

Editorial: Research in low and middle-income countries (LMIC) on infectious diseases

Practicing evidence-based medicine is based on data from research published in indexed and/or peer reviewed journals. Although research findings of studies published from high income countries may not be always applicable for low-and-middle income countries (LMICs), research done by professionals in LMICs are most often not included in international guidelines (including those of the World Health Organization) which aim to strengthen best practices in the diagnosis and treatment of infectious diseases. This is due to multiplicity of reasons.

Epidemiological factors, environmental factors (eg: temperature, humidity etc), genetic factors of individuals, limited availability of resources (infrastructure, consumables), system improvements and different practices in different countries can affect outcomes of infectious diseases. Data from relevant countries should therefore be reflected in internationally accepted guidelines. For example, non-availability and high cost of certain devices such as peripherally inserted central catheters (PICC) will make them less likely to be used in LMICs. When looking at the effect of indication(s) for removal of peripheral catheters (PVIC) on infective complications related to PVICs, the availability and use of PICCs and central lines may also be important. Another example is non-inclusion of rheumatic carditis as an indication for antibiotic prophylaxis for prevention of endocarditis in international guidelines-this gap may be due to the low prevalence of rheumatic carditis in high income countries.¹

Why don't we have 'good quality data' such as systematic reviews, meta-analysis or randomised control trials from LMICs? Limited availability of resources including funding and qualified personnel is a major factor. In addition, difficulty in publishing in international journals may be due to not using state of the art technology and inability to pay APCs. Another contributory factor could be limited knowledge on statistics and research methodology in many professionals in LMICs. Though basic training in research methodology and statistics is included in many undergraduate and postgraduate courses, this knowledge is inadequate to produce high quality research. Thinking 'out of the box' and planning clinical research is another area that LMICs are far behind and whenever such research is planned, obtaining approval from different committees including the ethics committees is extremely difficult, probably due to the strict traditional thinking pattern of committee members. Publishing is also difficult in local journals, probably due to the same reason. Randomised control trials used for developing guidelines often cannot be carried out in LMICs. Available data from LMICs are most often not considered in preparation of systematic reviews and international guidelines as not meeting the required criteria for inclusion.

To improve the relevance of international and local guidelines (which are usually based on international guidelines) resources should be improved for research along with improving knowledge on research and statistics among professionals in LMICs. Professionals should be allowed to take time off from their routine work to perform research and budgetary allocations for research should be prioritised. Currently only academics are given the opportunity to take time off for research or any other professional activity in Sri Lanka. Local and International journals should consider waiving publication fees and encouraging publication of research from LMICs, especially which are relevant to local epidemiological factors. Global guideline development bodies should consider research which may not fall into the traditional 'good quality' evidence and search engines should be expanded to include research articles and journals from LMICs.

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¹2023 ESC Guidelines for the management of endocarditis: Developed by the task force on the management of endocarditis of the European Society of Cardiology (ESC) *Endorsed by the European Association for Cardio-Thoracic Surgery (EACTS) and the European Association of Nuclear Medicine (EANM)*; Victoria Delgado et al; <https://academic.oup.com/eurheartj/article/44/39/3948/7243107?login=false#429636679>