WHY ARE CURRENT ESTIMATES OF UNMET NEED OVER-ESTIMATING WOMEN’S NEED FOR CONTRACEPTION?

Background
The concept of unmet need, developed out of the earlier term “KAP-gap”, was used to describe the difference between women’s reproductive intentions and behavior that was apparent from surveys in the 1960s (Bogue 1974). Specifically, many women said they wanted no more births but were not using contraception. Unmet need was first only used with regard to limiting fertility, not spacing (Westoff, 1978), which was added later (Nortman, 1982). Further changes were later made to include pregnant and amennorheic women (Westoff and Bankole, 1995). Though the original definitions applied only to married women, it has also been argued that sexually active unmarried women need inclusion in the estimation of unmet need as well. A further refinement of the unmet need algorithm was made recently by Bradley et al. (2012). Changes in the definition of unmet need, estimated using cross sectional data have resulted in a construct including both women in need of contraception at the time of the survey (non users at risk of a pregnancy they do not want), as well as those who had an unmet need in the past (quantified by reports of a current or recent unintended pregnancy) but who are no longer at risk of pregnancy at the time of the survey (pregnant or amenorrheic) (Figure 1).

When used as an estimate of family planning service needs, the DHS unmet need measure raises two conceptual problems. First, it is really only fecund women who are not pregnant or amenorrheic who have a need for contraception at a given time (Figure 1). Thus current estimates of unmet need using the DHS definition overestimate the actual number of women who need contraception but are not using it at any given time. Second, estimates of unmet need from retrospective reports of pregnant or amenorrheic women are likely different from estimates of unmet need of women who are currently trying to avoid a pregnancy. Figure 1 is a schematic diagram showing the groups of “at risk” and “not at risk” women at any given time.
Methods

Data for this study are drawn from the latest DHS surveys conducted in 60 countries between 2000 and 2014. Our measures include

- The DHS measure of unmet need: the proportion of all women of reproductive age with unmet need as reported by DHS. From Figure 1 this is:
  \[
  \frac{(A+C+E)}{\text{All reproductive aged women}}
  \]

- A revised proportion of unmet need defined as the proportion of non-contraceptive users with potential risk of an unintended pregnancy (sexually active, not pregnant or trying to conceive, not sterile) among all women of reproductive age
  \[
  \frac{A}{\text{All reproductive aged women}}
  \]

- The proportion of women with unmet need as reported by DHS among currently pregnant or amenorrheic women (separately from the proportion of fecund non-pregnant and non-amenorrheic women with unmet need).
  \[
  \frac{(C+E)}{(C+D+E+F)}
  \]

- The proportion of women with unmet need among women with potential risk of an unintended pregnancy
  \[
  \frac{A}{(A+B)}
  \]
We evaluate country level “excess” in DHS proportions of unmet need as compared to our revised indicator of unmet need (non-use with potential risk of unintended pregnancy) and regress the difference of these proportions on the proportion of fecund women, on the proportion of pregnant and amenorrheic women and on the proportion of women with unmet need according to the DHS definition. We then test for country level differences in the proportion of pregnant and amenorrheic women with unmet need (as defined by DHS) and the proportion of fecund not pregnant and not amenorrheic women with unmet need (as defined by DHS).

Results
The simple average DHS unmet need across the 60 countries was 21.7% ranging from 8.1% in Colombia (CO) to 37.6% in Sao Tome and Principe (ST). Our revised measure yielded lower estimates, with a mean of 15.6% and a range from 5% in Colombia (CO) to 27% in Timor (TL). On average, the DHS measure overestimated unmet need by 6 percentage points (95% CI: 5.1%-7.1%), and the country level differences range from 0.5 percentage points in Uzbekistan (UZ) to 18.6 percentage points in Uganda (UG). The DHS overestimation of unmet need was negatively related to the proportion of fecund women ($\beta=-0.18 \ p<0.001$) (Figure 1): The greater the proportion of fecund women, the lower difference in the DHS versus revised estimate of unmet need.
Conversely, the DHS overestimation of unmet need increased with the proportion of women pregnant or postpartum amenorrheic ($\beta=0.21$, p<0.001) (Figure 3). The same was true in relation to the DHS proportion of women with unmet need (Figure 4): the greater the proportion of women with unmet need according to DHS the greater the DHS overestimation of unmet need ($\beta=0.33$, p<0.001)

Comparison of DHS unmet need estimates among pregnant/amenorrheic women and DHS unmet need among fecund women at potential risk of an unintended pregnancy at the time of the survey are presented in Figure 5. While results indicate a slight negative correlation between these 2 indicators ($r=-0.20$), and a mean of 2 percentage point difference between them, the analysis indicates large differences in some countries, ranging from a 34% percentage point difference in the direction of more unmet need among fecund women compared to pregnant/amenorrheic women in Burkina Faso (BF) to a 51% percentage point difference in the opposite direction in Bolivia (BO).
Conclusion

The results of this study suggest that our current construct of unmet need does not accurately reflect the actual proportion of women who need contraception at a given time; indeed the DHS estimates of unmet need will always overestimate the actual proportion of women with unmet need at a given time. It follows that use of those estimates leads to over-estimation of the resources that are needed to meet women’s (and couple’s) contraceptive needs in developing country settings. Future reports should indicate the proportion of non-users of contraception at risk of an unintended pregnancy among all women of reproductive age to estimate the need for contraceptive supplies as well as the proportion of unmet demand, as an indicator of family planning program performance.

References

Bradley et al. REVISING UNMET NEED FOR FAMILY PLANNING. Analytical Studies No. 25.

