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Trends in Unmet Need and the Demand for Family Planning in Zimbabwe

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ABSTRACT

Background: The concept of unmet need for family planning defines the gap between women's reproductive intentions and their contraceptive behavior. Many women, both married and unmarried, do not use any contraceptive method although they want to avoid pregnancy. Studies have shown that reducing levels of unmet need can reduce maternal morbidity and mortality by reducing the number of unintended pregnancies, the number of abortions, and the proportion of births at high risk. In 2006 unmet need for family planning was added to the fifth Millennium Development Goal (MDG) as an indicator for tracking progress on improving maternal health.

Objective: This report examines the levels and trends in unmet need and demand for family planning and factors associated with unmet need in Zimbabwe for the period 1994 to 2006.

Study design and methods: The study uses data from three consecutive Zimbabwe Demographic and Health Surveys (ZDHS) conducted in 1994, 1999, and 2005-06. These surveys collected data from nationally representative samples of women of reproductive age (15-49). The analysis estimated unmet need and its components for all women age 15-49, as well as for women in various categories: never-married, currently married, formerly married (widowed, divorced, or separated), all sexually active women, and never-married sexually active women. The analysis consisted of both descriptive and multivariate logistic regression methods. In the surveys, certain provinces and certain categories of respondents were over sampled. In all our analysis, appropriate weights are used to restore the representativeness of the sample.

Results: The groups of women with the highest prevalence of unmet need include never-married sexually active women, adolescents, uneducated women, poor women, nulliparous women, and women in the two Matebeleland regions. The level of unmet need has decreased over time among all groups except the never-married sexually active women, where it has been increasing. The study results show that higher levels of education, higher household wealth quintile, and work outside home are associated with higher levels of contraceptive use and lower levels of unmet need. After controlling for respondent characteristics, the results show that women with unmet need for spacing births are younger, have fewer children, are less educated and less likely to be working, and live in lower wealth quintile households. Women with unmet need for limiting births are older, more educated, live in higher wealth quintile households, and are less likely to have exposure to family planning messages in the mass media. Total unmet need (spacing plus limiting) is significantly associated with age, educational attainment, work status, wealth status, and the number of living children.

Conclusions: Despite high contraceptive prevalence in Zimbabwe, subgroups of women with unmet need remain, particularly among marginalized women who may face barriers to family planning information and services. There is a need for national contraceptive programs to focus more on satisfying the unmet need for family planning and on reducing unintended fertility. Administrators of health and family planning programs can use this information and analysis based on the ZDHS to help devise strategies that address unmet need for family planning and increase coverage to specific groups with the highest levels of unmet need.

INTRODUCTION

Despite a huge increase in contraceptive access and use globally, an estimated 137 million women in the developing world who would like to avoid childbearing are unable to do so (Gill et al., 2007). Women who are sexually active and would prefer to avoid becoming pregnant but nevertheless are not using any method of contraception are considered to have an unmet need for family planning. The concept of unmet need defines the gap between women's reproductive intentions and their contraceptive behavior, and is estimated on the basis of women's responses to survey questions about their reproductive intentions and contraceptive use (Casterline et al., 2003; Benson et al., 1996; Westoff, 1981).

In developing countries an estimated 51 million unintended pregnancies occur every year to women who are not using any contraceptive method. Another 25 million occur as a result of incorrect or inconsistent use of a contraceptive method, or method failure (Westoff, 1988; Westoff, 1978). While the relationships among levels of unmet need, levels of abortion, and contraceptive prevalence are not clear, the many induced abortions worldwide are powerful evidence that millions of women want to control their fertility but have not used effective contraception (Henshaw et al., 2008; Sedgh et al., 2007; Sedgh et al., 2007; Marston and Cleland, 2003; Johnson et al., 2002; Mbizvo et al., 1993 ; Crowther, 1986; Westoff et al., 1981).

On a continent with very high fertility, Zimbabwe has one of the lowest fertility rates. The country has experienced a remarkable decline in fertility rates over the past two decades, from a total fertility rate (TFR) of 5.3 children per woman in 1988 to 3.8 in 2006. This decline has been attributed to an increase in contraceptive prevalence, from 43% in 1988 to 60% in 2005-06 (Bernstein, 2007). In spite of the current high levels of contraceptive use, many women in Zimbabwe have unmet need for family planning to avoid unplanned pregnancies. In

Zimbabwe complications of abortions following unplanned pregnancies contribute significantly to maternal morbidity and mortality (Sedgh et al., 2007).

Studies have shown that reducing unmet need can improve maternal survival and health by reducing the number of unintended pregnancies, the number of induced abortions, and the proportion of births at high risk. Family planning also offers additional health, social, and economic benefits: it can help reduce child and infant mortality, slow the spread of HIV (through correct and consistent condom use), promote gender equality, reduce poverty, and accelerate socioeconomic development. In 2006 unmet need for family planning was added to the fifth Millennium Development Goal (MDG) as an indicator for tracking progress on improving maternal health.

The aim of this analysis is to examine levels and trends in contraceptive use, unmet need, and the demand for family planning in Zimbabwe and to identify factors associated with unmet need. This information can be used by administrators of health and family planning programs to identify groups with highest levels of unmet need, to devise strategies to increase family planning coverage among such groups, and to evaluate the efficiency and effectiveness of national family planning programs. As Zimbabwe has already achieved relatively high contraceptive coverage and lower fertility rates, policies and programs can shift from focusing on increasing contraceptive prevalence and reducing fertility levels to meeting the family planning needs of continuing contraceptive users and to satisfying the unmet need for family planning and reducing unintended pregnancies, with particular attention to the groups with greatest need.

METHODS

Study Design

The study uses data from three consecutive Zimbabwe Demographic and Health Surveys (ZDHS) conducted in 1994, 1999, and 2005-06. The 1988 ZDHS was omitted from the analysis because it did not collect some of the key indicators needed for comparison. The ZDHS are a series of surveys undertaken by the Zimbabwe Central Statistical Office (CSO) as part of the Zimbabwe National Household Survey Capability Program (ZNHSCP). The surveys are also part of the worldwide DHS program, which has been implemented in more than 80 countries of Africa, Asia, Latin America, and Europe. These surveys collect data from nationally representative samples of households and from adult women and men in the sampled households. Typically, the DHS surveys use a two-stage sampling design and a set of core questionnaires to gather a wide range of information on reproductive health, child nutrition, and related issues. Details of sample design, including sampling framework and sample implementation, are provided in the ZDHS survey reports (www.measuredhs.com).

Definitions

Sexually active women who are not currently using a method of family planning and want to stop or postpone childbearing are defined to have *unmet need for family planning*. A currently married woman who is not using a method of contraception is defined to have an *unmet need for spacing births* if she is pregnant or amenorrhoeic and the current pregnancy or last birth was mistimed, or if she is fecund and wants to wait before having the next child. A currently married woman who is not using a method of contraception is defined to have an *unmet need for limiting births* if she is pregnant or amenorrhoeic and the current pregnancy or last birth was unwanted,

or if she is fecund and wants no more children. These same concepts can be applied to sexually active unmarried women. In the ZDHS and this report the term “sexually active” is defined as having sexual intercourse in the four weeks before the survey.

Total unmet need is the sum of unmet need for spacing and for limiting. *Total demand for family planning* is the sum of total unmet need and total current contraceptive use. *Percentage of total demand satisfied* is calculated by dividing the total current use by the total demand.

Unmet need for modern methods is the sum of total unmet need and the percentage of women using traditional family planning methods. *Percentage of total demand satisfied by modern methods* is calculated by dividing the current use of modern methods by the total demand.

Variables

Variables included in the analysis are: women’s age, level of education, working status, religion, number of living children, household wealth, exposure to the mass media, contact with family planning services, urban and rural residence, and region of residence by provinces. The term “currently working women” refers to women who were working at the time of the survey or who worked in the past 12 months. Household wealth status is measured by a wealth score, divided into quintiles, based on household ownership of durable assets.

Urban/rural residence and region (province) of residence are included to assess the effects of location on unmet need, and they are also proxy measures for access and availability of family planning services and contraceptive methods. Exposure to family planning messages in the media is defined as having heard or seen a family planning message on any of the three major mass media—radio, television, and newspapers—in the past few months. Contact with a family

planning worker is defined as having been visited by a family planning worker in the last 12 months or having visited a health facility in last 12 months and been informed about family planning.

Analysis

The analysis includes all women age 15-49 divided into the following subgroups: never-married, currently married, formerly married (widowed, divorced, or separated), all sexually active women, and never-married sexually active women. The study estimates levels and trends in unmet need, current contraceptive use, and total demand for family planning and its components for all of these groups, and by urban/rural residence and region of the country. Multivariate logistic analysis examines factors associated with unmet need for total unmet need and its two components (spacing and limiting) for all women and currently married women.

In the ZDHS, certain provinces and certain categories of respondents were over-sampled. In our analysis, appropriate weights have been used to restore the representativeness of the sample. The analysis is conducted through STATA 10.

Table 1 shows the trends in unmet need, current contraceptive use, and total demand for family planning among different groups of women based on marital status and sexual activity over the three ZDHS surveys. Table 2 shows trends in unmet need, contraceptive use, and total demand by urban/rural residence, and Table 3 by geographic region.

Table 4 presents differentials in unmet need for the 2005-06 survey by selected characteristics, and separately by type of unmet need for all women and currently married women. Table 5 presents multivariate models of factors associated with unmet need. Separate models were estimated for unmet need for spacing, unmet need for limiting, and total unmet

need for all women and currently married women. Results of these models are presented as adjusted odds ratios (OR) with *p* –values.

In Table 6 we carried out a simulation analysis to estimate the potential impact of reducing unmet need on Zimbabwe's TFR. Given the high correlation between a country's contraceptive prevalence rate (CPR) and its TFR, an international regression equation between CPR and TFR has been estimated using data from 60 developing countries (Ross and Frankenberg, 1993). Using this equation, the TFR is estimated for Zimbabwe reflecting three different scenarios for different levels of reduction in unmet need. The baseline scenario is the current level of contraceptive use and TFR; scenario 2 estimates potential reduction in TFR if unmet need were reduced by 50%; and scenario 3 estimates potential reduction in TFR if unmet need were completely eliminated. The simulations do not take into account how long it would take to reduce the unmet need by 50% or entirely.

RESULTS

Levels and Trends in Unmet Need and Current Contraceptive Use

Table 1 shows trends in unmet need, current contraceptive and total demand for family planning for six groups of women age 15-49 for the period 1994-2006. Among all women and among currently married women, who make up the great majority of all women of reproductive age, total unmet need fell as contraceptive use rose over this period. In 1994 contraceptive prevalence among currently married women was 48% and unmet need was 15%. By 2005-06 contraceptive prevalence had risen to 60%, while unmet need had fallen to 12%.

In contrast, among never-married sexually active women contraceptive prevalence remained unchanged at about 50% but unmet need rose from 28% in 1994 to 33% in 2005-06. Sexually active never-married women comprise only a small share of all women of reproductive age, but they have the highest level of unmet need of all groups. As would be expected, unmet need in all three survey years was lowest among all never-married women, reflecting the fact that most are not sexually active and thus do not need contraception.

Dividing total unmet need and contraceptive use into the two components, for spacing and for limiting births, Table 1 shows that unmet need for spacing was higher than unmet need for limiting births in all survey years, except for the formerly married women, among whom unmet need for limiting exceeds unmet need for spacing. Similarly, in all three survey years contraceptive use for spacing was higher than for limiting births among all groups of women, except the formerly married group. Nonetheless, Table 1 shows that, among currently married women, current contraceptive use increased more for limiting than for spacing between 1994 and 2005-06, a sign that a growing percentage of women do not want to have any more children.

Table 1. Percentage of women age 15-49 with an unmet need for family planning, current use of family planning, and demand for family planning, by survey year, ZDHS 1994-2006

	Unmet need			Current use							
Year	Spacing	Limiting	Total	Spacing	Limiting	Total	Total demand	Percent of total demand satisfied	Unmet need for modern methods	Using a modern method	N
All women											
1994	6.2	4.1	10.4	19.4	15.7	35.1	45.5	77.2	14.4	31.1	6,128
1999	4.9	3.8	8.7	20.3	17.4	37.7	46.4	81.2	10.8	35.6	5,907
2005/6	4.4	3.1	7.5	20.3	19.9	40.2	47.6	84.3	8.6	39.1	8,907
Never-married women											
1994	1.1	0.4	1.5	4.8	1.7	6.5	8.0	81.4	2.0	5.9	1,646
1999	1.2	0.4	1.6	5.2	2.1	7.3	8.9	81.8	1.9	7.1	1,637
2005/6	1.0	0.2	1.2	4.3	1.7	5.9	7.1	83.1	1.3	5.9	2,404
Currently married women											
1994	9.2	5.6	14.9	27.0	21.1	48.1	63.0	76.4	20.8	42.2	3,788
1999	7.3	5.6	12.9	29.4	24.1	53.5	66.5	80.6	16.1	50.4	3,609
2005/6	7.0	5.0	12.0	31.2	29.1	60.2	72.2	83.4	13.8	58.4	5,143
Widowed, divorced, or separated women											
1994	2.1	4.7	6.8	12.3	19.8	32.1	38.9	82.4	8.8	30.1	692
1999	0.6	2.7	3.3	8.3	18.1	26.4	29.7	89.0	4.2	25.5	662
2005/6	0.4	1.2	1.6	7.2	17.5	24.7	26.2	94.0	1.8	24.4	1,360
All sexually active women											
1994	7.5	5.5	13.0	30.5	22.9	53.4	66.4	80.5	18.9	47.4	3,261
1999	5.8	5.4	11.3	32.4	25.4	57.8	69.1	83.7	14.3	54.8	3,068
2005/6	5.9	4.1	10.0	34.1	30.8	64.9	74.9	86.7	11.9	62.9	4,228
Never-married, sexually active women											
1994	19.9	7.7	27.7	44.2	5.8	50.0	77.6	64.4	30.8	46.8	88
1999	21.6	7.5	29.1	35.3	12.9	48.2	77.3	62.3	30.9	46.4	91
2005/6	28.0	4.6	32.5	42.9	8.4	51.2	83.7	61.2	33.6	50.2	89

Total demand for family planning (the sum of current contraceptive use and unmet need) increased among currently married women from 63% in 1994 to 72% in 2005-06, but did not increase for never-married women and formerly married women. Reflecting the trends in contraceptive use and unmet need, the percentage of total demand satisfied increased slightly among all groups except never-married sexually active women, where it decreased slightly, from 64% in 1994 to 61% in 2005-06. In all survey years the percentage of total demand satisfied was above 75% for all groups except the never-married sexually active group.

Table 2 shows trends in total unmet need and its two components (spacing and limiting), as well as current contraceptive use and total demand satisfied among currently married women, by place of residence. Unmet need for both spacing and limiting was higher in rural than urban areas for all survey years. In 2005-06 total unmet need was nearly twice as high in rural areas, at 14%, as in urban areas, at 8%. In 2005-06 total current contraceptive use was 70% in urban areas compared with 55% in rural areas.

Current contraceptive use for limiting births was lower in rural areas than urban areas in all three surveys. Current contraceptive use for spacing was lower in rural areas than urban areas except in 2005-06, when there was no difference between the two areas (at 31% each). Total contraceptive use has been increasing in both urban and rural areas, but contraceptive use for spacing did not change much in urban areas from 1994 to 2006.

In all three survey years, the percentage of total demand satisfied was higher in urban than rural areas for both spacing and limiting. The percentage of total demand satisfied increased in both urban and rural areas, from 86% in 1994 to 90% in 2005-06 for urban areas, and from 72% in 1994 to 80% in 2005-06 for rural areas.

Table 2. Percentage of currently married women age 15-49 with an unmet need for family planning, current use of family planning, and demand for family planning, by spacing and limiting methods, and by urban/rural residence, ZDHS 1994-2006

	Year		
Component	**1994**	**1999**	**2005/6**
Unmet need			
Spacing			
Urban	5.9	4.1	4.1
Rural	10.6	9.2	8.5
Limiting			
Urban	3.4	3.8	3.6
Rural	6.6	6.6	5.7
Total			
Urban	9.3	7.9	7.8
Rural	17.2	15.8	14.2
Current use			
Spacing			
Urban	31.1	33.8	31.3
Rural	25.3	26.9	31.1
Limiting			
Urban	26.5	29.2	38.5
Rural	18.9	21.2	24.2
Total			
Urban	57.6	63.1	69.8
Rural	44.2	48.2	55.3
Percent of total demand satisfied			
Spacing			
Urban	84.2	89.2	88.4
Rural	70.5	74.5	78.5
Limiting			
Urban	88.5	88.5	91.4
Rural	74.2	76.3	81.1
Total			
Urban	86.1	88.9	90.0
Rural	72.0	75.3	79.6

Table 3 shows trends unmet need, contraceptive use and percent of demand satisfied by survey year and province of the country for currently married women. In 2005-06 the Matebeleland provinces had the highest total unmet need in the country (20%), while Harare province had the lowest (6%). Total unmet need declined for Harare, Mashonaland East, Mashonaland West, and Matebeleland South provinces. In all other provinces there was no consistent trend in total unmet need. Unmet need for spacing births was generally higher than unmet need for limiting in all the provinces for all survey years, except in Bulawayo (1994 and 2005-06), Harare province (1999), and Matebeleland North and South (2005-06), where the unmet need for limiting was higher than for spacing.

Total current contraceptive use among currently married women was highest in Harare over all three survey years, while it was lowest in the Matebeleland provinces in 1994 and 2005-06, and Manicaland in 1999. In 2005-06 current contraceptive use for spacing was generally higher than current use for limiting, with the notable exception of Bulawayo, Mashonaland East, Matebeleland South, and Matebeleland North. Between 1994 and 2006, current contraceptive use increased in all provinces. Overall, Harare had the highest percentage of total demand satisfied in 2005-06 (92%), while the two Matebeleland provinces had the lowest (70% and 71% respectively).

Table 3. Percentage of currently married women age 15-49 with an unmet need for family planning, current use of family planning, and demand for family planning, by spacing and limiting methods, and by province, ZDHS 1994-2006

	Spacing			Limiting			Total		
	1994	1999	2005/6	1994	1999	2005/6	1994	1999	2005/6
Unmet need									
Harare	5.6	2.9	3.1	2.2	3.5	2.9	7.8	6.3	6.0
Bulawayo	6.6	7.8	4.3	7.3	3.5	7.0	13.9	11.2	11.3
Mashonaland Central	9.4	9.1	7.9	3.3	5.8	3.7	12.7	14.8	11.6
Mashonaland East	9.8	8.3	5.0	7.9	5.8	5.4	17.6	14.1	10.4
Mashonaland West	8.0	7.4	5.8	4.2	3.8	3.9	12.2	11.2	9.7
Manicaland	8.9	8.7	11.1	3.6	7.5	5.6	12.6	16.2	16.8
Masvingo	11.1	8.0	11.4	8.1	5.6	3.5	19.2	13.6	14.8
Midlands	7.3	8.0	5.3	5.5	5.9	3.7	12.8	13.9	9.0
Matebeleland North	18.6	7.7	7.3	11.9	7.8	12.8	30.4	15.5	20.0
Matebeleland South	15.1	11.3	9.3	11.6	10.3	10.4	26.6	21.5	19.7
Current use									
Harare	33.2	37.6	36.7	28.4	25.9	35.1	61.6	63.5	71.9
Bulawayo	22.2	24.2	21.7	25.7	37.8	45.3	47.9	62.0	67.0
Mashonaland Central	29.5	31.7	34.0	19.0	21.6	27.5	48.5	53.4	61.4
Mashonaland East	25.5	30.1	31.1	26.8	27.2	32.9	52.3	57.4	64.0
Mashonaland West	32.5	35.2	32.1	16.6	22.3	29.9	49.1	57.5	62.0
Manicaland	23.4	23.7	30.2	12.4	17.3	22.2	35.9	40.9	52.4
Masvingo	23.1	31.1	35.6	18.9	24.5	18.5	42.0	55.5	54.1
Midlands	32.1	24.6	32.2	26.1	25.1	31.2	58.2	49.7	63.4
Matebeleland North	18.9	24.2	19.1	14.8	24.1	26.6	33.6	48.3	45.7
Matebeleland South	13.5	19.1	18.0	20.4	22.6	29.2	33.9	41.6	47.2
Percent of total demand satisfied									
Harare	85.6	92.9	92.2	92.7	88.2	92.5	88.8	90.9	92.4
Bulawayo	77.1	75.7	83.6	77.9	91.6	86.6	77.5	84.6	85.6
Mashonaland Central	75.8	77.8	81.1	85.3	78.9	88.1	79.3	78.2	84.1
Mashonaland East	72.3	78.3	86.1	77.3	82.5	85.9	74.8	80.3	86.0
Mashonaland West	80.3	82.7	84.6	79.6	85.4	88.4	80.1	83.7	86.4
Manicaland	72.4	73.1	73.1	77.3	69.8	79.7	74.0	71.6	75.7
Masvingo	67.5	79.6	75.8	70.1	81.3	84.3	68.7	80.3	78.5
Midlands	81.4	75.5	86.0	82.6	81.1	89.4	81.9	78.2	87.6
Matebeleland North	50.4	75.9	72.4	55.4	75.5	67.6	52.5	75.7	69.5
Matebeleland South	47.3	62.9	65.9	63.8	68.7	73.7	56.0	65.9	70.5

Differentials in Unmet Need

Table 4 shows the prevalence of total unmet need and its two components, spacing and limiting, among all women and among currently married women by selected socioeconomic characteristics, for the 2005-06 ZDHS. As might be expected, results are similar for the two groups of women, since married women comprise the largest group of all women of reproductive age. Therefore, only results for all women are discussed.

Total unmet need is highest among women age 15-19 (31%), declines to a low of 10% at age 25-29, and then rises again, reaching over 20% among women age 40 and older. Similarly, total unmet need is highest among women with no children (47%), lowest among women with one or two children (11%), and then rises again to 23% among women with five or more children. Total unmet need decreases as women's educational attainment increases, and also as the level of household wealth increases. Unmet need is lower among women who are regularly exposed to the mass media and also lower among women who had recent contact with family planning services at health clinics.

As suggested earlier, women who live in rural areas have higher levels of unmet need for both spacing and limiting compared with urban women, and so do women who are not working compared with those who are working. The two Matebeleland provinces have the highest total unmet need and unmet need for limiting, while the total unmet need for spacing is highest in Manicaland and Masvingo provinces.

Table 4. Differentials in unmet need for family planning among all women and currently married women in need of contraception[a], by spacing and limiting methods, and by selected demographic and socioeconomic characteristics, ZDHS 2005/6

	All women				Currently married women			
Characteristic	Unmet need for spacing	Unmet need for limiting	Total unmet need	N	Unmet need for spacing	Unmet need for limiting	Total unmet need	N
Age group								
15-19	28.2	2.3	30.5	312	28.7	2.9	31.6	248
20-24	12.2	2.3	14.5	1,041	12.9	2.5	15.5	908
25-29	6.3	3.4	9.6	1,038	6.9	3.5	10.3	910
30-34	6.0	7.8	13.8	839	6.6	7.7	14.3	757
35-39	4.9	8.9	13.9	486	5.6	9.7	15.3	427
40-44	6.4	14.6	21.0	386	6.9	14.9	21.8	345
45-49	5.0	19.1	24.1	234	5.9	21.3	27.1	202
Education								
No education	16.8	18.8	35.6	178	18.5	20.3	38.8	161
Primary	11.1	7.8	18.9	1,488	12.0	8.3	20.3	1,329
Secondary	7.6	5.0	12.6	2,505	7.8	5.1	12.8	2,165
Higher	3.2	1.4	4.5	166	2.8	1.6	4.4	141
Residence								
Urban	5.1	4.7	9.8	1,658	5.2	4.6	9.8	1,373
Rural	11.5	7.4	18.8	2,679	11.9	7.9	19.9	2,424
Religion								
None	9.3	8.6	17.9	406	9.6	9.5	19.1	352
Roman Catholic	3.4	5.2	8.5	424	3.2	5.8	9.0	360
Protestant	6.5	7.2	13.7	1,075	6.5	7.8	14.3	933
Pentecostal	8.2	5.1	13.4	749	8.8	4.8	13.6	647
Apostolic sect	12.7	5.7	18.4	1,289	13.6	6.1	19.6	1,147
Other	11.2	7.6	18.7	395	11.8	7.9	19.7	357
Currently working								
No	11.3	7.1	18.3	2,731	11.9	7.4	19.2	2,433
Yes	5.1	5.2	10.3	1,607	5.3	5.6	10.9	1,364
Household wealth quintile								
Lowest	17.3	8.4	25.7	790	18.0	9.1	27.1	720
Second	10.7	7.6	18.2	788	11.2	8.1	19.4	724
Third	8.0	8.2	16.1	697	8.0	8.8	16.8	624
Fourth	6.4	5.0	11.4	1,071	6.8	4.6	11.5	908
Highest	4.6	3.9	8.5	991	4.7	4.2	8.9	822
Number of living children								
0	43.9	3.0	46.9	186	66.6	5.0	71.7	89
1-2	8.0	3.3	11.3	2,190	8.8	3.5	12.3	1,908
3-4	5.6	7.7	13.3	1,249	6.1	7.5	13.5	1,130
5+	9.1	14.3	23.4	713	9.7	14.9	24.6	670

(Cont'd)

Table 4 – cont'd

Characteristic	All women: Unmet need for spacing	All women: Unmet need for limiting	All women: Total unmet need	All women: N	Currently married women: Unmet need for spacing	Currently married women: Unmet need for limiting	Currently married women: Total unmet need	Currently married women: N
Region								
Harare	3.9	3.4	7.3	720	3.9	3.6	7.5	606
Bulawayo	5.4	7.4	12.8	307	5.4	8.9	14.2	238
Mashonaland Central	10.6	4.7	15.3	450	10.8	5.1	15.8	421
Mashonaland East	6.5	6.5	13.0	369	6.6	7.1	13.8	335
Mashonaland West	6.9	5.8	12.7	437	8.0	5.3	13.3	377
Manicaland	14.8	8.1	22.9	471	15.5	7.8	23.3	431
Masvingo	14.4	4.5	19.0	549	16.3	4.9	21.2	487
Midlands	7.5	4.6	12.1	601	7.1	5.0	12.1	540
Matebeleland North	11.9	17.5	29.4	249	10.8	19.0	29.8	217
Matebeleland South	11.5	12.7	24.2	185	13.4	14.9	28.3	145
Exposure to family planning from media*								
No media exposure	11.9	8.9	20.8	1,778	12.5	9.4	21.9	1,597
Exposed to media, but not to family planning messages	7.5	4.9	12.5	1,135	8.0	5.2	13.2	973
Heard about family planning from media	6.6	4.3	10.9	1,424	6.8	4.5	11.3	1,226
Contact with family planning services**								
Did not visit health facility or receive outreach in last 12 months	9.4	6.6	16.0	2,689	9.9	7.0	17.0	2,325
Visited health facility in last 12months, not told about FP	11.3	5.6	16.8	240	12.0	5.9	18.0	224
Visited health facility in last 12 months and told about FP	7.3	5.0	12.3	521	7.8	5.1	12.9	470
Visited by FP worker in last 12 months	8.4	6.6	15.0	888	8.5	7.0	15.6	777
Total	**9.0**	**6.4**	**15.4**	**4,337**	**9.50**	**6.73**	**16.24**	**3,796**

[a] Women in need of contraception include women with unmet need for family planning, women who are currently using contraception, and women who became pregnant while using contraception.

* Exposed to any of the three media sources (radio, TV, newspaper/magazine) at least once a week; heard of family planning on the radio, TV, or newspaper in the last few months.

** Visited by a family planning worker in last 12 months; or visited a health facility in last 12 months and informed about family planning. Note that if women both were visited by a family planning worker and attended a health facility, they are included in the category visited by a family planning worker.

Multivariate Analysis

Table 5 shows adjusted effects of selected variables on unmet need for family planning among all women and currently married women in need of contraception in the 2005-06 ZDHS, separately for spacing, limiting, and total unmet need. (Women in need of contraception are defined as those with unmet need for family planning, women who are currently using contraception, and women who became pregnant while using contraception.) Results are similar for all women and currently married woman and therefore we only report results for all women.

After controlling for the selected socio-demographic characteristics, the results show that women who are more educated, wealthier, and working have significantly lower unmet need for family planning than other women. Also, women with no living children are more likely to have an unmet need than those with children.

In separate models for unmet need for spacing and unmet need for limiting, age is significantly negatively associated with unmet need for spacing but significantly positively associated with unmet need for limiting. Among other factors, women's educational attainment and higher wealth status are significantly negatively associated with unmet need for both spacing and limiting. Working women and women with children are significantly less likely to have unmet need for spacing. Exposure to family planning messages in the mass media is significantly negatively associated with unmet need for limiting.

Table 5. Adjusted effects of selected variables on unmet need for family planning among all women and currently married women in need of contraception[a], by spacing and limiting methods, ZDHS 2005/6

	All women						Currently married women					
	Spacing		Limiting		Total		Spacing		Limiting		Total	
Characteristic	OR	p-value	OR	p-value	OR	p-value	OR	p-value	OR	p-value	OR	p-value
Age group												
15-19[R]	1.00	-	1.00	-	1.00	-	1.00	-	1.00	-	1.00	-
20-24	0.64	0.072	1.15	0.713	0.66	0.078	0.62	0.100	1.06	0.888	0.65	0.120
25-29	0.35	0.002	1.82	0.109	0.48	0.011	0.35	0.005	1.59	0.255	0.48	0.022
30-34	0.33	0.003	4.18	0.000	0.73	0.293	0.33	0.007	3.56	0.003	0.70	0.284
35-39	0.25	0.000	4.69	0.000	0.73	0.315	0.26	0.002	4.61	0.001	0.77	0.473
40-44	0.22	0.000	7.91	0.000	1.02	0.949	0.22	0.001	7.09	0.000	1.00	0.992
45-49	0.15	0.001	11.07	0.000	1.16	0.647	0.16	0.001	10.75	0.000	1.24	0.546
Education												
No education[R]	1.00	-	1.00	-	1.00	-	1.00	-	1.00	-	1.00	-
Primary	0.40	0.084	0.67	0.119	0.53	0.022	0.37	0.062	0.66	0.138	0.49	0.013
Secondary	0.33	0.015	0.77	0.280	0.49	0.011	0.28	0.004	0.70	0.172	0.42	0.002
Higher	0.23	0.027	0.21	0.046	0.23	0.002	0.12	0.006	0.21	0.046	0.15	0.001
Residence												
Urban[R]	1.00	-	1.00	-	1.00	-	1.00	-	1.00	-	1.00	-
Rural	1.24	0.511	0.63	0.294	0.91	0.762	1.15	0.659	0.84	0.696	1.01	0.970
Religion												
None[R]	1.00	-	1.00	-	1.00	-	1.00	-	1.00	-	1.00	-
Roman Catholic	0.49	0.054	0.75	0.359	0.59	0.054	0.53	0.111	0.73	0.327	0.62	0.086
Protestant	0.87	0.665	1.04	0.877	0.96	0.874	0.85	0.646	1.05	0.849	0.96	0.883
Pentecostal	1.03	0.930	0.94	0.812	1.00	0.986	1.13	0.749	0.82	0.492	0.99	0.982
Apostolic sect	1.47	0.119	0.80	0.339	1.14	0.429	1.51	0.127	0.79	0.338	1.16	0.431
Other	1.43	0.199	1.12	0.692	1.30	0.226	1.45	0.212	1.09	0.768	1.30	0.257
Currently working												
No[R]	1.00	-	1.00	-	1.00	-	1.00	-	1.00	-	1.00	-
Yes	0.57	0.005	0.78	0.104	0.63	0.002	0.59	0.012	0.87	0.373	0.69	0.011
Household wealth quintile												
Lowest[R]	1.00	-	1.00	-	1.00	-	1.00	-	1.00	-	1.00	-
Second	0.63	0.005	0.99	0.980	0.72	0.025	0.62	0.005	1.01	0.971	0.71	0.022
Third	0.48	0.001	1.05	0.847	0.63	0.004	0.45	0.002	1.07	0.759	0.62	0.006
Fourth	0.55	0.021	0.60	0.069	0.50	0.001	0.55	0.025	0.57	0.057	0.50	0.001
Highest	0.65	0.337	0.41	0.022	0.46	0.026	0.77	0.563	0.42	0.042	0.53	0.068

(Cont'd)

Table 5 – cont'd

	All women						Currently married women					
	Spacing		Limiting		Total		Spacing		Limiting		Total	
Characteristic	**OR**	**p-value**	**OR**	**p-value**	**OR**	**p-value**	**OR**	**p-value**	**OR**	**p-value**	**OR**	**p-value**
Number of living children												
0[R]	1.00	-	1.00	-	1.00	-	1.00	-	1.00	-	1.00	-
1-2	0.11	0.000	0.88	0.734	0.16	0.000	0.05	0.000	0.49	0.116	0.06	0.000
3-4	0.10	0.000	0.98	0.970	0.16	0.000	0.05	0.000	0.49	0.171	0.06	0.000
5+	0.16	0.000	0.95	0.912	0.18	0.000	0.07	0.000	0.46	0.153	0.06	0.000
Region												
Manicaland[R]	1.00	-	1.00	-	1.00	-	1.00	-	1.00	-	1.00	-
Mashonaland Central	0.48	0.008	0.58	0.152	0.51	0.003	0.46	0.008	0.60	0.138	0.49	0.001
Mashonaland East	0.42	0.002	0.82	0.543	0.54	0.007	0.41	0.004	0.91	0.751	0.56	0.010
Mashonaland West	0.39	0.001	0.74	0.382	0.50	0.003	0.41	0.001	0.66	0.195	0.48	0.001
Matebeleland North	0.48	0.007	2.18	0.022	1.02	0.926	0.51	0.027	2.39	0.003	1.12	0.635
Matebeleland South	0.63	0.162	1.68	0.173	1.03	0.911	0.88	0.691	2.02	0.046	1.37	0.204
Midlands	0.55	0.016	0.60	0.161	0.55	0.009	0.48	0.009	0.64	0.143	0.52	0.002
Masvingo	0.67	0.155	0.50	0.028	0.61	0.079	0.72	0.275	0.55	0.028	0.66	0.134
Harare	0.26	0.000	0.60	0.396	0.37	0.004	0.22	0.000	0.83	0.727	0.38	0.002
Bulawayo	0.29	0.001	1.46	0.478	0.63	0.175	0.38	0.007	2.18	0.090	0.88	0.672
Exposure to family planning from media*												
No media exposure[R]	1.00	-	1.00	-	1.00	-	1.00	-	1.00	-	1.00	-
Exposed to media, but not to family planning messages	0.92	0.763	0.74	0.107	0.84	0.311	0.93	0.788	0.79	0.242	0.85	0.366
Heard about family planning from media	1.07	0.801	0.60	0.006	0.81	0.243	1.06	0.814	0.62	0.013	0.82	0.255

(Cont'd)

Table 5 – cont'd

	All women						Currently married women					
	Spacing		Limiting		Total		Spacing		Limiting		Total	
Characteristic	**OR**	**p-value**	**OR**	**p-value**	**OR**	**p-value**	**OR**	**p-value**	**OR**	**p-value**	**OR**	**p-value**
Contact with family planning services**												
Didn't visit health facility or receive outreach in last 12 months[R]	1.00	-	1.00	-	1.00	-	1.00	-	1.00	-	1.00	-
Visited health facility in last 12months, not told about FP	0.98	0.933	0.93	0.809	1.00	0.987	0.89	0.744	0.89	0.733	0.92	0.748
Visited a health facility in last 12 months and told about FP	0.87	0.605	0.79	0.316	0.80	0.234	0.87	0.609	0.76	0.281	0.78	0.228
Visited by FP worker in last 12 months	0.91	0.563	0.94	0.702	0.92	0.493	0.87	0.453	0.90	0.551	0.87	0.279
Number of women			**4,337**						**3,796**			

[a] Women in need of contraception include women with unmet need for family planning, women who are currently using contraception, and women who became pregnant while using contraception.

* Exposed to any of the three media sources (radio, TV, newspaper/magazine) at least once a week; heard of family planning on the radio, TV, or newspaper in the last few months.

** Visited by a family planning worker in last 12 months; or visited a health facility in last 12 months and informed about family planning. Note that if women both were visited by a family planning worker and attended a health facility, they are included in the category visited by a family planning worker.

[R] Reference category.

Estimated Impact of Reducing Unmet Need

Table 6 shows the estimated impact on the TFR of converting half or all of unmet need into contraceptive use. Scenario 1 is the baseline, with current levels of unmet need (12%), contraceptive prevalence (60%), and the current TRF (3.8 children per woman). In scenario 2, if half of all women with an unmet need began using a family planning method, then the TFR would decline to 3.4 children per woman. In scenario 3, if all unmet need were converted to contraceptive use, the TFR would decline to 3.0 children per woman. The simulations show that entirely eliminating the unmet need would result in almost a one-child reduction in the TFR (0.8 children per woman).

Table 6. Estimated impact of reducing unmet need on total fertility rate (TFR), ZDHS 2005/6

	Current TFR	% currently using contraception	Current unmet need	Current total demand	Adjusted unmet need	Adjusted current use	Predicted TFR from adjusted use
Scenario 1: Convert no unmet need to current use (Baseline)	3.8	60.2	12.0	72.2	12.0	60.2	3.8
Scenario 2: Convert half of unmet need to current use	3.8	60.2	12.0	72.2	6.0	66.2	3.4
Scenario 3: Convert all unmet need to current use	3.8	60.2	12.0	72.2	0.0	72.2	3.0

DISCUSSION

Our analysis shows that in Zimbabwe unmet need for family planning has decreased over time as contraceptive use has risen. Zimbabwe now has relatively high contraceptive prevalence and low unmet need for family planning, with 60% of currently married using contraception and only 12% having an unmet need. However, unmet need levels remain much higher in several sub-groups of women, including never-married sexually active women, adolescents, uneducated women, poor women, nulliparous women, and women in the two Matebeleland regions.

After controlling for respondent characteristics, the results show that women with unmet need for spacing are younger, have fewer children, are less educated, less likely to be working, and live in lower-wealth households. Women with unmet need for limiting are older, more educated, live in wealthier households, and are not as exposed to family planning messages in the mass media. Total unmet need is significantly associated with women age 20-29, educational attainment, work status, wealth status, and the number of living children.

Marginalized groups of women may face barriers to accessing family planning services that prevent them from using contraception. High unmet need among never-married sexually active women, many of whom are adolescents, may be due to social disapproval of contraceptive use. Sexual activity without effective contraceptive protection can lead to high incidence of unwanted pregnancies that often result in unsafe abortions and maternal morbidity and mortality. Reducing levels of unmet need among the young age groups probably would achieve substantial reductions in maternal morbidity and mortality.

Besides social disapproval, lack of information on family planning and inability to pay for supplies and services also present barriers to contraceptive use, especially among young people and those who have yet to start their families. The high level of unmet need among young

married women who have not yet had their first child indicates an apparent desire to postpone childbearing but a lack of the means to do so, whether due to social pressures, unfamiliarity with family planning, or lack of contraceptive choices. Among this age group, contraceptive accessibility should be accompanied by contraceptive information. Information and services should be delivered through youth-friendly health programs and school programs to reach adolescents both in and out of school.

The high levels of unmet need in Zimbabwe's rural areas compared with the urban areas and in the Matebeleland provinces compared with other regions of the country may reflect inequalities in access to family planning services. The findings suggest that changes in women's fertility preferences in rural areas and Matebeleland have outpaced the expansion of family planning services in these areas, leading to higher levels of unmet need, as more women want to avoid pregnancy but do not yet have the means to do so effectively. Family planning service delivery systems need to be strengthened to ensure that contraceptive information and services reach rural women, poor women, and others most in need. The issue of cost of contraception is important in ensuring access to contraception among these marginalized women.

The study also underscores the significance of improving women's status in reducing levels of unmet need. Higher levels of education, household wealth, and employment among women are associated with higher levels of contraceptive use and lower levels of unmet need. These factors together indicate the significance of women's empowerment in reducing unmet need, a finding in keeping with those of other studies (Al Riyami et al., 2004; Lutalo et al., 2000; Kirk and Pillet, 1998; Kaona et al., 1996; Agyei and Migadde, 1995). There is a need for the government and its partners to continue to channel adequate resources to women's empowerment

activities. Besides improving maternal and child health, this support will help to accelerate socioeconomic development.

The fact that women who have regular exposure to the mass media have lower unmet need than those with little exposure, and especially if they have heard or seen family planning messages in the mass media, demonstrates the value of media messages for reproductive health promotion. There is a need to increase use of all modes of media to spread information on family planning issues, including contraception. The information is most effective when it is tailored to specific audiences including men, local leaders, married and unmarried women, and the youth, and when it addresses particular interests and needs.

The simulation analysis results indicate that to reduce Zimbabwe's TFR by one child from the baseline of 3.8 children per woman, one would need to achieve 100% contraceptive coverage for all sexually active women in need of contraception. Since the study shows that currently married women are relatively well served, the contraceptive coverage can potentially be increased by targeting small groups of women with high unmet need. Since these estimates do not indicate how long it will take to achieve this reduction, there may be need to come up with models to estimate the duration it may take to achieve this change. This has an important bearing for planning and budgeting purposes.

CONCLUSION

Despite attaining a relatively high contraceptive use rate and low level of unmet need in Zimbabwe among currently married women, several groups of women continue to have substantial unmet need for family planning. As mentioned, these include never-married sexually active women, adolescents, uneducated women, poor women, nulliparous women, and women in the two Matebeleland regions. Therefore, it may be time for Zimbabwe to shift national goals from an emphasis on increasing contraceptive prevalence to satisfying unmet need and reducing unintended fertility with a special focus on the groups and areas with the highest levels of unmet need.

The new objectives should be pursued bearing in mind that reducing unmet need for family planning, as well as serving continuing contraceptive users, can go far to achieve the underlying goal of reducing unintended pregnancies and associated maternal morbidity and mortality. Family planning is among a handful of proven, feasible, cost-effective interventions that can make an immediate impact on maternal mortality in low-resource settings. In order to achieve the fifth Millennium Development Goal, family planning programs should respond through strategies that focus on women with unmet need as a distinct audience and clientele.

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