

EDITORIAL**GENERATING EVIDENCE FOR PRACTICE: JUNIOR SCHOLARS IN THE LIMELIGHT**

Damen Hailemariam, MD, PhD¹, Sileshi Lulseged, MD, MSc², Miliard Derbew, MD, FRCS³

It is now widely recognized that clinical decisions should be based on conscientious, explicit, judicious and reasonable use of current, best scientific evidences in the treatment of individual patients. Indeed, confidence in the research outputs has important implications for developing guidelines and clinical recommendations. The quality of evidence depends the research methods which varies in terms of the rigor of evidence they generate. When seeking answers to specific questions, some research methods provide better evidence than that provided by other methods. The challenge that clinicians and other health decision makers oftentimes encounter is to objectively identify and evaluate what is or should be considered "the best available evidence". In order to fully understand this one needs to have a clear knowledge of the level of evidence (also called hierarchy of evidence) and how the integration of this evidence can be used to formulate a grade of recommendation (1,2).

The hierarchy of evidence is a core principal of Evidence-Based Practice (EBP), which allows one to take a top-down approach to locating the best evidence whereby one first searches for a recent well-conducted systematic review and if that is not available, then move down to the next level of evidence in the hierarchy to answer a question of interest (3). It is necessary to place the available literature into a hierarchy as this allows for a clearer communication when discussing studies, both in day-to-day activities such as teaching rounds or discussions with colleagues, but especially when conducting a systematic review so as to establish a recommendation for practice. A number of hierarchies of evidence have been developed to enable different research methods to be ranked according to the validity of their findings (2).

The theme of the studies that generated the manuscripts in this Special Issue of the Ethiopian Medical Journal (EMJ) is "junior scholars generating evidence for practice". The hierarchy of evidence proposed by Ball et al. (1) can be used as a tool, among others, to assess the quality of the studies. This tool ranks studies addressing the many dimensions of an intervention at various levels depending on the importance of the evidence generated for policy and practice. The popular version of the tool for evidence hierarchies classified types of studies according to the strength of evidence they provide from strongest to weakest as: systematic reviews and meta-analyses of randomized controlled trials as well as evidence based clinical guidelines based on these trials; randomized controlled trials; controlled trials without randomization; case-control or cohort studies; systematic reviews of descriptive or qualitative studies; descriptive or qualitative studies; and opinions of authorities, and reports of experts (4).

In this approach, systematic reviews and meta-analyses of randomized controlled trials as well as evidence based clinical practice guidelines based on randomized controlled trial rank at the top (or as level I). On the other hand, opinions of authorities and reports of experts are ranked at the lower (level VII) in the hierarchy (5). Based on this approach, the epilepsy education material developed and standardized by Gugsu (6) can be considered to be at level II, as it is a practice guideline, but not based on randomized controlled trial. Shikur et al.'s study (7) that determined the effect of common mental disorders on food security using longitudinal data from a demographic surveillance site data qualifies to be level IV as it has employed a cohort design. On the other hand, all the remaining five studies fall within the category of level VI as all of them used descriptive quantitative or qualitative designs.

The other criterion for assessing the effect of research on practice is the potential extent of a study for changing or modifying the existing practice. Based on this criterion, two of the studies can be considered to have potential for modifying the prevailing practice. Yifter et al. (8) conducted a study to look into the achievement of diabetes care goals at a tertiary hospital in Addis Ababa for improved diabetes risk factor control along with preventive screening for complications so that diabetes related morbidity and mortality can be significantly reduced. The epilepsy education manual developed by Gugsu (6) has also the potential for improving the practice of public education and awareness creation about the disease by engaging all stakeholders.

¹School of Public Health, College of Health Sciences, Addis Ababa University. ² Department of Pediatrics and Child Health, College of Health Sciences, Addis Ababa University. ³ Department of Surgery, College of Health Sciences, Addis Ababa University.

*Corresponding Author E-mail Address: sileshilulseged@gmail.com

EMJ considers this series of studies and the manuscripts arising thereof as a good example of junior scholars systemic and productive engagement in evidence generation. Besides the immediate-term contributions, their involvement in supervised and supported research activities and development of quality manuscripts will enhance capacity in the field as it adds to the pool of researchers and educators who will lead future initiatives. As indicated in a previous editorial (9), there is an utter need to improving generation and access to research outputs by creating mechanisms that encourage contributors to publishing good quality research and publishing them in local journal. The studies in reported in this Special Issue of the journal sets one more example to that effect.

REFERENCES

1. Ball C, Sackett DL, Phillips B, Haynes B, Straus S. Levels of Evidence and Grading Recommendations. Centre for Evidence Based Medicine, 1998 (Accessed August 2020); Available at: <http://cebm.jr2.ox.ac.uk/index.extras>.
2. Atkins D, Best D, Briss PA, et al. Grading quality of evidence and strength of recommendations. *BMJ*. 2004;328:1490)
3. Sackett DL, Rosenberg WM, Gray JA, Haynes RB, Richardson WS. Evidence based medicine: What it is and what it isn't. *BMJ*. 1996;312:71–2.
4. Siegfried T. Philosophical critique exposes flaws in medical evidence hierarchies. *Science News* (2017-11-13) (Accessed August 2020); Available at: <https://www.sciencenews.org/blog/context/critique-medical-evidence-hierarchies>
5. Evans D. Hierarchy of evidence: a framework for ranking evidence evaluating healthcare interventions. *Journal of Clinical Nursing* 2003;129(1):77-84.
6. Gugsa SA. Standardization of epilepsy educational manuals for Ethiopian students, mothers and teachers (SEEM). *Ethiop Med J* 2020; supp 2:97-104.
7. Shikur B, et al. Impact of common mental disorders on food insecurity among women in Butajira, Ethiopia: a longitudinal investigation. *Ethiop Med J* 2020; supp 2:81-87.
8. Yifter H, et al. Achievement of diabetes care goals at Tikur Anbessa Specialized Hospital, Addis Ababa, Ethiopia. *Ethiop Med J* 2020; supp 2:125-130.
9. Lulseged S, Bekele A. Improving capacity and Access to Information Generated Locally: The case of Ethiopian Medical Journal. *Ethiop Med J*, 2019;57(2):1-2).