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Summary

Today, more than 220 million women in developing countries report having an unmet need for family planning (Singh and Darroch 2012). The current measure of unmet need status, however, only captures a snap-shot of this problem. Women's life circumstances and fertility preferences fluctuate over their reproductive life, and so does their need for contraception. We argue that simply examining the number of women with unmet need for family planning at a single time point masks the magnitude of the need that women experience across their lifetimes and the disparities in access to family planning faced by women of various socioeconomic backgrounds.

In this study, we consider unmet need as a transitional state and propose new approaches of measuring unmet need to supplement the levels of unmet need measured by the Demographic and Health Surveys (DHS) at a single time point. We capture the incidence of unmet need over the five-year calendar period, a new measure with added complexity compared with commonly used prevalence measures. The objective of this study is to use this calendar data to shed light on the "revolving door" nature of unmet need as women transition in and out of need during their reproductive lives. The study outcomes are two-fold: examining the number of unmet need episodes, length of episodes, and pregnancies following episodes of unmet need or contraceptive failure over a five-year period in selected developing countries; and assessing how these factors vary among women across different demographic and socioeconomic factors.

Our preliminary analyses indicate that the percentage of women experiencing one or more episodes of unmet need over a five-year period ranges from 27 percent in India to 70 percent in Rwanda, compared to 14 percent in India and 21 percent in Rwanda who reported unmet need for modern contraception at the time of the DHS surveys (IIPS and Macro International 2007; NISR et al 2012). Cross-sectional measures therefore significantly underestimate the magnitude of the problem of unmet need.

Despite cross-country differences in the number of episodes of unmet need women experienced, the patterns observed of the unmet need length were relatively similar across countries. In most of the countries examined, approximately half of the unmet need episodes experienced are longer than one year in duration. Further examination of the number and length of unmet need episodes by socioeconomic factors reveals complexities in socioeconomic disparities not fully illustrated by analysis of unmet need at a single time point. We observed little difference in the number of unmet need episodes experienced by women during the five-year period across household wealth, residence, and education. However, our analysis of unmet need episode length reveals that women from the poorest wealth quintile, women from rural settings, and women with no education were indeed much more likely to experience unmet need for a longer time period.

Data Sources

The study uses 5-year contraceptive calendar data from the most recent waves of the DHS available for the 13 developing countries in Africa and Asia: Bangladesh, Burkina Faso, Ethiopia, India, Indonesia, Kenya, Malawi, Nepal, Nigeria, Rwanda, Senegal, Tanzania, and Uganda. These countries were selected for analysis because they are among the 22 focus countries identified as part of the London Family Planning Summit Initiative for which contraceptive calendar data were available in DHS. The contraceptive calendar provides a month-by-month retrospective history of births, pregnancies, terminations, and episodes of contraceptive use that each respondent experienced in the five years prior to the survey. Our analysis sample includes women who were at least 15 years of age at the start of the calendar (at least 20 years of age at the time of the survey), and who were married throughout the entire five year period. The year of the DHS survey data, sample size, and contraceptive prevalence rate for each country are presented below in Table 1.

Research Methods

We followed the current (revised) DHS definition of unmet need and assessed unmet need status for each month of the five-year period per woman based on contraceptive use during the given month and the intention status of recent births and future pregnancies (Bradley et al. 2012). Because data on infecundity and menopausal status were collected only at the time of the interview, we estimated the number of months women spent in menopausal or infecundity state over the calendar period by applying five-year age-specific distributions of menopausal and infecundity status at the time of the survey to each month in the calendar. We coded months estimated to be in infecundity or menopausal state, as well as those spent in pregnancy, as not in need, as women were not at risk of pregnancy during those months. As fertility only returns an average of 6 weeks after birth for non-lactating women (mean day of first ovulation ranges from 45 to 94 days postpartum), and even later with breastfeeding, the first month following birth was also classified as not in need (Jackson and Glasier 2011).

After defining the month-by-month need status of all women in each of the 13 analysis countries, we examined the number of episodes of unmet need, the length of these episodes, and proportions of pregnancies following episodes of unmet need or contraceptive failure per woman for each country. We then explored how the above factors varied across age, parity, education level, household wealth quintile, and urban/rural residence among women. SAS Version 9.2 was used to carry out all data analyses (SAS Institute Inc. 2009).

Preliminary Findings

Episodes of Unmet Need – Graph 1

Measuring unmet need across the calendar period highlights that many more women experience unmet need at least once over a five-year period than those who report experiencing unmet need at the time of the interview. For the 13 countries analyzed, the percentage of women experiencing at least one episode of unmet need over a five-year period ranged from 27 percent in India to 70 percent in Rwanda, compared to 14 percent in India and 21 percent in Rwanda who reported unmet need for modern contraception at the time of the DHS surveys (IIPS and Macro International 2007; NISR et al 2012). Furthermore, many women experienced more than

one episode of unmet need over the five-year period, ranging from 5 percent in Indonesia to 35 percent in Rwanda and Uganda. Graph 1 illustrates the differences between cross-sectional measures and longitudinal measures of unmet need for Rwanda and India, as an example. Women from West African countries (Burkina Faso, Nigeria, and Senegal) had consistently lower percentages of women experiencing unmet need, with 36 to 44 percent of women experiencing at least one episode of unmet need over the five-year period, while women from East African countries (Ethiopia, Kenya, Malawi, Rwanda, Tanzania, and Uganda) had a higher percentage of women experiencing at least one episode of unmet need during the five-year calendar, ranging from 53 percent to 70 percent. Women from Asian countries in the analysis (Bangladesh, India, Indonesia, and Nepal) had a wider range of women experiencing unmet need, with 27 percent to 47 percent of women experiencing one or more episodes of unmet need over the calendar period.

Length of Unmet Need Episodes – Graph 2

The distribution of the length of unmet need episodes is relatively similar across all countries in the analysis. In most of the countries examined, approximately half of the unmet need episodes experienced are longer than one year in duration. While India has the smallest proportion of women experiencing one or more episodes of unmet need, the average unmet need episode length is the longest of the 13 study countries at 20 months. Malawi and Uganda have the shortest average unmet need episode length of 14 months. We present the percentage of unmet need episodes by length for Nepal as an example in Graph 2. This pattern indicates that while 50 percent of episodes were less than one year in length, about one third (32%) of episodes ranged from one year to three years in length, and 17% of episodes were longer than three years.

Remarkably, among women who experienced long unmet need episodes, many were able to access contraceptives and return to met need at the time of the survey. For example, among the women who had met need at the time of the survey, 26 to 56 percent of them experienced unmet need episodes longer than one year proceeding the time of the survey. This suggests that even the women who had long period of unmet need are not opposed to family planning, and should be identified for family planning interventions.

Age Differences – Graphs 3 and 4

Analyses of unmet need episodes by age revealed that women in their peak fertility (ages 20-24 and 25-39) experienced more unmet need episodes during the five-year period compared with older women (ages 40-49), with the percentage of women experiencing unmet need episodes decreasing significantly in the oldest age group. As women have more children and approach or reach their ideal family size, they are more likely to need family planning and try to meet those needs, resulting in additional transitions. However, as women get older, they may become menopausal and not need family planning services. These women may also have fewer transitions between unmet need and met need as their status may be more stable. Graph 3 illustrates this U-shaped distribution through the percentage of women who experienced different numbers of unmet need episodes by age group, using data from Burkina Faso as an example. For those women who do experience episodes of unmet need, older women are more likely to have longer episodes of unmet need in comparison to younger women. This finding is highlighted in

Graph 4, which reveals the breakdown of unmet need episode length by different age categories for Burkina Faso. The fact that older women who experience unmet need are more likely to have longer episodes of need is particularly salient as many family planning programs are targeted towards a younger demographic, but in doing so neglect to provide adequate care for older women.

Socioeconomic Differences – Graphs 5 through 10

Socioeconomic disparities in unmet need for family planning are well documented in cross-sectional research: lower socioeconomic status (SES) is associated with a higher likelihood of experiencing unmet need (Westoff 2006). However, our study found little correlation between the number of episodes of unmet need and education level, household wealth, or urban/rural residence, indicating that all women experience unmet need episodes, regardless of socioeconomic status. Further analysis, however, did reveal inequities in the length of unmet need episodes, with women in the poorest quintile, women living in rural areas, and women with no education more likely to have longer episodes of unmet need than women in richer quintiles, living in urban areas, or with higher levels of education.

For example, looking at the above patterns among married women of different household wealth quintiles in Tanzania, 37 percent of the women from the wealthiest households and 40 percent of the women from the poorest households experienced one episode of unmet need across the previous five-year period (Graph 5). However, 45 percent of unmet need episodes from women in the poorest households were less than one year in length, compared with 56 percent of unmet need episodes attributed to women in the wealthiest households (Graph 6). Similar patterns were found in differences by education and urban-rural residence: the average number of unmet need episodes is similar across SES, but women with higher education and those living in urban settings are more likely to experience shorter episodes of unmet need (data not shown). Thus, disadvantaged women are left in a more constant state of unmet need, while women that have access to wealth or education generally have the means to access a source of family planning within a relatively short period of time after experiencing an episode of unmet need.

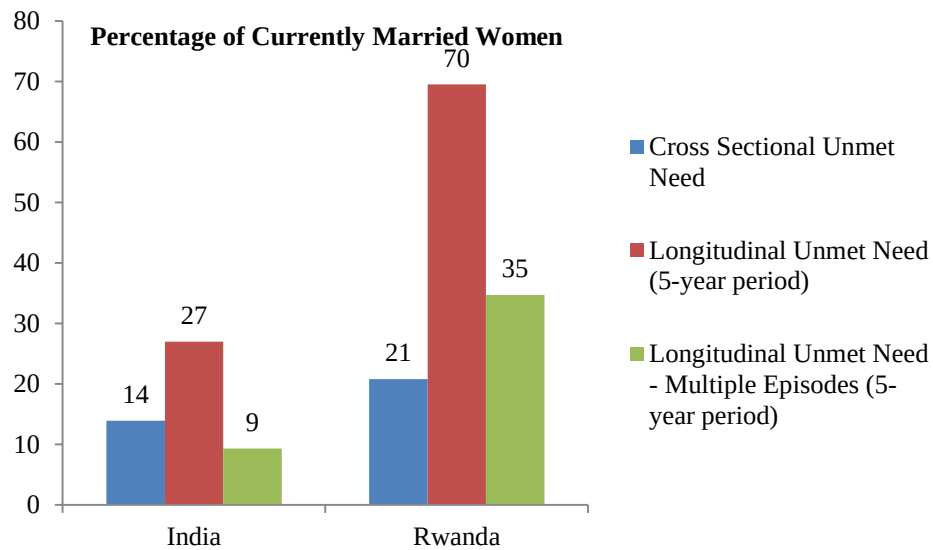
These preliminary findings suggest that women of all socioeconomic strata experience more episodes of unmet need than usually captured, and there are marked differences in length of unmet need episodes among the different socioeconomic groups. Our final paper will further explore the nature of these socioeconomic differences by examining how the reasons for contraceptive discontinuation and pregnancy outcomes following episodes of unmet need differ across women of different socioeconomic status. Understanding the nature of these disparities is key to providing effective family planning services and enhances our ability to better meet couples' contraceptive needs.

Table 1. Year of Data, Sample Size, and Modern Contraceptive Prevalence Rate, 13 Countries.

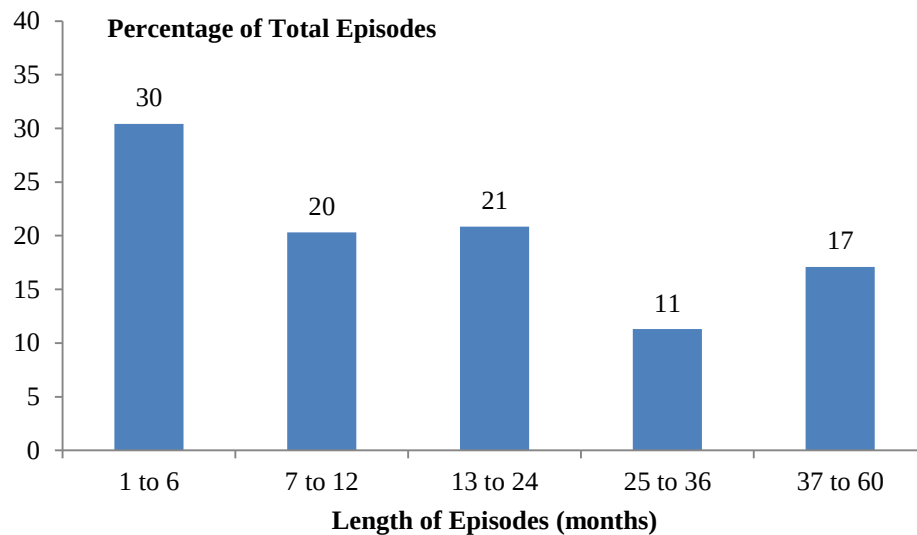
Country	Year	Analysis Sample Size	Modern Contraceptive Prevalence Rate (%)
Bangladesh	2007	8,028	52
Burkina Faso	2010	10,797	15
Ethiopia	2011	8,109	27
India	2005-2006	71,209	47
Indonesia	2007	25,032	57
Kenya	2008-2009	3,847	39
Malawi	2010	12,777	42
Nepal	2011	7,526	43
Nigeria	2008	18,626	8
Rwanda	2010	5,127	45
Senegal	2010-2011	8,112	12
Tanzania	2010	5,012	26
Uganda	2011	4,065	26

Source: Demographic and Health Surveys, ICF International.

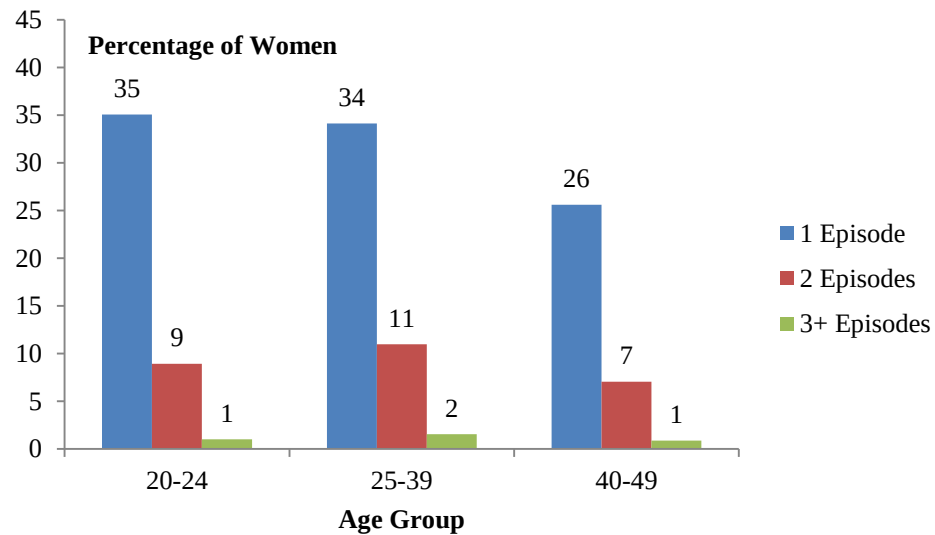
Graph 1. Percentage of Currently Married Women Experiencing Unmet Need, Cross Sectional versus Longitudinal Measures, India and Rwanda.



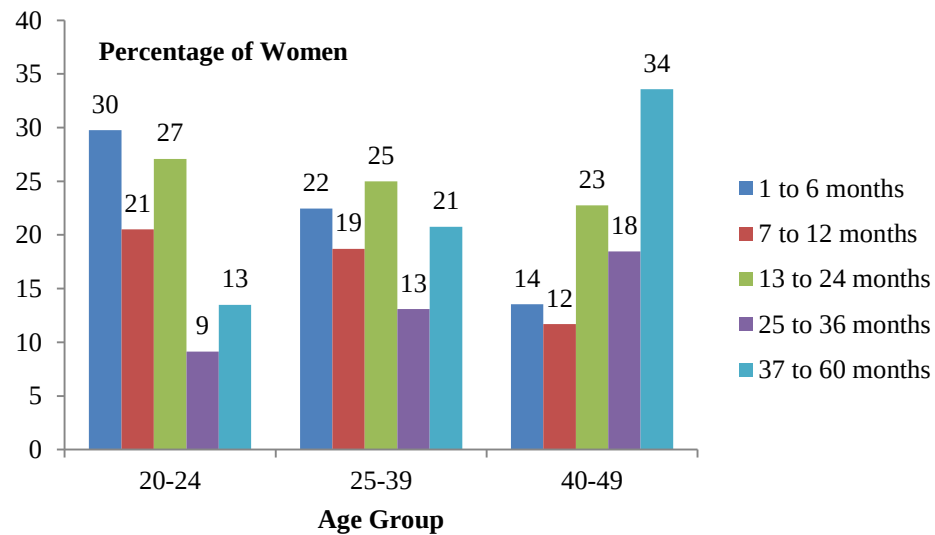
Graph 2. Length of All Unmet Need Episodes Experienced by Currently Married Women Ages 20-49 from 2006-2011, Nepal.



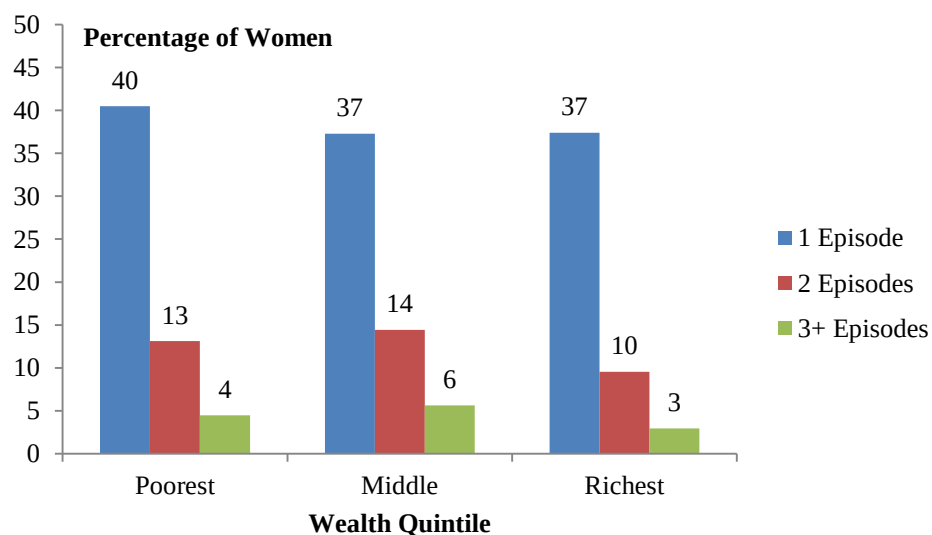
Graph 3. Number of Unmet Need Episodes by Age Group from 2005-2010, Burkina Faso.



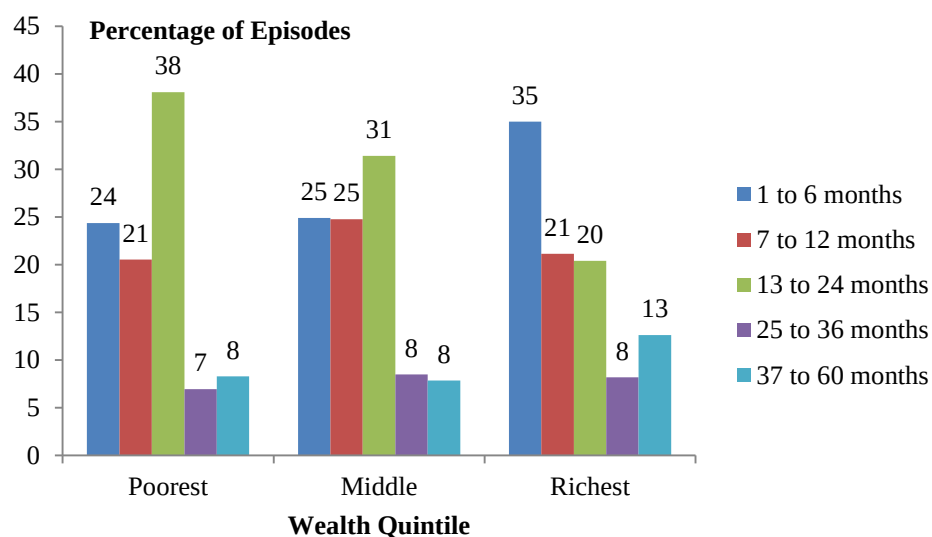
Graph 4. Total Unmet Need Length by Age Group from 2005-2010, Burkina Faso.



Graph 5. Number of Unmet Need Episodes by Household Wealth Quintile from 2005-2010, Tanzania.



Graph 6. Unmet Need Episode Length by Wealth Quintile from 2005-2010, Tanzania.



References

- Bradley S.E.K., T.N. Croft, J.D. Fishel, and C.F. Westoff. 2012. Revising Unmet Need for Family Planning: DHS Analytical Studies No. 25. ICF International, Calverton, Maryland. <http://measuredhs.com/pubs/pdf/AS25/AS25%5B12June2012%5D.pdf>
- International Institute for Population Sciences (IIPS) and Macro International. 2007. National Family Health Survey for India 2005-06. IIPS, Mumbai, India.
- Jackson E. and A. Glasier. 2011. Return of Ovulation and Menses in Postpartum Nonlactating Women. *Obstetrics & Gynecology* 117(3): 657-662.
- National Institute of Statistics of Rwanda (NISR), Ministry of Health (MOH), and ICF International. 2012. Rwanda Demographic and Health Survey 2010. NISR, MOH, and ICF International, Calverton, Maryland.
- SAS Institute Inc. 2009. Base SAS[®] 9.2 Procedures Guide. SAS Institute Inc., Cary, North Carolina.
- Singh S. and J. Darroch. 2012. Adding It Up: Costs and Benefits of Contraceptive Services, Estimates for 2012. Guttmacher Institute and United Nations Population Fund (UNFPA), New York, New York. <http://www.guttmacher.org/pubs/AIU-2012-estimates.pdf>
- Westoff, C.F. 2006. New Estimates of Unmet Need and the Demand for Family Planning. DHS Comparative Reports No. 14. Macro International Inc., Calverton, Maryland. <http://www.measuredhs.com/pubs/pdf/CR14/CR14.pdf>