Reviewer's report

Title: The rise in stunting in relation to avian influenza: a comparison of the 2005 and 2008 Egypt Demographic and Health Surveys

Version: 2 Date: 24 December 2014

Reviewer: Caroline Hird

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Major comments
1. This study uses the results of the Egyptian Demographic and Health Surveys to explore possible associations between determinants of stunting (based on WHO framework of childhood stunting) and stunting in Egypt, in the context of an avian influenza outbreak and associated culling of poultry. The findings are very different for the two areas of Egypt: in Upper Egypt stunting significantly decreased whilst in Lower Egypt stunting significantly increased (as stated in lines 262 and 263). Different factors were associated with an increased risk of stunting in Upper Egypt than Lower Egypt, in both univariate and multivariate analysis.

Major Compulsory Revisions
2. Lines 373-375 states that the events which contributed to a rise in stunting in Lower Egypt between 2005-2008 were likely to be different from the events in Upper Egypt that protected children from stunting over the same time period. However, the discussion of these different events is difficult to follow. Introduction of results not previously presented (ie in line 441-441) does not help, nor does inclusion of quoted narrative from other studies (lines 411-417 and 418-412). From the discussion it would appear that the mass reduction of chickens and eggs associated with the avian influenza outbreak was in Lower not Upper Egypt. This needs to be more explicit it this was indeed the case.

3. Figure 1 has been slightly corrupted so that text is not correctly within textboxes.

Minor Essential Revisions
4. Line 66 Lannotti needs capital L
5. Line 105-111 The description of how Egypt is divided into smaller units for the purposes of the survey is difficult to follow if unfamiliar with the terminology used. Three distinct areas identified in the EDHS are described: shiakhas, villages and medinas (major towns). How these relate back to kisms and marquezes is not essential to understand and suggest removing reference to these and so lines 105-107 reads:

Egypt is divided into 27 administrative units, known as governorates. Each governorate is divided into shiakhas (urban areas), villages (rural areas) and
medinas (major towns).

6. Line 112 not really sure how this sentence fits with earlier definitions/description of shiakhas, villages and medinas. Suggest removing comma and text, if this revision reflects the true meaning, so reads shiakhas and villages were the primary sample units.

7. Line 200-204 in Table 1 only three variables are listed as maternal level nutrition-related factors (education, age and BMI); consumption of food groups does not appear and the other factors are listed as child level factors. This discrepancy needs to be corrected.

8. Line 287 check p-value (p=0.44). In Table 2 the p-value is given as 0.044.

9. Line 287 add was to sentence so reads:
In 2008, the stunting was lowest in the poorest wealth quintile

10. Line 517 change evidenced to suggested – the limitations of the study as described by the authors in lines 503-505 mean that it is difficult to conclude that there is evidence for reduced dietary diversity.

Discretionary Revisions
11. Line 34 suggest adding referred to as to this sentence so reads known as the “first 1000 days” and referred to as “the window of opportunity to prevent nutrition”.

12. Line 57 change animal source foods to chickens so reads Therefore, by removing chickens, as sources of household income and food for the family diet,

13. Line 57 suggest removing d from decreased so reads decrease

14. Line 60-62 (Raising animals…income and expenditure) suggest moving this up to line 48, so this sentence occurs before sentence starting Since 2005.

15. Line 407 apostrophe before personal is superfluous

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:
I declare I have no competing interests