Sports Medicine	13/30	190	1,772	9.33	20
2022	All Countries	Orthopaedics & Sports Medicine	68/159	28	46	1.64	20
	Asiatic Countries	Orthopaedics & Sports Medicine	13/26	28	46	1.64	20

In orthopaedics and sports medicine, Nepal has witnessed a rise in the publication in the Scopus database, from just one publication in 1996 to 28 publications in 2022 (Figure 1). Although, a reasonable publication growth, much more is needed and is possible with continued efforts.

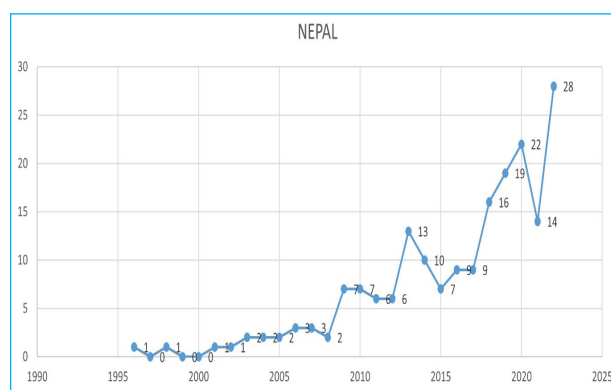


Figure 1. Publication trend of Nepal in Orthopaedics and Sports Medicine (Source: SCImago⁷)

Table 1. Rankings of SAARC countries in Orthopaedics and Sports Medicine in 2022. (Source: SCImago⁷)

COUNTRY	SAARC RANKING	ASIATIC RANKING	GLOBAL RANKING
India	1	4	17
Pakistan	2	11	60
Nepal	3	13	69
Sri Lanka	4	15	83
Bangladesh	5	16	96
Afghanistan	6	21	131
Maldives	7	26	160
Bhutan	8	27	172

Among, all the South Asian Association for Regional Cooperation (SAARC) countries, in the field of orthopaedics and sports medicine, Nepal has achieved 3rd rank (behind India and Pakistan) and has been ranked number 13 in Asia and 69 globally, in 2022.

It is speculated that the discrepancy between the research output from LMIC and HIC is significantly in favour of HIC countries, where most of the research is done. It has been observed that the Global South nations have control and ownership over their own health research, research products and agendas and the Global North nations (like Nepal) are less privileged in the area of Research. However, there has been an ongoing ‘decolonisation’ to address the health policies, research agendas, funding priorities, publications and interventions in the LMICs, while disregarding Global South knowledge systems and community priorities.⁸ It is also speculated that there is a “10/90 Gap” between these countries meaning that only 10% of global health research is devoted to conditions accounting for 90% of the global disease burden. However, this was challenged by Stevens,⁹ as he presented the evidence that it is a fallacious and misleading idea and argued that the health problems faced by the LIC are not caused by the non-existence of drugs required for their health problems.

Challenges and Needs in Biomedical Research in Low-Income Countries

There has been a brain drain of professionals from LMICs to HIC, as the biomedical researchers face several challenges to establish themselves in their native countries back at home like availability of local expertise to develop best health care practices and to undertake locally relevant research. Building research capacity in LMICs is challenging because of limited resources and required commitment at the individual, institutional, and national levels. There are several limitations in basic research infrastructure, scientific equipment, cross-discipline expertise, funding, local mentorship and transition plan, and job opportunities in their home countries. Table 3 elucidates the needs and challenges of biomedical researchers of LMICs.¹⁰

Table 3. Challenges identified for repatriation of biomedical researchers of Low-Middle-Income-Countries (LMICs). (Adapted from Ahmed et al.¹⁰)

NEEDS	CHALLENGES
Mentorship	Limited available mentorship in LMICs. Few mentors with advanced research training and expertise
Access to state-of-the-art laboratory technologies and equipment	Largely limited to regional research centres
Advanced training	Commonly needed to be acquired abroad
Career support services	Rare in LMICs because of the limited capacity of local institutions
Global engagement with peers and colleagues.	Limited to national and subnational meetings because of a paucity of funds to participate in international conferences
Acquisition of new techniques for personal growth and capacity building after repatriation	Limited to local or regional opportunities because of cost barriers
Access to up-to-date information	Very limited with few institutional routes of access (e.g., database access)
Funding and research support	Challenging because of the paucity of local funding and high competition for international funding opportunities

I agree with Franzen et al. [11] who opined that locally-led health research in LMICs is critical for overcoming global health challenges. Despite international efforts, in the last three decades, health research capacity in LMICs has remained inadequate. These authors have noticed steady progress in the health research capacity of the LMICs (similar to Nepal), but found major research barriers persisting, and suggested the need for development strategies.

CONFLICT OF INTEREST

None

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