## **ORIGINAL ARTICLE**

# **Key Features of Sub-Sahara Africa's Selected Child Health Policy and Program Evidence-base Publications**

Mulugeta Betre Gebremariam(MD, MPH, DLit et Phil Fellow)<sup>1</sup>, Birkneh Tilahun (MD)<sup>2</sup>, Damte Shimelis (MD)<sup>1</sup>, Negussie Deyassa (MD, MPH, PhD)<sup>1</sup>, Tsinuel Girma(MD, PhD)<sup>3</sup>

## **ABSTRACT**

**Background**: Progressive child health care continuum policy and research advancement constitutes rightful priority in every setting. Nevertheless, given the current reality, countries of Sub-Saharan Africa, including Ethiopia are expected to improve performance in this respect.

**Objective**: The given research output aimed at describing the key features of selected child health policy and programmatic research evidence publications from the Sub-Saharan Africa.

Method: The study implemented a quantitative cross-sectional descriptive methodological framework using sampled abstracts pool of reference sources which are already published and archived into the Pub Med between September 2013 through September 2015 limit. Coupled with several sub-themes Child Health Policy Evidences in Sub-Saharan Africa and Child Health Research in Sub-Saharan Africa were the two main search strategies. A total of 1,446 abstracts of the published articles were solicited and organized in alphabetical order on thematic area. Subsequently, with consideration a sample size of one-third (33.9%), 491 abstracts were enrolled for the focused quantitative descriptive analysis.

Result: Majority of the Sub-Saharan countries have two or more published child health related articles entered in Pub Med during the period. Kenya (12.5%; 60), South Africa (11.0%; 53), Uganda (8.7%; 42), Ethiopia (8.0%; 38) and Nigeria (8.0%; 38) were the lead countries. Overall, the Eastern Africa Region was on top with 35.9% share of the articles. From the perspective of design and quality of evidence, quantitative and cross-sectional descriptive, including exploratory were most commonly used accounting for 77.6% and 77.2% respectively. Specifically, intervention trials and mixed method designs were below 10.0% each. Pertaining to the child population and child health conditions, the desired proportional due priority to the newborn and under-five category, of course, without forgetting all other childhood population and their health conditions, appeared not optimal. Predominance of multiple authorships where nearly 50% revealed between five and ten authors for an article was encouraging. Publication journal outlets are quite abundant even by taking the Ethiopian case scenario.

Conclusion & Recommendation: Even if still very modest, efforts made by the majority of the Sub-Saharan African countries and particularly so by Kenya, South Africa and Uganda should encourage other countries of the region to advancing the child health research culture cause with increased enterprise. Engagement in dynamic mapping, analysis, and synthesis of up-to-date child health evidence-base should serve standard academic, research, policy and program continuum of practice in Sub-Saharan Africa.

#### INTRODUCTION

No matter from which dimension, i.e., the promotion-protection, prevention, curative and rehabilitation domains, child health care

continuum policy and research should be viewed rightful priority, practically, in every setting for legitimate reasons (1). However, given the prevailing myriads of multi-faceted societal

Correspondence to the Principal: Mulugeta Betre Gebremariam (Mulugeta.Betre@aau.edu.et; fbbms@yahoo.com)

challenges and factors, in Sub-Saharan Africa (SSA) in particular, advancement of child health

policy and research 'priorities' have never been clear, easy, simple, smooth and straightforward (1-

<sup>1</sup> College of Health Sciences, Addis Ababa University

<sup>2</sup> College of Health Sciences, Hawassa University

<sup>3</sup> College of Medicine and Public Health, Jimma University

5). As a result, in the region, it is not unusual to witness child health policy and research 'priorities' defined with insufficient evidence base as well as mostly being donor directed with less holistic and integrative pathway model. Overall, whereas the Child Survival and the Millennium Development Goals (MDGs) have certainly been offering importance in respect to concerted mobilization of the catalytic global momentum, however, there were critical gaps which prompted the ultimate consideration of the Sustainable Development Goal (SDG) paradigm instead (6-9). Due to the very fact that civic and vital registration systems are yet little functioning within most of the Sub-Saharan Africa settings, it has been hardly possible to be able to generate convincingly comprehensive, holistic and optimal child population based evidence for policy decision making to date. Likewise, ensuring effective institutionalization and sustainability of comprehensive as well as up-to-date child health information base has remained a daunting challenge for less developed countries, again, the majority being in SSA. To date, the child health research and development culture in SSA settings has not been commensurate to the demand (4, 9-13). With an ever growing drive for evidencebased policy and program practice, it is crucial that the child health research and development gets strengthened.

Despite the prevailing shortcomings, it still is worthwhile to duly appreciate that there has really been ever growing interest on evidence-based decision making and policy guidance inclusive of the SSA within the last two to three decades, partly, in connection with MDGs and closely associated with global initiatives in particular. Along the same, it should be encouraging and thus promising to witness that more and more child health policy-oriented scientific articles from the SSA countries have increasingly been appearing on international journals (9-12). Dynamic improvements are more than ever desired in light of the global SDG (6-8), and more specifically, with the building momentum of "universal health coverage, universal health access and universal health equity" drive against the existing wide disparities (17, 18, 23, 24), including influential research outputs. Also. increasingly comprehensive. holistic. transformative "business unusual" policy and programmatic

guidance models are being sought along the progressive optimization and sustainability of the child health and development gain continuum paradigm in Sub-Saharan Africa, including Ethiopia (4, 18-22).

Accordingly, as we are rounding up with the MDGs phase of implementation and already entering the SDGs era, it was felt worthwhile to duly characterize the recent trends of child health policy and program evidence-base in particular. Such, among others, may form crude launchingpad indicator in order to inform and guide more refined research enterprises into the future. Therefore, in order to better guide future educated practice across the academic, research, policy and program continuum, the study has aimed at focused examination and analysis of Pub Med archived evidence reference resource, specifically, of the current child health policy and programmatic evidence base publications in Sub-Saharan Africa in between September 2013 to September 2015.

#### **MTHODS**

Design, focus, search source, and strategy

The study implemented quantitative cross-sectional descriptive methodological framework with a two-year period focused research analysis. The research has exclusively relied upon the U. S. National Library of Medicine of the National Institute of Health or commonly shortly designated as Pub Med (ncbi.nlm.nih.gov) enrolled publications reference source. And the defining set of criteria for preferred Pub Med domain choice and thus focus was its comparative access friendliness, perceived comprehensiveness, reliability, and up-to-datedness, essentially, on the basis of the commonly held educated guess.

Search strategy has been made dynamically double-checked up-to-date with both backward and forward search track right up until the 25<sup>th</sup> September, 2015; the two major search themes were "Child Health Research in Sub-Saharan Africa" and "Child Health Policies in Sub-Saharan Africa" whereas the additional sub-themes of the search details being as: ("child welfare"[MeSH Terms] OR ("child"[All Fields] AND "welfare"[All Fields]) OR "child welfare"[All Fields]) OR "child health"[All Fields]) AND ("research"[MeSH Terms] OR "research"[All

Fields]) AND ("Africa south of the Sahara" [MeSH Terms] OR ("Africa"[All Fields] AND "south"[All Fields] AND "Sahara"[All Fields]) OR "Africa south of the Sahara"[All Fields] OR ("sub"[All AND "Saharan"[All Fields] AND Fields1 "Africa"[All OR "Sub Fields]) Saharan Africa"[All Fields]). For this study, Child Health Policy and Program were made loosely defined to make the enrollment as cross-cutting and as inclusive as possible with the view that every piece of child health related research will have some degree of contribution to the dynamic evidence-based policy and program improvement. Sample and sampling procedure

Choice of the Pub Med Reference Resource was rationalized in view of its comparatively authoritative, comprehensive and current enough evidence base in particular. Pertaining inclusion criteria and terms, the research was poised to enroll all of the child health and pediatrics related abstracts falling within 26<sup>th</sup> September, 2013 through 25<sup>th</sup> September, 2015 included. However, at the outset, the search was unrestricted by time range (i.e., it was made all-time inclusive with the entire panel of abstracts pool with an all-time aggregate to the very final date of the search exercise, namely 26<sup>th</sup> September, 2015). The forward and backward active search process was implemented during 26th July through 25th September, 2015. Accordingly, all in all, it was possible to identify 12,192 abstracts of the articles on "Child Health Research in Sub-Saharan Africa" whilst 1,710 on "Child Health Policy in Sub-Saharan Africa" of all-period aggregate. However, the panel of abstracts for "current" per se pool included articles which were reported published (and thus posted and archived in Pub Med) in between 26<sup>th</sup> September 2013 and 25<sup>th</sup> September 2015. The exclusive focus was on English language-based publications.

The randomly first-appearing abstract first-download listing approach was followed right up to the achievement of the full number set. The abstracts were collated and organized alphabetically title-based. The total number of articles in the Pub Med for the specific period were 1,446 abstracts dominantly 2014 & 2015 with few falling onto the 2013 (September – December 2013) segment. Subsequently, however, guided by the principle of manageable size in view of time and hence based on every third abstract

enrollment approach, the sub-sample abstracts panel pool for analysis was set. Accordingly, in total, 491 (33.96%) abstracts pool of child specific as well as with cross-cutting nature were sampled and subjected for the structured rigorous analysis. To the very effect, all the 1,446 abstracts were first listed and organized in the dedicated folder with the thematic-alphabetical order; and based on which every subsequent third abstract beginning right from the first to the end in the list to fulfilling the total 491 was made enrolled and thus subjected for critical systematic analysis by the Investigators' team. Neither thematic nor country specific preferential selection was allowable across the sample enrollment process.

## Analysis

Analysis followed the key features of the descriptive characterization track. Custom-made template was developed in order to systematically guide the organization, characterization, analysis and interpretation processes, namely the year and month of publication, country, number of authors, health condition, population category, study design and type were entered into the structured template on an excel sheet. Accordingly, based on the given framework and thus protocol of analysis – the key attributes of eligible (sampled) abstracts were analyzed, summarized and presented in pure descriptive dimension. The key features of the analysis get presented with judicious mix of narration, graphic and tabulation tools.

Quality assurance and quality control management

Systematic use of structured checklist, streamlined and uniformity of the standards of practice coupled with nil inter-observer fallacy are believed to ensure better quality of the given piece of scientific work. In connection, the authors endured full compliance to required strict adherence to "the first occurrence of the abstract first enrollment" pathway principle and practice in specific view of the sampling technique framework per se. Impartiality and integrity of authors could have served essential quality assurance instrumentation.

#### Ethical responsiveness

The given research did not require institutional ethical review process since it was analysis expansion and furtherance enterprise. The entirety of the research did not involve contact or interaction with humans; and, as well it did not

involve links with the potentially identifiable attributes of the study subjects either case-by-case or on collective level. Same token, furtherance of the analysis and interpretation of the given study relied on next level aggregation and generation of scientifically sound evidence. Also, authors bear no conflict of interest and have zero bias either way, and no preferential or a prior selection other than purely at random as per the ordered listing within the corresponding resources. Meaningful scholarly contribution in the best interest of addressing the child health research agenda dynamics, specifically, in Sub-Saharan Africa comprised the authors' singular governing motivation. No funding was solicited from any source to undertaking the project.

## FINDINGS/RESULTS

Featuring countries and overall characteristics of abstracts of articles subjected for analysis

A total of 491 sample articles were subjected for the current research analysis. It is important to note that quite sizeable number of the articles bear cross-cutting, i.e., combined child and adult health related features. In this sample, Kenya, South Uganda, Ethiopia, Nigeria, Ghana, Tanzania, and Malawi with 12.5% (N=60), 11.0% (N=53), 8.7% (N=42), 8.0% (N=38), 8.0% (N=38), 5.6% (N=27), 5.6% (N=27) and 4.6% (N=22) articles, respectively, appeared on the forefront of child health research evidence publication which as such actually were only preceded by the Multi-Country and/or Sub-Saharan Global cohort (19.0%, N=91) (Table 1). Based on the given cohort, other than the Northern (non Sub-Saharan) African cohort per se, there was little publication information from countries such as Central African Republic, Djibouti, Guinea, Liberia, Madagascar, Mali, Mauritania, Mauritius, Santo me Principe, Seychelles Togo in particular.

Table 1: Relative Distribution of SSA Pub Med Sampled Child Health Research Articles by the Countries, September 2013 – September 2015.

Country and Articles	N (%)
(N=491) Distribution	
Multi-Country	91 (19.0)
Kenya	60(12.5)
South Africa	53(11.0)
Uganda	42 (8.7)
Ethiopia	38 (8.0)
Nigeria	38 (8.0)
Ghana	27 (5.6)
Tanzania	27 (5.6)
Malawi	22 (4.6)
Zambia	17 (3.5)
Zimbabwe	17 (3.5)
Burkina Faso	12 (2.5)
Cameroon	10 (2.1)
Rwanda	9 (1.9)
DR Congo	8 (1.7)
Ivory Coast	6 (1.2)
Mozambique	5 (1.0)
The Gambia	5 (1.0)
Senegal	4 (1.0)

The Eastern Africa Region was having largest and the leading (35.9%) share of all the sampled articles and as already exhibited in Table 1, the most notable leading countries being Kenya, Uganda, Ethiopia and Tanzania in order. In the given sample there were no child health related published articles representing Central and Northern Africa in particular (Figure 1).

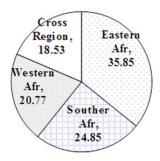


Figure 1: Relative Regional Bulk Share of SSA Pub Med Source Sampled Child Health Articles, September 2013 – September 2015 *Characteristics of study designs and types*In the current sample, the descriptive and quantitative study domains bear the lions' share with 77.2% (N=363) and 76.6% (N=360) respectively. Observational analytical and

randomized controlled trials of any form carried less than 10.0% each. Again, with just 3.6%

(N=17) the share of mixed method application may be stated negligible enough (Table 2).

Table 2: Relative Distribution of SSA Pub Med Sampled Child Health Articles by the Study Design and Method, September 2013 – September 2015.

Publications (N=470) by Design and Method		N (%)
	Cross-Sectional Descriptive	269 (57.2)
Design	Exploratory Descriptive	94 (20.0)
Č	Cohort and Case-Control Group	46 (9.8)
	Randomized Controlled Trials (all forms)	41 (8.7)
	All other forms, including Quasi-Experimental and evaluative	22 (4.7)
Method	Quantitative only	360 (76.6)
	Qualitative only	93 (19.8)
	Mixed Method	17 (3.6)

Spectrum of child health issues and most researched thematic domain

In the context of this analysis, HIV and AIDS related (127; 20.5%) and all the other child health conditions combined together (249; 40.2%) were found to carry sizable share. Expanded Program of Immunization (EPI)/vaccination (17; 2.8%), under-five childhood ARI-pneumonia and diarrhea

(28; 4.5%) and tuberculosis (14; 2.3%) were found to fall in the comparatively lower range. With the particular focus to the childhood population category, published respective research outputs pertaining newborns were 63 (11.4%) and that of the under-five children were 92 (16.6%) (Table 3).

Table 3: Relative Distribution of SSA Pub Med Sampled Child Health Articles by the Major Health Conditions/Issues of Research, September 2013 – September 2015

Major Features	Characteristics	N (%)*
	Neonatal conditions (any)	63 (10.2)
	Expanded program of immunization/vaccination	17 (2.8)
	Growth-Development & Malnutrition	65 (10.5)
Health Conditions	Under-Five Childhood ARI-Pneumonia & Diarrhea	28 (4.5)
	Malaria related	56 (9.1)
	HIV and AIDS related	127 (20.5)
	Tuberculosis	14 (2.3)
	All the others	249 (40.2)
Childhood	Neonates focused	63 (11.4)
population	Under-Five Children focused**	92 (16.6)
	Five Years and Above focused and/or cross-cutting	400 (72.1)

<sup>\* [1]</sup> Due to the co-morbidity, multiple entity

study features and overlap related factors within a single article, encounters of simultaneous counts (i.e., falling) to more than one category was not rare; and, therefore, the denominator gets inflated to 619. [2] Again, for the same reason, pertaining childhood population segment per se, the denominator was 555 in this particular instance.

Overall authorship model and publication journal characteristics

<sup>\*\*</sup> This is with the exclusion of studies where there was a specific mention of "neonates".

Authorship membership mix with five to ten persons category on a given article was nearly half of the present sample (N=233; 48.6%). The two to four and the over ten categories revealed more or less comparable size, 122 (25.5%) and 110 (23.0%), respectively. Single authorship style was the rarest occurrence (14; 2.9%) (Figure 2).

Whilst the authorship mix has ranged wide, between single to over three hundred (with inclusion of the collaborative consortiums), the commonest encounters were four (65; 13.6%), five (53; 11.1%), eight (48; 10.0%), six (42; 8.8%) and seven (37; 7.7%) (not depicted in Figure 2).

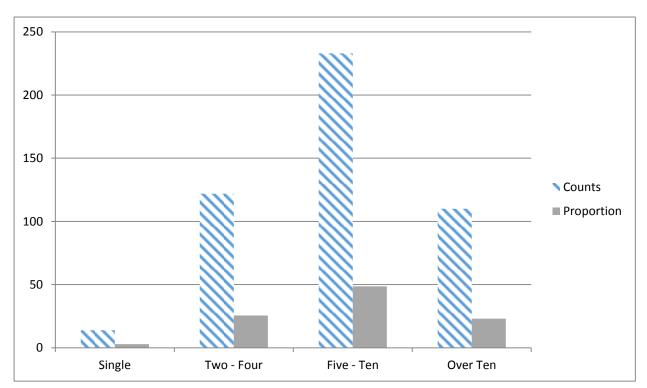


Figure 2: Relative Authorship Size Profile of SSA Pub Med Source Sampled Child Health Articles (N=479), September 2013 – September 2015

Ethiopia's relative share and the specific features of published articles

Based on the given Ethiopian cohort, no article was found pertaining expanded program of immunization/vaccination, malaria and tuberculosis whereas "all the other conditions" exhibited approximately half (21; 52.5%) of all the articles. Articles focusing on Neonatal and Under-Five Childhood segments took 3(7.9%) and 13(34.2%), respectively. The overwhelming

majority (35; 92.1%) of articles were cross-sectional descriptive and quantitative (32; 84.2%) domains. Authorship mix with two to four (14; 36.8%) and five to ten (15; 39.5%) authors were the dominating feature (Table 4).

Table 4: Focused Characterization of Ethiopia's Pub Med Sampled Child Health Articles by the Major Features, September 2013 – September 2015.

Major Features	Characteristics	N (%)*
	Neonatal conditions	3 (7.5)
	Expanded program of immunization/vaccination	
	Growth-Development & Malnutrition	7 (17.5)
	Under-Five Childhood ARI-Pneumonia & Diarrhea	6 (15.0)
Health Issues*	Malaria related	
	HIV and AIDS related	3 (7.5)
	Tuberculosis	
	All the others	21 (52.5)
Childhood Population	Newborns	3 (7.9)
Categories	Under-Five Childhood	13 (34.2)
· ·	All others and/or cross-cutting	22 (57.9)
Study Design & Type	Randomized controlled trial (any)	1 (2.6)
	Observational: cohort and/or case-controlled	2 (5.3)
	Cross-sectional descriptive	35 (92.1)
	Quantitative	32 (84.2)
	Qualitative	4 (10.5)
	Mixed	2 (5.3)
Authorship mix	Single	2(5.3)
1	Two to Four	14 (36.8)
	Five to Ten	15 (39.5)
	More than Ten***	7 (18.4)

<sup>\*</sup> As already highlighted for Table 3 case, a given article could address a combination of two or more entities

In this sample, the commonest encounter (mode) pertaining number of articles against the listed journals was 1 which covered in the nine out of the 26 journal titles. In comparison, BMC Public Health (7; 18.4%), BMC Research Notes (4; 10.5%), PLOS One (4; 10.5%), BMC Pregnancy and Child Birth (3; 7.9%) and Global Health Action (7.9%) appeared the dominant publication

outlets. All of the Ethiopian based health journals but the Ethiopian Medical Journal (2; 5.3%) were not enrolled within the given sample of Pub Med source. Also, in the given Ethiopian sample, no article was revealed in some of the would be common reference sources such as the American Academy of Pediatrics, International Child Health, Journal of Tropical Pediatrics, The Lancet and The New England Journal of Medicine (Table 5).

<sup>\*\*\*</sup> Also includes the collaborative consortiums

Table 5: Journals' Profile and Relative Distribution of Ethiopia's Pub Med Sampled Child Health Articles by the Major Features, September 2013 – September 2015.

Journal Title	N (%)
American Academy of Pediatrics J.	
BMC International Health and Human Rights	1 (2.6)
British Medical Journal	1 (2.6)
BMC Pregnancy and Child Birth	3 (7.9)
BMC Public Health	7 (18.4)
BMC Research Notes	4 (10.5)
Ethiopian Journal of Health Development	
Ethiopian Journal of Health Sciences	
Ethiopian Journal of Pediatrics and Child Health	
Ethiopian Medical Journal	2 (5.3)
Food and Nutrition Bulletin	2 (5.3)
Global Health Action	3 (7.9)
Human Resources for Health	1 (2.6)
International Child Health J.	
Journal of Epidemiology and Global Health	1 (2.6)
Journal of Midwifery and Women's Health	1 (2.6)
Journal of Pediatrics Infectious Diseases	2 (5.3)
Journal of Trauma Stress	2 (5.3)
Journal of Tropical Pediatrics	
Lancet (The)	
New England Journal of Medicine (The)	
Pan African Medical Journal	1 (2.6)
PLOS One	4 (10.5)
Social Science Medicine	1 (2.6)
Tropical Medicine and International Health	1 (2.6)
Vaccine	1 (2.6)

## **DISCUSSION**

This study has endeavored to examine the key features of selected child health policy and programmatic evidence base publications from Sub-Saharan Africa, specifically, within the Pub Med reference source framework during September 2013 through September 2015 in particular. It, certainly, was not within the scope of this research to be able to determine on how much of the research endeavors of the Sub-Saharan African countries have actually been guided by the pertinently designed priority specific policies and programs.

Guided by the soundly formulated standards of methodological procedure and corresponding template, 491 abstracts of the published articles were sampled and subjected to the focused analysis. In gross terms, it would be fair to state that in spite of the fact that majority of the Sub-

Saharan African countries have registered two or more published articles in the Pub Med reference source during the past two years, it was evident that the representation was not even enough by several parameters (1, 4, 6) and, also, few countries could not get reflected within the given sample per se. Of course, among others, the working language factor, specifically, such that the predominant use of Arabic, French and Portuguese in some of these unrepresented Sub-Saharan countries could have played certain role in respect. The prevailing feature calls for more expanded, comprehensive, and robust research in order to be able to consolidate reliable and equally sustainable evidence based policy and program along the high demand for progressive child health and development care optimization across the Sub-Saharan Africa forward (4, 5, 7, 9, 10, & 12). Everything else of the Sub-Saharan African countries considered equal, it could have been

assumed that Nigeria and Ethiopia featuring productive first and second given the simple theoretical logical rationalization of the per capita proportional distribution child health research publication outputs in the Pub Med reference source inclusive. However, based on the findings of this given study, it actually was Kenya, South Africa and Uganda in the order placed from first to third whereas Ethiopia and Nigeria ranked the fourth and fifth instead. At the same time, though, the largest child health research publication output aggregate volume of approximately contributed by Eastern Africa inclusive of Ethiopia as compared to all the other sub-regions of the Sub-Saharan Africa; this is something to get inspired by other sub-regions of Sub-Saharan Africa in future.

Further looking into the featuring study designs, types and evidence quality aspects of the sampled child health policy and programmatic research publication outputs of the Sub-Saharan African countries within the Pub Med during the period, it was revealed that the relative contribution of intervention trials, observational analytical (cohort and case-control), evaluative and mixed method was somewhat marginal. Factors, such as the "business as usual" mode of operation, crisis response framework, capacity limitations, cost and donor driven research enterprises could have possibly played critical role to the prevailing manifestation (10-12).

Specifically, when it comes to the category of child population and respectively the child health conditions covered in the sample research publication outputs, as a whole, it looked that duly the proportional emphasis on the newborn, underfive childhood population and the respective conditions across the Sub-Saharan countries was not optimal. HIV and AIDS related publication outputs was the dominant feature probably in view of the uniqueness of the HIV and AIDS pandemic and as a result of donor-based interests per se. More or less the same feature was evident with the focused analysis on the Ethiopian set as well. Nonetheless, tailor-made prioritization across the continuum of care with rightful focus on optimal quality of survival and development cannot be an overemphasis (1-3, 5, 7, 8, 12, 13 & 22). Furthermore, the yet highly widespread shortfall backlogs, disparities and inequities coupled with the future aspirations of the Sub-Saharan African

countries should warrant increasingly maximized and multiplied responsiveness of child health research outputs in multi-faceted dimensions to the future (7-9, 14-17& 20-24). For both Ethiopia and the Sub-Saharan African countries, the comparatively better engagement of more authors in the two and above membership for an article category and where nearly 50% had fallen in the five to ten authors' membership for an article category should be highly encouraging. Potential publication journal outlets may rightfully be claimed abundant.

Overall, this fairly expeditious analysis provides useful picture about the contemporary dynamic to duly informing the future practice. Also, it comes at no better right time as we get to conclude with the popular MDGs (1-3, 5) and prepared to commence the SDGs (6-10) and, also, equally that professional societies are expected to undertake the corresponding strategic up-dates to anytime soon. Systematic guidance of the Child Health Research Practice both in wider Sub-Saharan and in the Ethiopian contexts will have paramount significance (4, 11-13). Such kind of periodic profiling is believed to facilitate increased trend monitoring, adaptation research prioritization guidance and focused policy dialogue practices for both Ethiopia and the Sub-Saharan Africa at large. Equally importantly, the mapping can serve dynamic academic discourse purposes. Periodical systematic analysis, consolidation dissemination of something like the Contemporary Child Health Research Compendium will play evidence-informed academic, research, policy and program practices. The precise format and time range may get deliberated and finalized at the earliest possibilities.

Scope and limitations of the given study

As stated, the analysis was exclusively focusing on the abstracts of already published and, also, those exclusively appearing in Pub Med. Systematic appraisal of the full publication could have been highly desired had it not been to the already set objective and time considerations of the current endeavor. Also, it may likely be the case that Pub Med could not have catered to all of published materials be it for the specific period of interest or else. It as well will be worthwhile to further note that many more yet unpublished pertinent research resources are believed to have existed across the Sub-Saharan African countries

at the time of this research. Future research efforts may attempt to offset such constraints. Nonetheless, it is the presumption of the authors that it still could have the greater share and thus the given profile can inform sound enough.

#### **Conclusion and Recommendations**

Having robust enough Child Health Research Priority Framework is viewed fundamental. Even if still very modest, efforts being made by the Sub-Saharan Africa countries should be a reason for enthusiasm which should bolster further motivation to advancing the child health research cause with increased enterprise by all pertinent.

The comparatively vigorous Child Health Research culture of some Sub-Saharan African countries, namely Kenya, South Africa, and Uganda may be worth emulating, particularly, in light of the per capita consideration. In view of the present sample, Ethiopia's share was not negligible and, in fact, may be viewed increasingly promising to the future. Engagement in dynamic mapping, analysis, and synthesis of up-to-date child health evidence-base should serve standard academic, research policy programming continuum of practice. To this very noble effect of which, therefore, the pertinent Pediatrics Society like that of Ethiopia and respectively the African Chapter may have to take the rightful lead-leap role pursuance whilst the collaboration to the cause with all the other salient actors and stakeholders cannot overemphasis.

## **REFERENCES**

- 1. Countdown to 2015. Fulfilling the health agenda for women and children: the 2014 report. UNICEF and WHO, Geneva, World Health Organization, 2014.
- 2. Cesar G. Victora, Jennifer Harris Requejo, Aluiso J. Barros, Peter Berman, Zulfiqar Bhutta, Teis Boerma et al. Countdown to 2015. A decade of tracking progress for maternal, newborn and child survival. The Lancet. http://dx.doi.org/10.1016/s0140-6736(15)00519.8 (access: 05<sup>th</sup> September 2015).
- 3. Countdown to 2015. A decade of tracking progress for maternal, newborn and child survival: the 2015 report. UNICEF and WHO, Geneva, World Health Organization, 2015.
- 4. David Olds. Building evidence to improve maternal and child health. The Lancet. http://dx.doi.org/10.1016/s0140-6736(15)00476.6 (access: 14<sup>th</sup> October 2015).
- 5. Zufiqar A. Bhutta, Mickey Chopra. Moving ahead: what will a renewed countdown to 20130 for women and children will look like? The Lancet http://dx.doi.org/10.1016/s0140.6736(15)00527-9 (access: 16<sup>th</sup> October 2015).
- 6. Third International Conference Financing for Development: Addis Ababa Action Agenda (AAAA) of the Third International Conference on Financing Development. United Nations, 2015.
- 7. United Nation A/RES/70/1 General Assembly Resolution adopted by the General Assembly on Transforming our World: the 2030 Agenda for Sustainable Development. 70/1, 25<sup>th</sup> September 2015, New York, United Nations, 2015.
- 8. International Institute for Sustainable Development (IISD) Summary of the UN Sustainable Development Summit 25-27<sup>th</sup> September 2015 UN Summit Final. IISD Reporting Services, Earth Negotiations Bulletin, 2015; 32(24)1-18.
- 9. Igor Rudan, Lydia Kapiriri, Mark Tomlinson, Manuela Balliet, Barney Cohen, Mickey Chopra. Evidence-based priority setting for health care and research tools to support policy in maternal, newborn and child health in Africa. PLoSMed 7/7:e/000308. http://doi:10.1371/journal.pubmed.1000308 (access: 16<sup>th</sup> October 2015).
- 10. Osman Sankoh (on behalf of INDEPTH Network). CHESS (Comprehensive Health and Epidemiological Surveillance System): an innovative concept for a new generation of population surveillance. The Lancet http://dx.doi.org/10.1016/s2214.109x(15)0080-1 (access: 26<sup>th</sup> October 2015).
- 11. Sharon Fonn. Linking public health training and health systems development in Sub-Saharan Africa: opportunities for improvement and collaborations. Journal of Public Health Policy, 2011;32:s44-s51 http://doi.10.1057/jphp.2011.32 (access: 05th September 2015).
- 12. George H. Swingler, James H. Irlam, William M. Macharia, Felix Tietch, and Martin M. Meremikwu. A systematic review of existing national priorities for child health research in Sub-Saharan Africa. BioMed Central Health Research Policy and Systems 2005; 3:7 http://doi:10.1016/1478-4505-3-7 (access: 05th September 2015).
- 13. Institute of Health Metrics and Evaluation, Human Development Network, The World Bank. The global burden of diseases: generating evidence, guiding policy Sub-Saharan Africa Regional Edition. Seatle, WA: IHME, 2013.
- 14. The future of children policies to promote child health. Princeton and Brookings. Spring 2015; 25(1):1-
- 15. Michelle J. Neuman, Amanda E. Devercelli. Early childhood policies in Sub-Saharan Africa: challenges and opportunities. International J. Child Care and Education Policy, 2012; 6(2):21-34.
- U. S. Department of Health and Human Services Health Resources and Services Administration Maternal and Child Health Bureau. USA Child Health 2014. Rockville, Maryland: U. S. Department of Health and Human Services, 2015.
- 17. Marlous de Milkaino and Ilze Plavgo. Analysis Child Poverty and Deprivation in Sub-Saharan Africa: cross-country multiple overlapping deprivation analysis. UNICEF Office of Research Innocenti Working Paper-2014-19, Florence: UNICEF, 2014.

- 18. United Nations Development Programme (UNDP) National Human Development Report 2014 Ethiopia: accelerating inclusive growth for sustainable human development in Ethiopia. New York: UNDP 2015.
- 19. Federal Democratic Republic of Ethiopia Ministry of Health Maternal and Child Health. National Strategy for Newborn and Child Survival in Ethiopia 2015-2020. Ministry of Health, 2015.
- 20. Cyril Frank, Edward Nasom. Health research: measuring the social, health and economic benefits. Canadian Medical Association Journal, 2009; 180(5):528-534.
- 21. Neal Halfon, Helen Dullessis and Moira Inkelas. Transforming the U. S. child health system. Health Affairs 2007; 26(2):315-330.
- 22. Sarah K. G. Jensen, Raschida R. Bouhouch, Judd L. Walson, Bernadette Daelmans, Rajib Bahil, Gray L. Darmdstadt, Tarun Duan. Enhancing the child survival agenda to promote and support early child development. Global Perinatal Medicine Seminars in Perinatology 2015; 39(5):373-386.
- 23. Gemma Carey, Brad Crammond and Evelyne De Leeu. Towards health equity: a framework for the application of proportional universalism. International J. for Health Equity 2015; 14:81 http://DOI 10.1186/s12939-015-0207-6 (access: 26<sup>th</sup> October 2015).
- 24. World Health Organization Commission on Social Determinants of Health (WHO CSDH). Closing the gap in a generation: health equity through action on the social determinants of health. Geneva: WHO CSDH, 2008.