



Review Article

A systematic comparison of key features of ischemic stroke prevention guidelines in low- and middle-income vs. high-income countries



Hernán Bayona ^{a,b,1}, Mayowa Owolabi ^{c,2}, Wuwei Feng ^{a,*}, Paul Olowoyo ^{c,2}, Joseph Yaria ^{c,2}, Rufus Akinyemi ^c, James R Sawers ^{a,3}, Bruce Ovbiagele ^{a,4}

^a Department of Neurology, Medical University of South Carolina, Charleston, USA

^b Department of Neurology, Fundación Santa Fe de Bogotá Hospital, Andes University, Bogota, Colombia

^c Department of Medicine, University of Ibadan, and University College Hospital, Ibadan, Nigeria

ARTICLE INFO

Article history:

Received 13 February 2017

Accepted 16 February 2017

Available online 20 February 2017

Keywords:

Stroke

Primary prevention

Secondary prevention

Guideline

Practice guideline

Developing countries

ABSTRACT

Background and purpose: Implementation of contextually appropriate, evidence-based, expert-recommended stroke prevention guideline is particularly important in Low-Income Countries (LMICs), which bear disproportional larger burden of stroke while possessing fewer resources. However, key quality characteristics of guidelines issued in LMICs compared with those in High-Income Countries (HICs) have not been systematically studied. We aimed to compare important features of stroke prevention guidelines issued in these groups.

Methods: We systematically searched PubMed, AJOL, SciELO, and LILACS databases for stroke prevention guidelines published between January 2005 and December 2015 by country. Primary search items included: “Stroke” and “Guidelines”. We critically appraised the articles for evidence level, issuance frequency, translatability to clinical practice, and ethical considerations. We followed the PRISMA guidelines for the elaboration process.

Results: Among 36 stroke prevention guidelines published, 22 (61%) met eligibility criteria: 8 from LMICs (36%) and 14 from HICs (64%). LMIC-issued guidelines were less likely to have articulation of recommendations (62% vs. 100%, $p = 0.03$), involve high quality systematic reviews (21% vs. 79%, $p = 0.006$), have a good dissemination channels (12% vs 71%, $p = 0.02$) and have an external reviewer (12% vs 57%, $p = 0.07$). The patient views and preferences were the most significant stakeholder considerations in HIC (57%, $p = 0.01$) compared with LMICs. The most frequent evidence grading system was American Heart Association (AHA) used in 22% of the guidelines. The Class I/III and Level (A) recommendations were homogenous among LMICs.

Conclusions: The quality and quantity of stroke prevention guidelines in LMICs are less than those of HICs and need to be significantly improved upon.

© 2017 Elsevier B.V. All rights reserved.

Contents

1. Introduction	361
2. Methods	361
3. Results	361
4. Discussion	362
5. Conclusions.	364
Source of Funding	365
Conflict of interest	365
Acknowledgements	365
Appendix A. Supplementary data	365
References.	365

* Corresponding author at: Department of Neurology, Medical University of South Carolina, 19 Hagood Ave Suite 501, Charleston, SC 29425, USA.

E-mail address: feng@musc.edu (W. Feng).

¹ Fundación Santa Fe de Bogotá, Calle 119 7-75, Neurology Office Second Floor, Bogotá, Colombia 110111.

² University College Hospital, PMB 5116, Ibadan, Nigeria, West Africa.

³ Knowledge Technologies, 703 Walkers Landing Lane, Charleston, SC 29412.

⁴ Medical University of South Carolina, 96 Jonathan Lucas St, CSB, Suite 301, Charleston, SC 29425.

1. Introduction

Stroke continues to be an important public health problem worldwide. Between 1990 and 2013, stroke disease and mortality burdens increased due to demographic and epidemiological transitions in developing countries [3]. Using the World Bank's classification system, Low- and Middle-Income Countries (LMICs) contribute over 87% of stroke mortality [4]. Immediate post-stroke mortality and long-term disability significantly worsens an already poor economy in these countries. Focus therefore, should be on approaches enabling healthcare systems to improve control of vascular risk factors [5,6]. However, published data on stroke are limited in LMICs, making it difficult to recognize and evaluate the risk factors and significant issues (eg, renal disease, diet, infections) comprising the total disease burden, and to strategically implement intervention and mitigation on whole populations [7]. Of note is the fact that differences in post-stroke care accessibility may account for a portion of the higher LMIC stroke burden [8].

Developing improved standards of care is one of the World Health Organization's (WHO) goals as part of the Global Action Plan [9,10]. However, LMICs display wide variations in stroke care delivery [2]. The differences in care quality are explainable by knowledge and skill gaps in professionals, limited resources, or locally different available levels of stroke care [2,11]. The preferred approach of achieving this may be through primary stroke-prevention strategies involving efforts of national, provincial, and local governments and non-governmental organizations (NGOs), as well as eleemosynary organizations in cooperation with international agencies [12].

In this study, we aimed to outline available LMIC stroke-prevention guidelines and compare them with similar HIC guidelines. We analyzed availability in various countries. For LMICs, we compared the re-issue frequency, guideline quality, as well as the strength and level of evidence-based recommendations. Additionally, we compared the time lag between a study and the resulting guideline relative to HIC landmark studies supporting specific recommendations. The comparison of guidelines between LMICs and HICs are mainly focused on (a) Guidelines Published; (b) Guideline Re-issue Frequency; (c) Guideline age relative to landmark clinical studies; (d) Rigor of evidence-based recommendations, Level of Evidence (LOE), and (e) Recommendations based on local population evidence.

2. Methods

We systematically searched PubMed, AJOL, SciELO, and LILACS using as primary search terms “stroke” and “guidelines”, for publication dates between January 1, 2005 and December 31, 2015. Secondary search terms included “clinical practice”, “translation”, and “prevention”. Tertiary search items included, “World Health Organization”, “United States”, “American”, “International”, “European”, “African”, “Asian”, “Japanese”, “South American”, “Society”, “Association”, “League”, and “Group” (searches included usual abbreviations). Since there is no specific public database for LMIC stroke prevention guidelines, we also similarly searched the World Stroke Organization (WSO) [13] and for HIC guidelines in the National Institute of Clinical Excellence [14] and Open Clinical [15]. The most recent search was May 31, 2016. We also searched websites of stroke organizations in specific countries (eg, US, Canada, UK, Australia, New Zealand, Malaysia, etc.). Finally, we manually searched references of literature recently found in the above-described digital search. We followed the PRISMA guidelines to elaboration of the systematic review [16].

Firstly, in our evaluation we screened titles, “scientific rationale”, “scientific statements”, “recommendations”, “consensus statements”, “healthcare professional's statements”, “performance”, “guidance”, “policy statements”, “scientific advisory statements”, “stroke management” articles, and “stroke prevention” articles mentioning “ischemic cerebrovascular disease” or “stroke”. We did this to ensure we had identified documents appropriately.

Secondly, we applied the following inclusion criteria:

- 1) Clinical Practice Guidelines – ischemic stroke prevention,
- 2) Ischemic Stroke-Prevention – included in the body of the guideline or as a guideline chapter,
- 3) Written For A Specific Country,
- 4) Elaboration – specific country elaboration for physicians/associations,
- 5) Exclusion Criteria Included:
 - a) Guideline Compliance
 - b) Implementation or Adherence
 - c) Abstract, letter, or comment about stroke, ischemic prevention guidelines
 - d) Analysis of Published Guidelines
 - e) Previous Versions of The Guideline (only the most recent version was included).

Thirdly, we summarized the evidence into several tables for ease of understanding. Guideline quality was assessed using the Institute of Medicine (IOM) consensus report standards [17]. Every IOM standard was scored using a previously described system between 0 and 3 [18]. Where 0 = the standard was not mentioned, 1 = standard with low confidence, 2 = standard with moderate confidence and 3 = standard with high confidence was followed by the guideline developers. We chose as a positive domain or standard a score ≥ 2 . Guideline data was extracted to understand the classification system used, to qualify evidence, for strength of recommendations, and to examine expertise level of Task Force members. From these searches, we expanded our study to include selection methods, the best recommendations, and summarized the evidence by specific geographical areas.

We reviewed all the citations for the chosen recommendations – publication year, country/countries, target populations for a specific studies, and the projected revision date for each guideline. We also examined guidelines regarding stakeholder involvement, translatability into clinical practice, ethical, social, and legal considerations. Finally, we added a new evaluation criterion-mitigation planning. It is our strong opinion that guidelines lacking mitigation plans cannot be effectively implemented anywhere.

We performed a descriptive analysis of the number of available guidelines. Based on the main findings on evidence tables, we performed 2×2 matrices (HIC/LMIC and yes/no) to extract the data and compared results in the HICs with those in LMICs using Chi-square or Fisher's exact Test for the categorical variables using STATA 11.2.

3. Results

We identified 5537 titles through our search. Additionally, we found an additional 18 titles manually. After applying inclusion criteria by title in the screening phase, we discarded 5210 articles as irrelevant. We assessed for eligibility 345 individual documents by applying the inclusion and exclusion criteria using the PRISMA methodology. Then we narrowed the field to 36 relevant stroke-prevention guidelines for full textual evaluation. After disallowing previous versions of the same guideline, duplicated references and different chapters in the same guideline published in the same journal volume, only 22 guidelines qualified for inclusion in our final analysis (Fig. 1). Of these, 14 guidelines were published in HICs and 8 in LMICs. We consolidated the key features for each guideline including publication year, previous reviews of the same guideline in the search timeframe, and the prevention type. Of these, 14 guidelines were published in HICs and 8 in LMICs. The results were identified by country/countries with 3/22 guidelines from Lower-Middle countries (14%) and 5/22 from Upper-Middle countries (22%) (Fig. 2). We evaluated the “trustworthiness” of each guideline using the IOM [17] standards (Table 1) which determine whether the development of the guideline was based on best practices.

Download English Version:

<https://daneshyari.com/en/article/5503180>

Download Persian Version:

<https://daneshyari.com/article/5503180>

[Daneshyari.com](https://daneshyari.com)