Response Letter

Response to commentary on outcomes of acute kidney injury in children and adults in sub-Saharan Africa

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Dear Editor,

In our study (1), commented on by Cerdá *et al*. (2), we reported on barriers to diagnosis and care of acute kidney injury (AKI) in sub-Saharan Africa. A few of these include delays in reaching hospital, cost of care, erratic functioning or supply of hospital resources, and female sex. The commentary by Cerdá *et al*. (2) further corroborated our findings in that regard. We agree with the commentators' submission that under-reporting of AKI in sub-Saharan Africa is as a result of lack of early recognition owing to inappropriate education of healthcare givers (2). To prevent AKI, it is imperative for low and medium income countries (LMIC) to focus on the organization of local, regional and national public health initiatives to ensure prompt management of the main mechanisms leading to AKI including inadequate funding of primary health care clinics that treat all diseases (3). Equally important interventions for better AKI outcome in LMIC include improved health determinants like educational, cultural, socio-economic and environmental factors that are specific to each country (3). This was clearly pointed out in our study that a preventive and treatment programme for AKI can only be effective and sustainable when identified barriers are understood and overcome (1). But this will require funding. It has been shown that a clear correlation exists between investment in health and incidence and mortality associated with AKI (4). In sub-Saharan Africa, dialysis access rates in both children and adults remain poor and mortality is very high. One of the ways by which this can be improved upon is through local manufacturing of peritoneal dialysis fluids, haemodialysis machines, and procuring other dialysis equipment at cheaper costs to patients (5). This is further emphasized in a more recent publication by Smoyer *et al*. (6). Local production of cheap dialysis solutions and equipment in resource limited countries as well as collective purchasing and strong price negotiations must be vigorously pursued at government and regional levels to ensure affordability of dialysis.

In our study the publications reviewed were of medium to low quality, which posed a challenged during the review process as this is an unconventional approach to a systematic review. We however were able to justify that inclusion of all studies, rather than increasing publication bias through exclusion of most studies, was likely to provide a better overall picture of the outcomes of patients with AKI in sub-Saharan Africa. For this reason we did not emphasize point estimates but rather trends in outcomes, which were highly consistent across papers and purposefully declined to perform a meta-analysis. Our intention was to convey the messages that Cerdá *et al*. in their commentary have highlighted, therefore we suggest that when non-high quality data is the only data available, such transparent and relatively basic data analysis can still be valuable. Our study does, however, bringing sharply into focus the need for improved study quality in sub-Saharan Africa. Prospective study design to improve completeness of data collection,

reduce missing data and improve follow up is important in a region where patient records may be incomplete and inaccessible. Prospective consideration of components of study quality scores and use of checklists in any ongoing or planned research can optimize study design, data collection, and reporting accuracy which will help to highlight the true burden of AKI and reliably inform policy making (1). The importance of good data collection and reporting was alluded to by Lewington *et al*. (7) who stated that under recognition, worsened by poor data collection could make AKI a low priority public health problem due to reduced AKI awareness and minimal political impact.

As commented by Perico and Remuzzi (8), AKI should no longer be a death sentence in sub-Saharan Africa if attention is paid to its early recognition and prompt management as well as local production of dialysis fluids and equipment to sustain supplies. *A priori* assurance of sustainability of any planned AKI treatment program (especially dialysis) is mandatory prior to roll out, and any reliance on out of pocket payments, even if considered small, is very likely to keep treatment out of reach for many of those require it. Accurate data on incidence and outcomes of AKI in resource limited regions is crucial to effectively engage governments, policy makers and communities, to permit transparent priority setting, and to implement multi-sectoral prevention strategies and affordable and sustainable treatment programs which must be integrated within the health system to avoid generation of parallel vertical programs.

True prevention of AKI will require a multi-sectoral approach that goes beyond the health system alone and which aligns with the United Nations' Sustainable Development Goals (9) to end poverty, reduce hunger, improve access to public health interventions, health care and universal health coverage, quality education, gender equality, access to clean water and sanitation, reduce inequalities and build strong institutions. Engagement with governments and policy makers is therefore crucial to tackle this important public health problem.

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References

1. Olowu WA, Niang A, Osafo C, et al. Outcomes of acute kidney injury in children and adults in sub-Saharan Africa: a systematic review. Lancet Glob Health 2016;4:e242-50.
2. Cerdá J, Adu D, Lameire NH. Outcomes of acute kidney injury in children and adults in Sub-Saharan Africa. Public Health Emerg 2016;1:40.
3. Lameire N, Van Biesen W, Vanholder R. Epidemiology of acute kidney injury in children worldwide, including developing countries. Pediatr Nephrol 2016. [Epub ahead of print].
4. Mehta RL, Cerdá J, Burdmann EA, et al. International Society of Nephrology's 0by25 initiative for acute kidney injury (zero preventable deaths by 2025): a human rights case for nephrology. Lancet 2015;385:2616-43.
5. Olowu WA. Acute kidney injury in children in Nigeria. Clin Nephrol 2015;83:70-4.
6. Smoyer WE, Finkelstein FO, McCulloch MI, et al. "Saving Young Lives" with acute kidney injury: the challenge of acute dialysis in low-resource settings. Kidney Int 2016;89:254-6.
7. Lewington AJ, Cerdá J, Mehta RL. Raising awareness of acute kidney injury: a global perspective of a silent killer. Kidney Int 2013;84:457-67.
8. Perico N, Remuzzi G. Acute kidney injury in low-income

and middle-income countries: no longer a death sentence. Lancet Glob Health 2016;4:e216-7.
9. United Nations Sustainable Development Goals. Available online: http://www.un.org/sustainabledevelopment/sustainable-development-goals/

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