Author’s response to reviews

Title: A comparison between health research output and burden of disease in Arab countries: evidence from Palestine

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Author’s response to reviews:

Dear Dr Miguel Angel Gonzalez,

We are grateful for your consideration of our manuscript (HRPS-D-17-00163) entitled: ‘The relation between health research output and burden of disease in Arab countries: evidence from Palestine’ for publication in Health Research Policy and Systems. My co-authors and I greatly appreciate the time and effort that you put into the review of our manuscript. We have revised our paper taking into account the recommendations made. We think that these recommendations have been adequately accounted for and incorporated to the manuscript, and hope that you agree. In the response to reviews document, we addressed each comment and issue raised by the reviewers.

All authors have read and approved the final manuscript and declare no conflict of interest. The results have not been published anywhere nor are they under consideration at any other journal.

Thank you for considering the revised manuscript. We are looking forward to hearing from you.

With kind regards,

Loai Albarqouni, Khamis Elessi, Niveen Abu-Rmeileh

The Chief Editors have assessed your submission prior to peer review. However, though interesting, the Chief Editors request various changes before it can be sent out for review, as indicated below.

Many thanks
Please undertake a rather more thorough analysis of previous literature and of the issues facing a relatively small health research system such as that of Palestine.

On the first point the article claims that reference 15 refers to research in sub-Saharan Africa shows there is a poor correlation. The abstract of that study actually says: 'There was relatively good correlation between the estimated burden of disease at year 2000 and the number of trials performed (r=0.53, P=0.024) and the number of participants randomised (r=0.68, P=0.002). However, some conditions-for example, injuries (over 20 000 DALYs per patient ever randomised)-were more neglected than others.'

Similarly, reference 20 about NCD research in 7 Arab countries shows a more nuanced picture and actually states: 'Gap analysis showed a mismatch between cause-specific PMR burden and NCD research output, with a relative surplus of reports on cancer (pooled estimate +38.3%) and a relative deficit of reports on CVDs (pooled estimate -30.3%).'

We extensively modified the discussion to reflect these points:

“Our findings are in line with a previous investigation of research output (i.e. 66 randomised controlled trials published in five leading medical journals) in Latin America that found a poor correlation between disease burden and research output[16]. This has been also evident in a recent cross sectional analysis of 1097 randomised controlled trials published in December 2012, which found that global burden of disease is poorly associated with the number of published randomised trials (Spearman’s r = 0.35; p < 0.001) as well as number of recruited participants (Spearman’s r = 0.33; p < 0.001) [9].”

A 2002 study of 1179 published randomised trials from sub-Saharan Africa (48% from South Africa) showed a good correlation between the estimated burden of disease and the number of trials performed (Spearman’s r = 0.53, p = 0.024) and the number of participants randomised (Spearman’s r = 0.68, p = 0.002). However, a recent sub-set analysis of all RCTs, published in December 2012 and conducted in sub-Saharan Africa, found that there is a very poor correlation between disease burden and number of trials (Spearman’s r = 0.17). This can be explained by the rapid epidemiological transition in sub-Saharan Africa with an increase in NCD burden, while sub-Saharan’s health research system and capacity is prioritising communicable diseases (e.g. HIV and malaria) over NCD.”

“A recent scoping review of 3776 NCD-related reports published between 2000-2013 from 7 Arab countries, found a mismatch between cause-specific death rates and research output, with a relative surplus of reports on cancer and a relative deficit of reports on CVDs – with a sub-set analysis of reports from Palestine showed that there are deficit of report on both CVDs and cancers[20]. However, this study is limited to publications related to NCD, to the exclusion of other diseases/conditions.

Previous investigations have also shown that there is a mismatch between disease burden and allocated funds. An analysis of the relation between WHO’s budgetary allocations and burden of disease found a misalignment between fund allocation and disease burden, with an obvious skew
infectious diseases[18]. However, Gross et al compared the estimates of National Institute of Health (NIH) disease-specific funding in 1996 with the burden of disease, found that number of deaths was weakly associated with funding ($r = 0.40, p = 0.03$), whereas number of DALYs was strongly predictive of funding ($r = 0.62, p < 0.001$)[19].”

On the second point, perhaps the authors could use a more detailed analysis of the existing literature to explore more fully the range of possible implications of their findings, for example, might there be an argument that if Palestinian researchers have particular areas of expertise then it is best if they focus on those areas?

We modified the discussion to have a separate paragraph about the implications of our findings:

Implications of our findings

Establish a national medical and health research priority setting in Palestine.

Priority setting is an essential for efficient use of limited resources, and an integral step needed in the national research management process, particularly, to assist allocating the limited resources to meet national health goals. Otherwise, there is a risk that research topics being determined and imposed by funding organisations for their own agenda and policies.

National research priority setting should be derived using transparent methodology including an evidence-based systematic assessment and situation analysis. Stakeholder involvement in the priority setting exercise should be inclusive to ensure the wide participation of researchers, clinicians, government, funders, civil organisations, industry, patients, and public. Crowe et al found a persistent mismatch between patients’, clinicians’ and the research communities’ priorities[29]. In a recent comprehensive assessment of health research priority setting initiatives in developing countries, McGregor et al found that the majority of the 91 identified priority-setting initiatives took place at the global level with a developing countries focus[22]. However, most did not have any evidence of implementation or follow-up.

Enhance the capacity of national researchers to conduct prioritised research.

Lack of sufficient health research capacity is still a major barrier to conduct an evidence-based health research to inform policy and improve health[30]. World Health Report 2013 focused on the importance of all nations should be producers and consumers of research (i.e. to develop capacity to not just adopt the evidence, but to adapt it to local circumstances[31]. Therefore, research capacity building should be given a higher priority and linked with ongoing regional and international research and development collaborations. A recent systematic meta-narrative review of health research capacity development in low and middle income countries suggested that research capacity outcomes need to be equally valued as research outputs by development parties to develop sustainable health research systems[32]. This has been also recommended by Lansang and Dennis who suggested that certain proportions of health research fund should be allocated to develop local capacity building initiatives[33].

Foster dialogue between researchers, policy makers, funders and end users/patients.
Communication between researchers, academic, decision-makers and patients/public should be started as early as possible during the research priority setting and continued throughout the research conduction, and results disseminations and should be fostered by knowledge translation interventions to enhance the uptake of evidence into practice. This exchange of ideas and information will facilitate to bridge the gap between research conducted with research institutions and the community’s and decision makers’ needs. Oxman et al proposed a tool that can enhance finding and using research evidence to support health policymaking – SUPPORT Tool[34]. In a recent opinion, Cairney and Oliver suggested that “successful engagement in ‘evidence-based policymaking’ requires pragmatism, combining scientific evidence with governance principles, and persuasion to translate complex evidence into simple stories”[35].

Please remove 'systematic review' from the title as no assessment of quality or synthesis is undertaken.

We removed “systematic review” from the title.

Also the protocol referred to is for another review by the same team that uses the same search etc but was looking at research quality, not alignment with priorities/need, so reference to the protocol should be removed or this should be clarified.

We clarified this to be: “We used the same data set as in a previous analysis which aimed to assess the quality of reporting of Palestinian medical and health research, but we updated the search till the end of 2015[10].”