<http://www.bmj.com/comment/rapid-responses>

## [The Iraqi Ministry of Health and World Health Organization project regarding the prevalence and factors associated with congenital birth defects in Iraq. Why have the findings not been released?](http://www.bmj.com/content/345/bmj.e5274/rr/661328)

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In 2012 a project was initiated by the Iraqi Government Ministry of Health (MoH) with technical advisory and co-funding from World Health Organization (WHO). The objective was to “better understand the prevalence and factors associated with congenital birth defects (CBD)” (1). The birth defects registered are major structural birth defects, according to CD10 and the diagnosis mostly based on clinical evidence. Its stated aim was to obtain the prevalence of CBD in the years 2003 and 2010, and to compare one low risk to one high risk location in each of 8 governorates. On average, 625 interviews of women 14-49 years old were programmed for each location. The questionnaires used, which have been published by the WHO, tapped the mother’s and children’s genetic and medical history (but not the father’s), and other demographic questions. (2)

The only outcome following the completion of the field work has been an announcement that the study yielded valuable information, but is incomplete and needs further work and consultation. (2). There are  
questions about the methodology, the omission of relevant data from a public health perspective of Iraqi children, and in particular a failure to release the findings of the study so far.

Preliminarily, we should note that observational data on an increase in birth defects have been available since 2006 for some locations in Iraq. The above study by MoH and WHO was started only in 2012, albeit drawing on findings previously made by MoH after a questionnaire to register CBD was deployed in some areas after 2010. There have also been some suggestive independent findings about an increase in prevalence of birth defects in Fallujah. (3)

Firstly, there seems no good reason why the prevalence findings should not be released at this stage, perhaps in disaggregated fashion to indicate locality. Disaggregated data is needed to avoid the statistical bias that would result from aggregation of data from high risk and low risk settings. Since the questionnaire gathered information on the reproductive histories of the women, this should have permitted a view of the pattern of increase in CBD over 2003-12 in each locality.(4) It is important to publish these findings in timely fashion, both to allow debate within the scientific community and to provide information and guidance to the families affected. To date the only advice doctors could offer has been to tell them to have no more children. But there has been no publication: instead a ‘behind closed doors’ consultation has been announced, with no information even on the scientists responsible for the design and interpretation of the data gathered to date.

But there is a more fundamental problem. The study design has disregarded the core issue at stake: why have birth defects risen in Iraq? The data cannot be properly interpreted unless possible changes in environmental conditions over time can be taken into account. It is a common scientific understanding that a sudden rise in CBD, whether general or in particular ‘hot spots’, should be related to possible environmental factors. The impression of a denial of a wish to know is reinforced by the WHO stating that the study did not intend to establish correlations between CBD prevalence and depleted uranium or other weapons-related factors. Their questionnaire omits environmental questions basic to public health studies. In this context they should include: historical residence and historical exposures: eg. work-related exposure to toxins, maternal malnutrition, exposure to open oil fires, pesticides and fertilizers, exposure to bombing, ground attacks, phosphorus ammunition attacks (recently shown to be correlated with incidence of birth defects (5)), involvement in removal of victims of war or of items from bombed locations, use of material recycled from bomb sites in repairs of houses, rebuilding a house on the site of a bombed one, use of gasoline-fed generators. A study confined to the production of numbers without linkage to possible etiologies, and when there is already considerable debate about the effects of material like depleted uranium and metal contaminants, makes little sense in public health terms. (6) This seems a political choice.

One obvious suggestion would be to go back to the original subjects to ask the missing questions about exposure (and also the missing data on fathers’ health histories). Time is a factor, since the increase in CBD in some localities in Iraq appears to be continuing, and because we may have to contend with long term effects. This may also be an issue for other parts of the Middle East like Gaza (6,7).

References  
1) A first FAQ by WHO announced then that: “The data collection process has been recently completed and the results are being analyzed by the Ministry of Health and WHO. The data analysis process will conclude at the end of 2012 following which time the report writing process will start.”

2) A second FAQ by WHO in July 2013 informed about procedural delays as committees were formed and new analyses proposed. “It was established that this large data set has a great deal of potentially valuable information and that additional analyses not originally conceived of should be done.” The WHO added that: “…in addition to further analyses, it was determined the work should also undergo the scientific standard of peer review. A team of independent scientists is now being recruited to review the planned analyses.” The criteria for this recruitment are not illustrated.

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4) Naim A, Minutolo R, Signoriello S, Manduca P. Pat emerging from present recording: reproductive health history rveals increase in prevalence of birth defects over time, in Gaza, Palestine. Oral presentation, LPHA meeting , Cairo 2013 and submitted abstract to LPHA issue 2013.

5) Naim A, Al Dalies H, El Balawi M, Salem E, Al Meziny K, Al Shawwa R, Minutolo R, Manduca P Birth defects in Gaza: prevalence, types, familiarity and correlation with environmental factors.. Int J Environ Res Public Health. 2012 May;9(5):1732-47

6) -P.Manduca Birth defects and metal contamination in Falluja, Iraq.<http://newweapons.org/?q=node/120> March 2011.  
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7) Registration at birth, towards a register of major birth defects in the Gaza Strip. A Naim, N Abu Shaban, H Al Dalies, F El Hayek, R Al Shawwa, M El Balawi, E Salem, K Al Meziny, R Minutolo, P Manduca. LPHA special issue October 2012