Reevaluating the Unmet Need for Family Planning in the Philippines

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ABSTRACT

For more than a decade now, studies of unmet need for family planning have employed a standard definition where the fundamental concern was the apparent discrepancy between fertility preferences and contraceptive practice. An assessment of this definition and the ensuing prevalence of unmet need for family planning in the Philippines using data from the 1993 National Demographic Survey led us to conclude that such prevalence based on the conventional definition was an underestimate. Central to our argument is the exclusion of those using contraception but in need of better contraception and those who are pregnant due to contraceptive failure. Our new definition of unmet need classify women in three major groups: women with conventional unmet need, women with unmet need due to health risks, and women with unmet need due to poor contraceptive use. The new definition identified large percentages of women who were classified as having no unmet need by the conventional approach as indeed having unmet need for family planning. Based on the conventional definition, prevalence of unmet need was 26 percent. This increased to 48 percent when the new definition was used. An application of the proposed definition is carried out in a differential analysis of unmet need in the Philippines from which interesting policy suggestions were drawn.

INTRODUCTION

The gap between women's reproductive goals and their contraceptive practice has received considerable research attention—and for good reason. In particular, many women who want no more children or who want to space their next child do not use family planning. Information on the numbers and characteristics of these women can be influential in formulating strategies for national family planning programs. Ultimately, identifying and meeting unsatisfied demand for family planning will serve to reduce unwanted pregnancies, improve the health of women and children, and attain national demographic goals that involve curbing rapid population growth.

Much of the research in this area has come under the rubric "unmet need for family planning" (e.g., Westoff and Pebley, 1981; Nortman, 1982; Westoff, 1988a and 1988b; Bongaarts, 1991; Palmore et al., 1991; Westoff and Moreno, 1991; Westoff and Ochoa, 1991; Devi et al., 1995; Go et al., 1995; Suyono and Palmore, 1995. Westoff and Bankole, 1995a; 1995b). Westoff and his colleagues, for example. have used World Fertility Survey and Demographic and Health Survey

data to define the concept of unmet need and estimate levels for many countries.

There is now a "conventional" definition of unmet need (for example, NSO and DHS 1994, 75-77) based on expressed desire to space or limit births combined with current use of family planning. If a woman expresses a desire to space or limit future births but is not currently using any method of contraception, she is defined as having a need for family planning that is unmet.

The 1993 Philippine National Demographic Survey (PNDS) provides a rich source of data that can be used to measure the level of unmet need in the Philippines. Survey data also shed light on several important issues raised by the conventional definition of unmet need. The survey itself has been described in detail elsewhere (NSO and DHS, 1994).

Information on unmet need is particularly important for the Philippines because of the persistence of high fertility rates. Total fertility fell by at least 21 per cent between 1965-70 and 1985-90 (Palmore et al., 1995), but the fertility rates reported by the PNDS was still 4.1—substantially higher than the rate in most other Southeast Asian countries.

Using the conventional definition, the PNDS showed an unmet need for family planning of 26 percent in 1993, only three percentage points lower than the 1988 estimate of 29 percent (NSO and DHS, 1994). After assessing the data, we have concluded that this figure is an underestimate. Our reasons for this conclusion touch on two major problems concerning the conventional definition of unmet need. First, the conventional definition is based solely on the expressed desires of individual women regardless of whether or not their desires are in the best interests of their own health or the well-being of their children. Second, the conventional definition assumes that women who are using family planning are meeting their need for contraception: in fact, many such women still have an unmet need.

In this report, we first discuss the context for assessing unmet need in the Philippines and show how this context makes the conventional definition of unmet need inappropriate. We propose new ways to measure unmet need and, finally, analyze the determinants of unmet need using a definition of the concept more appropriate in the Philippine context.

HEALTH RISKS

The first major problem with the conventional definition of unmet need relates to health risks. Women are at heightened risks if they have too many children, if they have children at closely spaced intervals, or if they have children when they are too young or too old. Looking at these risks, Palmore et al. (1991) and Casterline (1991) pointed out the importance of developing a definition of unmet need that goes beyond women's expressed desires.

Palmore and his colleagues, using data from the 1987 Indonesia National Contraceptive Prevalence Survey, labeled this other type of unmet need "latent unmet need." This was ascribed to couples who were not using contraceptives but who had

exceeded the Indonesian family planning program's stated goals for family size. Women who have already had at least two births and still wanted more children were classified as having a latent limiting need. Women who wanted to have their children closer than three years apart were classified as having a latent spacing need. Using these new categories, an additional 10 percent of Indonesian women were classified as having unmet need.

If women with latent need were to accept the government's recommendation, they would move into the "manifest" unmet need category—the manifest need being the same as the conventional definition of unmet need. The policy implications of recognizing both types of unmet need are clear: manifest or conventional unmet need can be met by providing good family planning services, whereas latent unmet need can only be met by first convincing women that they do, in fact, have unmet need (Suyono and Palmore, 1995).

Casterline (1991) defined a "health-risk need" for family planning using data from the Philippines. While his approach was different from that of Palmore and colleagues, the two independent studies classified rather similar groups of women into categories of unmet need. In this analysis, we follow Casterline's approach.

POOR CONTRACEPTIVE USE

Several recent critiques have noted the second major problem with the conventional definition of unmet need—that it excludes women who are using contraceptives but need better methods as well as women who are pregnant due to contraceptive failure (Mueller and Germaine, 1992; Foreit and Mostajo, 1993). It is easy to argue that currently pregnant or amenorrheic women whose pregnancies were unintentional at the time of contraception (i.e., those with accidental pregnancies due to contraceptive failure) have an unmet need for better contraception. We classify women using ineffective contraception or using contraceptive methods improperly as having an unmet need. The standard practice of excluding such women can result in an underestimation of unmet need: for the Philippines, this underestimation is considerable.

Using ineffective methods

An analysis of the 1980 Community Outreach Survey data in the Philippines revealed differences in estimated average pregnancy rates for a 12-month period of contraceptive use (Laing, 1984). These were 33 percent for women using the rhythm method alone, 44 percent for withdrawal alone, and 60 percent for condoms alone. Such high failure rates clearly show the ineffectiveness of these methods, at least as practiced by the survey respondents.

In spite of such failure rates, Filipino couples continue to prefer natural family planning, alone or in combination with other methods. As of 1993, only 25 percent of currently married women in reproductive ages were using modern methods, an increase of only four percentage points from 1985 (Casterline, Perez, and Biddlecom, 1995). According to the PNDS, 40 percent

of currently married women who were using contraception were using either "traditional" methods or the less effective modern methods — condoms, diaphragms, foam, or jelly (NSO and DHS, 1994). Nine per cent of currently married women who wished to stop childbearing altogether were still using natural family planning. (NSO and DHS, 1994)

The PNDS provides further evidence that Filipino couples tend to lack a strong commitment to family planning. One in three women using a contraceptive method discontinued during the first year of use, and half discontinued within 23 months. The methods with the highest discontinuation rates were condoms (59 per cent during the first year), withdrawal (41 per cent), and the pill (40 per cent). The pill, the preferred modern method, was used on average for 18 months, whereas periodic abstinence, the preferred traditional method, had a median duration of 23 months (Perez and Tabije, 1995).

A recent study on contraceptive method choice during the period 1973-83 identified religiosity with choice of the rhythm method (Zablan et al., 1989; for a discussion of religion in relation to method choice in India, see Bhende et al., 1991). Given that the predominant religion in the Philippines is Roman Catholicism, it seems clear that the Catholic Church's rejection of modern contraceptive methods plays an important role in the widespread use of less effective natural methods (see Bulatao's) 1989 conceptual framework for assessing contraceptive method choice).

Using methods without knowing how to use them correctly

Among women currently using natural family planning methods in 1993, two-thirds did not know at what stage in the menstrual cycle they were most likely to become pregnant. In fact, many women reported during the PNDS that they had stopped using family planning because they became pregnant (NSO and DHS 1994). With little doubt, if such women are to avoid accidental pregnancies in the future, they need to switch to more effective methods. Alternatively, they need to learn how to use natural family planning successfully.

BETTER ESTIMATES OF UNMET NEED

Data from the 1993 PNDS allow us to estimate unmet need in the conventional way and then proceed to assess the magnitude of other types of unmet need related to health risks and poor contraceptive use. We also identify the differences in unmet need associated with several socioeconomic and demographic variables.

We began this analysis by dividing currently married women aged 15-49 into five groups: (1) women with a conventional unmet need for limiting future births; (2) women with a conventional unmet need for spacing births; (3) women without a conventional unmet need but with a health-risk need for family planning; (4) women without a conventional unmet need or a health-risk need but were poor contraceptors; and (5) women with no need

for family planning (those using effective contraceptives).

Conventional unmet need for limiting and for spacing have already been defined (see NSO and DHS 1994: 75-77). Following Casterline's (1991) earlier work, we defined four groups of women as having health-risk need for family planning: (a) women who already had more than four live births; (b) women who were under age 20 (too young); (c) women who were over age 35 (too old); and (d) women whose last birth was less than 15 months before the survey (short birth interval). Since some women with conventional unmet need also had a health risk, these two groups were cross-classified. Table 1 summarizes the percentages of currently married women in these categories.

We also defined four groups of women as being poor contraceptors: (1) women who were trying to limit births but were using ineffective contraceptive methods; (2) women who were trying to limit births but were using natural family planning (NFP) and did not know when during the menstrual cycle (MC) they were most likely to become pregnant; (3) women who were trying to space births but were using natural family planning and did not know when during the menstrual cycle they were most likely to become pregnant; and (4) women who were pregnant as a result of a contraceptive failure. Percentages of currently married women in these categories are summarized in Table 1.

Table 1. Percentage of Currently Married Women in Various Categories of Unmet Need: 1993 Philippine National Demographic Survey

Panel A. Not Using Family Planning, Has Conventional Unmet Need for Limiting

Health Risk Unmet Need	Percentage of Currently Married Women
None	3.8
More than 4 children	8.2
Too young	0.1
Too old	1.4
Short birth interval	0.2

Panel B. Not Using Family Planning, Has Conventional Unmet Need for Spacing

Health Risk Unmet Need	Percentage of Currently Married Women
None	6.7
More than 4 children	2.5
Too young	0.4
Too old	0.6
Short birth interval	2.2

Panel C. Not Using Family Planning, No Conventional Unmet Need, Has Health Risk Unmet Need

Type of Health Risk Unmet Need	Percentage of Currently Married Women
More than 4 children	3.4
Too young	0.6
Too old	1.3
Short birth interval	4.7

Panel D. No Conventional Unmet Need, No Health Risk Unmet Need, Poor Contraceptors Unmet Need

Type of Poor Contraceptive Use Unmet Need	Percentage of Currently Married Women
Limiting, but using ineffective methods	0.7
Limiting, using NFP, do not know MC	7.0
Spacing, using NFP, do not know MC	3.2
Pregnant from contraceptive failure	0.9

The identification of women with unmet need related to health risks or poor contraceptive use increased the total with unmet need from 26 percent to 48 percent of all currently married women between the ages of 15 and 49. The largest new groups were: women who were using natural family planning to limit births but did not know when during the menstrual cycle they were most likely to become pregnant (7 percent of all currently married women); women who did not express a conventional unmet need but had borne a child less than 15 months before the survey (5 percent); women who did not express a conventional unmet need but had borne more than four children (3 percent); and women who were trying to space their births but were using natural family planning without knowing when during the menstrual cycle they were most likely to become pregnant (3 percent).

COVARIATES OF UNMET NEED

All the types of unmet need identified in our analysis were distributed differentially in the population. In looking at the effects of socioeconomic and demographic variables, we combined the types of unmet need into six categories: (1) conventional unmet need for limiting; (2) conventional unmet need for spacing; (3) health-risk unmet need for women with more than four children and who were not using contraception; (4) health-risk unmet need for women who were not using contraception but whose last child was born less than 15 months before the survey; (5) use-related unmet need for women trying to limit births by using ineffective methods or natural family planning without correct knowledge of the menstrual cycle; and (6) use-related unmet need for women trying to space births by using NFP without correct knowledge of the menstrual cycle. We have thus omitted three unmet-need categories—women who were too old to have children safely, women who were too young, and women who were pregnant due to a contraceptive failure. We discuss only those variables from the PNDS that turned out to be significantly related to unmet need according to our multivariate analysis.

Age

As expected, conventional unmet need for limiting was highest for women aged 30-44 and lowest for younger (15-24) and older (45-49) women (Table 2). Conventional unmet need for spacing was highest for women aged 15-29 and lowest at older ages. Women with a health-risk need because they had more than four children (and who did not have conventional unmet need) were concentrated in the 30-39 age range. Women with a health-risk need because of short birth spacing and those who were using natural family planning for spacing but did not have correct knowledge of the menstrual cycle were concentrated in the 15-29 age group. Those who were using ineffective methods or natural family planning to limit births but lacked correct knowledge of the menstrual cycle were clustered in the 35-44 age range.

Table 2. Percentage of Currently Married Women in Various Categories of Unmet Need By Age: 1993 Philippine National Demographic Survey

Age Group	Conventional Unmet Need for Limiting	Conventional Unmet Need for Spacing	Health Risk Need, More than 4 Children	Health Risk Need, Short Birth Interval	Limiting but Using Ineffective Methods or NFP Without Corrrect Knowledge of Menstrual Cycle	Spacing but Using NFP Without Correct Knowledge of Menstrual Cycle
15-24	6.9	29.7	.2	18.7	3.1	6.4
25-29	12.9	20.0	2.3	6.0	6.0	5.3
30-34	15.9	12.3	5.3	2.5	9.3	3.6
35-39	18.0	6.8	5.3	1.0	11.3	1.8
40-44	19.9	2.7	3.8	.4	10.5	.9
45-49	9.2	.6	3.9	.2	5.8	.1

Educational Attainment

When we assessed unmet need by the educational attainment of currently married women, we found several interesting patterns (Table 3). Conventional unmet need for limiting was highest for women with the least education, whereas conventional unmet need for spacing was similar for all categories of educational attainment. The proportion of women with more than four children who did not have conventional unmet need was highest for those with the least education, whereas health-risk unmet need because of short birth intervals was highest for women with high school education. Surprisingly, the proportion of poor contraceptors was roughly equal in all educational groups: in fact, it was somewhat higher in the more educated categories.

Table 3. Percentage of Currently Married Women in Various Categories of Unmet Need By Wife's Educational Attainment: 1993 Philippine National Demographic Survey

Wife's Educational Attainment	Conventional Unmet Need for Limiting	Conventional Unmet Need for Spacing	Health Risk Need, More than 4 Children	Health Risk Need, Short Birth Interval	Limiting but Using Ineffective Methods or NFP Without Corrrect Knowledge of Menstrual Cycle	Spacing but Using NFP Without Correct Knowledge of Menstrual Cycle
Less than high school	18.5	11.9	5.6	2.8	7.3	2.4
High school	12.4	13.9	2.3	6.0	8.2	3.9
More than high school	9.2	11.9	1.4	7.0	9.1	4.2

Type of union

While most of the women who were classified as currently married were in fact legally married, a minority were living with their partners but were unmarried. The women in this category were much more likely than legally married women to have conventional unmet need for family planning and health-risk unmet need due to short birth intervals (Table 4). The only category of unmet need that was substantially higher for legally married women was that of the poor contraceptors who wished to limit births.

Table 4. Percentage of Currently Married Women in Various Categories of Unmet Need By Type of Marital Union: 1993 Philippine National Demographic Survey

Type of Marital Union	Conventional Unmet Need for Limiting	Conventional Unmet Need for Spacing	Health Risk Need, More than 4 Children	Health Risk Need, Short Birth Interval	Limiting but Using Ineffective Methods or NFP Without Correct Knowledge of Menstrual Cycle	Spacing but Using NFP Without Correct Knowledge of Menstrual Cycle
Married	13.8	12.4	3.6	4.3	8.2	3.2
Living together	19.0	17.2	2.4	10.7	4.9	3.7

Work status

Women who were not currently working outside the home tended to have higher conventional unmet need for family planning than women who worked. In particular, nonworking women were twice as likely to have a conventional unmet need for spacing (Table 5).

Table 5: Percentage of Currently Married Women in Various Categories of Unmet Need By Work Status: 1993 Philippine National Demographic Survey

Work Status	Conventional Unmet Need for Limiting	Conventional Unmet Need for Spacing	Health Risk Need, More than 4 Children	Health Risk Need, Short Birth Interval	Limiting but Using Ineffective Methods or NFP Without Corrrect Knowledge of Menstrual Cycle	Spacing but Using NFP Without Correct Knowledge of Menstrual Cycle
Currently working	13.0	8.2	3.2	3.6	8.6	3.3
Not currently working	15.1	16.3	3.8	5.8	7.3	3.3

Region and ethnicity

The PNDS revealed major variations in fertility rates along regional and ethnic lines. Total fertility ranged from a low of 2.8 in the National Capital Region to a high of 5.9 in Bicol. Go and her colleagues (1995) discussed the reasons for these regional variations, focusing on aggregate measures of the proximate determinants of fertility and on unmet need at the aggregate (regional) level. At the individual level, one of the reasons for regional variations appeared to be low commitment to contraceptive use.

In assessing the various categories of unmet need, the Bicolano ethnic group and the Bicol region stand out. The Bicolanos had the highest conventional unmet need for limiting, close to the highest conventional unmet need for spacing, close to the highest for both categories of health-risk unmet need, and the highest unmet need in the two poor-contraceptor categories (Table 6). The Bicol region was second highest in conventional unmet need for limiting and in the two poor contraceptor categories (Table 7). The other regions with high unmet need in several categories were Eastern Visayas (particularly for conventional unmet need for limiting and the two poor-contraceptor categories), Western Mindanao (particularly for conventional unmet need for spacing), Northern Mindanao (particularly for the two poor-contraceptor categories), Ilocos (for the two poor-contraceptor categories), and Southern Tagalog (for conventional unmet need for limiting).

The generally observed inverse relationship between socioeconomic development and unmet need (particularly the conventional limiting need and in limiting and spacing needs due to use of ineffective methods such as NFP while possessing poor knowledge of menstrual cycle and occurrence of conception) is substantiated by the present data. Note that Bicol and Eastern Visayas are the two most impoverished regions, and have the two highest fertility rates of 5.08 for the former and 4.86 for the latter (NSO and DHS, 1994).

An unexpected finding is that Cebuanos, as an ethnic group, have relatively high conventional spacing and ineffective method use-related need for family planning. While most of them may be concentrated in Central Visayas which is a better developed region, the Cebuano-speaking people are spread over a wide range of territory in the rest of Visayas and Mindanao.

Table 6. Percentage of Currently Married Women in Various Categories of Unmet Need By Ethnicity: 1993 Philippine National Demographic Survey

Ethnicity	Conventional Unmet Need for Limiting	Conventional Unmet Need for Spacing	Health Risk Need, More than 4 Children	Health Risk Need, Short Birth Interval	Limiting but Using Ineffective Methods or NFP Without Corrrect Knowledge of Menstrual Cycle	Spacing but Using NFP Without Correct Knowledge of Menstrual Cycle
Tagalog	14.4	10.2	1.8	5.9	7.3	2.9
Cebuano	12.6	12.3	4.4	4.4	9.6	3.8
Ilocano	11.3	11.8	3.6	4.6	6.4	3.8
Ilonggo	15.3	13.2	3.4	4.3	8.1	2.1
Bicolano	18.8	13.9	4.4	5.0	10.0	4.0
Other	15.6	16.7	4.4	4.5	6.1	3.2

Table 7. Percentage of Currently Married Women in Various Categories of Unmet Need By Region of Residence: 1993 Philippine National Demographic Survey

Region of Residence	Conventional Unmet Need for Limiting	Conventional Unmet Need for Spacing	Health Risk Need, More than 4 Children	Health Risk Need, Short Birth Interval	Limiting but Using Ineffective Methods or NFP Without Corrrect Knowledge of Menstrual Cycle	Spacing but Using NFP Without Correct Knowledge of Menstrual Cycle
Metro Manila	12.7	12.4	1.4	7.2	7.7	4.0
Ilocos	14.7	14.7	4.8	3.9	8.8	4.4
Cagayan	11.8	12.0	3.4	5.7	3.8	3.2
C. Luzon	11.5	12.7	1.8	5.4	5.8	3.3
S. Tagalog	16.4	9.9	2.8	5.8	6.9	2.3
Bicol	20.3	13.4	5.3	4.5	11.6	4.5
W. Visayas	14.2	14.1	4.0	4.2	7.5	2.5
C. Visayas	11.8	10.6	4.0	3.3	10.2	2.3
E. Visayas	23.9	13.2	3.7	2.6	9.9	3.9
W. Mindanao	13.5	18.6	5.2	4.4	4.6	2.6
N. Mindanao	11.5	13.2	4.0	3.9	12.9	4.8
S. Mindanao	12.3	12.5	3.4	3.7	9.4	3.3
C. Mindanao	14.5	13.2	7.6	4.2	4.1	2.3
Cordillera	12.4	15.6	3.9	3.5	7.1	3.5

Household amenities and consumer goods

The PNDS included a household schedule with questions on amenities and consumer goods that can be viewed as rough proxies for wealth or income. Results indicated that poor couples generally had higher levels of unmet need than wealthy couples. In particular, couples whose households did not have electricity, television, or a bicycle had higher levels of conventional unmet need for both limiting and spacing. They also had higher health-risk unmet need because of large family size (Table 8).

Table 8. Percentage of Currently Married Women in Various Categories of Unmet Need By Selected Household Amenities: 1993 Philippine Demographic Survey

Selected Household Amenities	Conventional Unmet Need for Limiting	Conventional Unmet Need for Spacing	Health Risk Need, More than 4 Children	Health Risk Need, Short Birth Interval	Limiting but Using Ineffective Methods or NFP Without Correct Knowledge of Menstrual Cycle	Spacing but Using NFP Without Correct Knowledge of Menstrual Cycle
Electricity						
Yes	11.8	11.2	2.2	5.2	8.0	3.5
No	18.7	15.7	6.0	4.1	7.8	2.8
Television						
Yes	10.5	9.6	1.8	5.4	7.9	3.4
No	17.1	15.3	4.9	4.4	7.8	3.2
Bicycle						
Yes	11.6	8.5	3.0	4.0	7.8	3.4
No	15.0	14.0	3.7	5.1	7.9	3.2

Media Exposure

Exposure to newspapers, radio, and television could influence a woman's unmet need in several ways. As shown in Table 9, women who did not read the newspapers and women who did not listen to the radio were both more likely to have unmet need for family planning, particularly conventional unmet need, than women exposed to these two media. Exposure to television was closely related to television ownership and, therefore, is not reported separately. Information dissemination on both costs and benefits of different contraceptive methods through mass media can promote informed choices on contraceptive method use. It frequently happens that method choice and use is based on inadequate information on comparative efficiencies of the different methods such that couples experiencing mistimed or unwanted pregnancies while using one method are left without better options for reducing the propensity of the occurrence of such pregnancies in the future. This situation contributes to unmet family planning needs of couples.

Table 9. Percentage of Currently Married Women in Various Categories of Unmet Need By Media Habits: 1993 Philippine National Demographic Survey

Media Habits	Conventional Unmet Need for Limiting	Conventional Unmet Need for Spacing	Health Risk Need, More than 4 Children	Health Risk Need, Short Birth Interval	Limiting but Using Ineffective Methods or NFP Without Correct Knowledge of Menstrual Cycle	Spacing but Using NFP Without Correct Knowledge of Menstrual Cycle
Read Newspapers						
Yes	12.5	12.1	2.5	5.7	8.3	3.6
No	18.2	13.2	5.2	3.2	7.5	2.9
Listen to Radio						
Yes	13.9	12.1	3.2	5.1	8.1	3.3
No	16.2	17.4	5.6	2.8	6.5	2.8

Partner and couple characteristics

We also looked at characteristics of women's partners and whether or not a couple discussed the number of children they wanted and agreed on their desired family size. As expected, these variables had significant effects on unmet need (Table 10). Women with less-educated partners were much more likely to have a conventional unmet need for limiting than women whose partners had high school education or greater; they were also more likely to have a health-risk need due to large family size.

Women who did not discuss the number of children they wanted with their partners were much more likely to have a conventional unmet need for limiting than women who had discussed this issue; they were also somewhat more likely to have a health-risk need because of large family size. Couples who agreed on their ideal family size had a lower conventional unmet need for both limiting and spacing than couples who did not agree. Limiting needs due to health risks was largest among couples where men want more children. Implied in this finding is an underlying husband-wife power relationship in the dynamics of contraceptive use decision-making. Equally interesting is the finding that the need for limiting due to use of ineffective methods or NFP while with poor knowledge of exact timing of pregnancy is largest when both husband and wife agree on ideal number of children. The same

pattern is observed with respect to spacing needs among such poor contraceptors. Couples' agreement on ideal number of children clearly must be supported by use of more effective methods if unmet family needs are to be minimized.

Table 10. Percentage of Currently Married Women in Various Categories of Unmet Need By Couple Characteristics: 1993 Philipppine National Demographic Survey

Husband and Couple Character-istics	Conventional Unmet Need for Limiting	Conventional Unmet Need for Spacing	Health Risk Need, More than 4 Children	Health Risk Need, Short Birth Interval	Limiting but Using Ineffective Methods or NFP Without Correct Knowledge of Menstrual Cycle	Spacing but Using NFP Without Correct Knowledge of Menstrual Cycle
Husband's Education						
Less than high school	17.8	12.3	5.5	3.3	8.2	2.9
High school	12.6	13.6	2.3	6.0	7.9	3.5
More than high school	9.9	11.7	1.4	6.2	7.8	3.9
Couple Discussed No. of Children						
Yes	13.3	12.6	3.0	5.4	8.3	3.8
No	17.5	13.4	5.4	2.9	6.3	1.4
Ideal Family Size						
H & W Same	13.6	12.0	2.8	5.0	8.7	3.5
H More	15.3	14.5	5.9	3.4	3.9	2.5
H Fewer	14.8	12.7	3.3	5.6	6.4	3.4

Demographic indicators

Three demographic indicators were investigated: the frequency of intercourse, the age at first marriage, and the number of surviving children. Frequency of intercourse and the age at first marriage should be related to unmet need because more frequent intercourse and earlier marriage both increase the risk of conception. The number of surviving

children should affect conventional unmet need for limiting; by definition, it relates to health-risk need based on family size.

Table 11 summarizes the relationship between these three demographic indicators and the six categories of unmet need. Women with the lowest coital frequency in the month before the survey had the highest conventional unmet need for both limiting and spacing and the highest health-risk need due to large family size. Women who reported the highest coital frequency had the highest health-risk need due to short birth intervals.

Women who married at a young age tended to have high conventional unmet need for limiting, whereas women who married at age 25 or older had the highest health-risk need due to short birth intervals. As expected, women with many surviving children had a much higher conventional unmet need for limiting and health-risk unmet need due to large family size than women with few surviving children. Women with few surviving children had a higher conventional unmet need for spacing and a higher health-risk unmet need due to short birth intervals.

Table 11. Percentage of Currently Married Women in Various Categories of Unmet Need By Selected Demographic Indicators: 1993 Philipppine National Demographic Survey

Selected Demographic Indicators	Conventional Unmet Need for Limiting	Conventional Unmet Need for Spacing	Health Risk Need, More than 4 Children	Health Risk Need, Short Birth Interval	Limiting but Using Ineffective Methods or NFP Without Correct Knowledge of Menstrual Cycle	Spacing but Using NFP Without Correct Knowledge of Menstrual Cycle
Frequency of Intercourse						
0	22.0	16.7	5.1	6.2	2.9	.9
1-2	14.8	11.4	3.7	3.0	10.2	3.4
3-4	12.0	11.6	3.0	3.7	9.3	4.0
5-9	11.0	12.5	3.0	5.3	8.1	4.2
10 or more	11.5	13.7	2.8	10.7	5.7	3.0
Age at First Marriage						
Less than 20	16.7	12.4	4.9	2.8	7.1	3.0
20 - 24	12.2	13.1	2.6	5.6	8.6	3.8
25 or more	11.3	12.8	1.6	10.7	8.6	3.8
No. of Surviving Children						
0-1	2.9	22.0	0.0	26.4	1.4	5.8
2-4	11.5	13.2	0.0	.2	8.6	3.9
5-7	21.1	7.6	9.7	0.0	10.2	1.1
8 or more	35.2	5.0	9.8	0.0	11.0	.5

Other covariates

Several other covariates were assessed, including urban-rural residence, religious affiliation, and information on the nearest health facility. However, none of these turned out to be significant in our multivariate analysis.

MULTIVARIATE ANALYSIS

Since many of the covariates discussed here are interrelated, we subjected them to a multivariate analysis. Because the dependent variable—unmet need—was categorical, we used multinomial logit regression analysis (Retherford and Choe, 1993). Unmet need was grouped into six categories used for the bivariate analysis, and a "no need" group was added as the reference category. All of the covariates discussed above were included as independent variables, with one exception: since the health-risk need due to large family size was defined by the number of children a couple already had, we could not also include the number of surviving children as an independent variable.

Table 12 gives the multinomial logit regression coefficients of all variables that had a statistically significant effect on levels of unmet need at $p \geq .05$ and are indicated by an asterisk. Using these coefficients, we can estimate adjusted proportions for each covariate, assuming average values for all other covariates in the model. These adjusted proportions are given on Table 13.

Table 12. Multinomial Logit Regression Coefficents for Category of Unmet Need For Family Planning. 1993 Philippine National Demographic Survey

Variable	Conventional Unmet Need for Limiting	Conventional Unmet Need for Spacing	Health Risk Need, More Than 4 Children	Health Risk Need, Short Birth Interval	Limiting but Using Ineffective Methods or NFP Without Correct Knowledge of Menstrual Cycle	Spacing but Using NFP Without Knowledge of Menstrual Cycle
Age						
25-29	0.42264 *	-0.92184*	2.37793*	-3.14131 *	0.22032	-0.68603*
30-34	0.70233 *	-1.79168*	3.02894*	-5.79953 *	0.69910 *	-1.45729*
35-39	0.66311 *	-2.64328*	2.98249*	-8.41651 *	0.73825 *	-2.40267*
40-44	0.71262 *	-3.74069*	2.51779*	-11.17026 *	0.57932 *	-3.23506*
45-49	-0.53783 *	-5.91853*	1.95831*	-43.88325	-0.23003	-5.52416*
(15-24)						
Type of Marital Union						
Married	-0.49676 *	-0.33681*	0.26471	-1.07163 *	0.27826	-0.37767
(Living together)						
Wife's Education						
High school	-0.26615 *	-0.25485*	-0.34638	-0.15851	0.28794 *	-0.05081
More than high school	-0.43781 *	-0.12408	-0.31914	-0.07157	0.53561 *	-0.16484*
(Less than high school)						
Ethnicity						
Tagalog	-0.04544	-0.43002*	-0.91901*	-0.20362	-0.04248	-0.54628*
Cebuano	-0.47392 *	-0.39060*	-0.15611	-0.09188	-0.08151	0.14412
Ilocano	-0.52203 *	-0.47442*	-0.27846	-0.30971	-0.38284	-0.50488
Ilonggo	-0.04973	-0.24241	-0.65593	-0.09282	-0.30454	-0.71845
Bicolano	-0.20644	-0.07026	-0.71696	-0.17635	-0.28885	-0.51345
(Other)						
Region of Residence						
Ilocos	0.15472	-0.00176	0.38486	0.05284	0.30184	0.30607
Cagayan	-0.20513	-0.15687	-0.52988	0.08036	-0.64960	-0.15893
C.Luzon	-0.57679 *	-0.25228	-0.49617	-0.07677	-0.43284	-0.39794
S. Tagalog	-0.15311	-0.22330	0.27219	0.37919	-0.11444	-0.22709
Bicol	0.27216	-0.22296	0.84128	0.08239	0.59777	0.54610
W. Visayas	-0.57959 *	-0.28644	-0.09636	-0.20512	0.00745	-0.16015
C. Visayas	-0.36882	-0.49677*	-0.33615	-0.73282	0.19709	-1.10997*
E. Visayas	0.43216	-0.05876	-0.17873	-0.62766	0.44524	0.17599
W. Mindanao	-0.17664	0.04651	-0.18166	0.45919	-0.36261	-0.16944
N. Mindanao	-0.21372	-0.12793	-0.31117	-0.34526	0.40905	-0.32273

S. Mindanao	-0.34269	-0.46390	-0.63391	-0.72190	-0.02124	-0.80874 *
C. Mindanao	0.05184	-0.29700	0.27251	0.06025	-0.52702	-0.46432
Cordillera	-0.32434	0.00866	0.08019	-0.30923	-0.43082	-0.22104
(Metro Manila)						
Work Status						
Working	-0.42035 *	-0.48427 *	-0.43937 *	-0.23182	-0.16157	0.20528
(Not Working)						
Couple Discussed No. of Children						
Yes	-0.26488 *	-0.36395 *	-0.29931	-0.16876	0.13764	0.57320 *
(No)						
Ideal Family Size						
H. more	0.07121	0.30554 *	0.52157 *	0.02491	-0.10039	0.08764
H. fewer	0.06428	0.03853	0.35568	0.03673	-0.36056 *	0.17542
H & W same						
Frequency of Intercourse	-0.06058 *	-0.04507 *	-0.05388 *	0.02924 *	-0.01292	-0.00646
Age at First Marriage	-0.00439	0.15854 *	-0.07729 *	0.60245 *	0.01453	0.14687 *
Electricity						
Yes	-0.23982 *	-0.06601	-0.56860 *	-0.14773	-0.31367 *	0.16633
(No)						
Television						
Yes	-0.37261 *	-0.34827 *	-0.28996	0.21841	-0.13269	-0.05997
(No)						
Bicycle						
Yes	-0.21474 *	-0.24046 *	-0.03972	-0.12589	-0.22165	-0.01847
(No)						
Read Newspapers						
Yes	-0.27595 *	-0.07258	-0.18740	0.13578	0.17488	-0.03334
(No)						
Listen to Radio						
Yes	-0.01160	-0.26654 *	-0.15010	0.62744 *	-0.04263	0.06276
(No)						
Husband's Education						
High school	-0.13790	-0.05760	-0.23530	-0.27975	-0.14409	-0.34417
More than high school	-0.02085	-0.17233	-0.43489	-0.70992 *	-0.46545 *	-0.37437
(Less than high school)						

Note: * = significant at p≥ .05

Not all the relationships between the independent and dependent variables revealed statistically significant by the bivariate analysis are held in the multivariate analysis. The magnitude of the adjusted proportions changed, however, and in some cases the rank order of the various independent variable groups shifted, as shown in Table 13. The overall multinomial logit model had a pseudo-R^2 just above .16, indicating a reasonably well-fitting model.

For conventional unmet need for limiting, the adjusted proportions were statistically significant. This type of unmet need was highest for women aged 30-44, women living with their partners but not legally married, women with less education, women who were not working outside the home, women who did not read newspapers, women who did not discuss the number of children they wanted with their partners, women with lower coital frequency, and women in households that lacked electricity, television, or a bicycle. Conventional unmet need for limiting was lowest for women in the Cebuano and Ilocano ethnic groups.

Conventional unmet need for spacing was highest (and statistically significantly) for women aged 15-29, women who married at later ages, women who did not work outside the home, women who did not listen to the radio, women who did not discuss the number of children they wanted with their partners, women whose partners wanted more children than they had, and women living in households without a television or a bicycle.

Health-risk need due to large family size (more than four children) was highest for women aged 30-39, women who did not work outside the home, women in households without electricity, women whose partners wanted more children than they had, women with lower coital frequency, and women who married at an early age.

The population of women with a health-risk need because of short birth intervals was small, and for this reason the model predicted less well for this group than for others. The only relationship that was statistically significant was for women aged 15-29 who were more likely to have this type of need than older women.

The proportion of poor contraceptors who were trying to limit their family size was highest among women aged 30-44, women with more education, women in households without electricity, and women whose partners had less education. Poor contraceptors who were trying to space their children were most strongly represented among women aged 15-29, women who did discuss the number of children they wanted with their partners, and women who married at later ages.

DISCUSSION AND CONCLUSIONS

We have discussed several new ways of defining unmet need for family planning. An expanded view of unmet need has particular relevance for the Philippines because the conventional definition clearly understates the need for effective contraception, as reflected in the country's high fertility rates.

Table 13. Adjusted Proportions in the Unmet Need Categories: 1993 Philippine National Demographic Survey

Variable	Conventional Unmet Need for Limiting	Conventional Unmet Need for Spacing	Health Risk Need, More Than 4 Children	Health Risk Need, Short Birth Interval	Limiting but Using Ineffective Methods or NFP Without Correct Knowledge of Menstrual Cycle	Spacing but Using NFP Without Correct Knowledge of Menstrual Cycle	No Current Need
All	0.1409	0.1248	0.0326	0.0511	0.0825	0.0367	0.5313
Age							
15-24	0.0414	0.3028	0.0009	0.3059	0.0240	0.0685	0.2563
25-29	0.1197	0.2283	0.0192	0.0251	0.0567	0.0654	0.4857
30-34	0.1759	0.1063	0.0409	0.0019	0.1017	0.0336	0.5397
35-39	0.1854	0.0497	0.0428	0.0002	0.1160	0.0143	0.5917
40-44	0.2083	0.0177	0.0287	0.0000	0.1058	0.0066	0.6327
45-49	0.0786	0.0026	0.0216	0.0000	0.0621	0.0009	0.8341
Type of Marital Union							
Married	0.1474	0.0792	0.0221	0.0000	0.0900	0.0236	0.6376
Living together	0.2181	0.0999	0.0153	0.0001	0.0614	0.0309	0.5742
Wife's Education							
Less than high school	0.1797	0.0883	0.0253	0.0001	0.0677	0.0248	0.6142
High school	0.1446	0.0718	0.0188	0.0000	0.0949	0.0247	0.6451
More than high school	0.1204	0.0809	0.0191	0.0000	0.1201	0.0218	0.6376
Ethnicity							
Tagalog	0.1817	0.0693	0.0123	0.0000	0.0942	0.0175	0.6250
Cebuano	0.1223	0.0745	0.0273	0.0001	0.0936	0.0360	0.6461
Ilocano	0.1236	0.0726	0.0256	0.0000	0.0734	0.0199	0.6848
Ilonggo	0.1822	0.0842	0.0161	0.0000	0.0730	0.0148	0.6296
Bicolano	0.1569	0.1007	0.0153	0.0000	0.0747	0.0183	0.6341
Other	0.1759	0.0986	0.0285	0.0001	0.0909	0.0279	0.5782
Region of Residence							
Metro Manila	0.1703	0.0933	0.0219	0.0001	0.0857	0.0292	0.5995
Ilocos	0.1841	0.0863	0.0299	0.0001	0.1074	0.0367	0.5554
Cagayan	0.1540	0.0886	0.0143	0.0001	0.0497	0.0276	0.6657
C. Luzon	0.1117	0.0847	0.0156	0.0001	0.0649	0.0229	0.7001
S. Tagalog	0.1540	0.0787	0.0303	0.0001	0.0806	0.0245	0.6318
Bicol	0.1935	0.0646	0.0441	0.0000	0.1350	0.0436	0.5191
W. Visayas	0.1064	0.0782	0.0222	0.0000	0.0964	0.0277	0.6690
C. Visayas	0.1303	0.0628	0.0173	0.0000	0.1155	0.0106	0.6633
E. Visayas	0.2307	0.0774	0.0161	0.0000	0.1177	0.0306	0.5273
W. Mindanao	0.1514	0.1037	0.0194	0.0001	0.0633	0.0261	0.6360
N. Mindanao	0.1395	0.0833	0.0163	0.0000	0.1301	0.0214	0.6083
S. Mindanao	0.1362	0.0661	0.0131	0.0000	0.0946	0.0146	0.6754
C. Mindanao	0.1895	0.0733	0.0304	0.0001	0.0535	0.0194	0.6337
Cordillera	0.1338	0.1024	0.0258	0.0000	0.0606	0.0254	0.6519

Work Status							
Working	0.1280	0.0655	0.0178	0.0000	0.0849	0.0289	0.6748
Not working	0.1729	0.0943	0.0245	0.0001	0.0885	0.0209	0.5987
Ideal Family Size							
H & W same	0.1500	0.0769	0.0186	0.0000	0.0949	0.0232	0.6363
H. more	0.1542	0.0999	0.0300	0.0000	0.0822	0.0243	0.6093
H. fewer	0.1605	0.0801	0.0266	0.0001	0.0664	0.0278	0.6385
Electricity							
Yes	0.1434	0.0812	0.0178	0.0000	0.0797	0.0265	0.6514
No	0.1682	0.0801	0.0290	0.0001	0.1007	0.0207	0.6012
Television							
Yes	0.1294	0.0696	0.0191	0.0001	0.0855	0.0247	0.6715
No	0.1696	0.0891	0.0231	0.0000	0.0882	0.0237	0.6063
Bicycle							
Yes	0.1363	0.0709	0.0219	0.0000	0.0775	0.0251	0.6681
No	0.1575	0.0840	0.0213	0.0000	0.0902	0.0239	0.6230
Read Newspapers							
Yes	0.1411	0.0800	0.0204	0.0001	0.0936	0.0242	0.6407
No	0.1786	0.0826	0.0237	0.0000	0.0755	0.0240	0.6155
Listen to Radio							
Yes	0.1531	0.0785	0.0211	0.0001	0.0872	0.0244	0.6356
No	0.1501	0.0994	0.0238	0.0000	0.0882	0.0223	0.6162
Husband's Education							
Less than high school	0.1550	0.0828	0.0247	0.0001	0.0982	0.0285	0.6107
High school	0.1423	0.0824	0.0206	0.0000	0.0896	0.0213	0.6438
More than high school	0.1633	0.0750	0.0172	0.0000	0.0663	0.0211	0.6571
Couple Discussed No. of Children							
Yes	0.1458	0.0757	0.0203	0.0000	0.0908	0.0276	0.6396
No	0.1792	0.1027	0.0259	0.0001	0.0746	0.0146	0.6029
Frequency of Intercourse							
0	0.1835	0.0912	0.0251	0.0000	0.0860	0.0232	0.5910
2	0.1682	0.0863	0.0233	0.0000	0.0867	0.0237	0.6117
5	0.1470	0.0790	0.0208	0.0001	0.0875	0.0243	0.6413
10	0.1162	0.0675	0.0170	0.0001	0.0877	0.0252	0.6863
Age at First Marriage							
20	0.1542	0.0751	0.0225	0.0000	0.0873	0.0225	0.6382
25	0.1357	0.1493	0.0138	0.0007	0.0844	0.0423	0.5739

For conventional unmet need, the programmatic and policy implications are to provide appropriate contraceptives, which differ depending on whether the need is for spacing or for limiting births. Community-based family planning workers also need training to help them provide correct information on the advantages and disadvantages of each of the different methods.

For unmet need due to health risk, the appropriate program intervention stresses motivation—encouraging women with four or more children to limit future births and encouraging women who recently gave birth to space their next birth. The promotion of improved maternal and child health is also important, including information on the health risks associated with pregnancy for women under 20 years old or over 35.

For poor contraceptors, policies need to stress educating couples to use more effective methods or, at the least, to use natural family planning methods more effectively. In particular, efforts should address the substantial proportion of Filipinas who rely on methods such as periodic abstinence but who do not know the point during the menstrual cycle when they are at greatest risk of conception.

A few more specific policy suggestions are indicated by the analysis of differentials in unmet need. Women in less developed regions such as Bicol exhibited the highest unmet need for limiting due to health risks and due to use of NFP while unsure of the timing of conception during the menstrual cycle. Implicit to such finding is some mismatch between health risk status, method used, and knowledge of reproductive physiology among women in less developed areas.

In addition, one obtains from the analysis evidence that women who marry late tend to have greater conventional unmet need for spacing but lesser need for limiting due to many children. Overall, late-marrying women have lower unmet need for family planning than early-marrying women. One may pursue an inquiry into the health risks of having fewer children in a shorter time span among those who marry late, whose physiological make-up for such a pace of childbearing may be different from younger women who start childbearing earlier and longer.

Unexpectedly, better educated women are shown to have the highest need for limiting due to use of NFP with poor knowledge of the menstrual cycle. This suggests that even better educated women should not be assumed to possess adequate and correct knowledge of reproductive physiology.

Our analysis of differentials in the various types of unmet need also identifies specific subgroups in the population who need the various types of policy inputs. For example, a strategy of community-based house-to-house information and education campaign on the advantages and disadvantages of using more effective contraceptive methods for women with high conventional unmet need for limiting births among women with little education, women who do not work outside the home, who do not read newspapers, or own a television may be more appropriate. It should prove useful to develop instructional

materials and messages suitable to particular groups of women.

By contrast, a strategy of stepped-up information drive on correct use of NFP particularly among those with faulty knowledge on occurrence of conception during the menstrual cycle is necessary for those who prefer NFP as a contraceptive method. Home visits by trained staff to follow-up NFP users should be part and parcel of efforts at promoting NFP.

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