

## Factors contributing to unmet need for contraception in Nusa Tenggara Barat, Indonesia

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**Objective** To calculate unmet need for contraception according to revised definition, mapping the contraception service needs and analyze factors related to the unmet need for contraception in Nusa Tenggara Barat (NTB).

**Methods** This research design was cross sectional, using data from Indonesia Demographic and Health Survey 2012. Subjects were from 1 362 household, and were married women aged 15–49 years in NTB Province (685 women). Calculating method of unmet need for contraception used revised version, and analysis method was univariate, bivariate, and multivariate (Logistic regression).

**Results** Majority of married women aged 15–49 years in NTB need contraception service (73.1%). However, it was known that met need for contraception was only 56.0%. Meanwhile, unmet need rate for contraception in NTB was 17.1%, specifically 11.5% for spacing and 5.6% for limiting. Factors contributing to unmet need for contraception in NTB were: household assets at above average (OR=0.77), parity of 2–3 children (OR=0.73), women with junior high school education level (OR=0.68), never be visited by health workers (OR=0.68).

**Conclusions** Factors that contribute to unmet need for contraception in NTB are household assets, parity, education level, and visited by health workers. Government has to prioritize those four factors in policy intervention and promotion of family planning participation program in NTB.

**Key words:** unmet need; family planning; contraception; family planning (FP) program

Increasing contraception use in developing countries has reduced maternal mortality rate at 40% for the last 20 years by reducing unintended pregnancy<sup>[1]</sup>. Using contraception can also improve perinatal outcomes and child survival, mainly by lengthening interpregnancy intervals<sup>[1]</sup>. According to the United Nations Population Fund (UNFPA), ability to manage fertility can also improve family welfare by reducing household resources, such as food, income, and time<sup>[2]</sup>.

Family planning (FP) program in Indonesia has been applied for 40 years. The country has tried to meet the reproduction health needs, even to the population in hard-to-reach areas. Contraception prevalence in West Nusa Tenggara Barat (NTB) has been stagnant, and unmet need has increased for decades. Consequently, total fertility rate (TFR) in NTB tends to be above the national average rate, and has been stagnant of 2.6 since 2007<sup>[3]</sup>. Unmet need for contraception as determinants of fertility factor in NTB is always above the national average<sup>[4]</sup>.

According to the revision in 2012, unmet need definition is the estimation of proportion and composition of women population with unmet need for contraception. Women with unmet need status are those who are fecund and not using contraception methods, but want to spacing or limiting. Unmet need definition in demography survey program has been revised by Bradley et al.<sup>[5]</sup> Women are considered to have unmet need for spacing if they are: 1) at risk of becoming pregnant, because not using contraception and do not want to be pregnant within two years, or are unsure or when they want to be pregnant; 2) experiencing unintended pregnancy; 3) postpartum amenorrheic for up two years after following unintended birth and not using contraception. Women are considered to have unmet need for limiting if: 1) at risk of pregnancy because not using contraception and want no (more) children; 2) experiencing unwanted pregnancy; 3) experiencing post partum for two years after unwanted birth and not using contraception<sup>[5]</sup>.

The change of unmet need definition aims to compare unmet need level over time and countries which conduct health demography survey<sup>[5]</sup>. Aspect of revised definition which has the biggest effects to the contraception unmet need level is the decision to not use information from calender calculation to define contraception needs. Since calender calculation is not applied by all countries, unmet need comes in various definition, like in Indonesia.

According to several resources, an unmet need for contraception is varied. Since beginning of 2012, unmet need definition has been revised and applied to all health demography survey. Up to now, no empirical analysis related to pattern and determinants of unmet need for contraception in NTB. Therefore, this research aims to calculate unmet need for contraception rate in NTB according to new definition (revised definition), map contraception service needs in NTB, analyze pattern and factors related to unmet need for contraception<sup>[6]</sup>, and also find determinants of unmet need for contraception. This research is expected to identify contraception service needs in NTB, and can be a reference to make policy

recommendation and FP program.

## **Materials & Methods**

### **Subjects**

This research design was cross-sectional, and used the 2012 Indonesia Demographic and Health Survey (IDHS) data set. Samples were married women aged 15–49 years in NTB Province. Sample size was selected using stratified (three-stage) sampling techniques. Sample was weighted for better representation of the study population from which the sample was selected.

Since 2012 IDHS using a complex sampling design, so weighted is needed. The weighted is done in order to equate probability chosen as samples in each strata (equal probability of selection method), so the conclusion of this study can be generalized to population. Weights were calculated using a sample weight (V005), we divided it by 1 000 000 before applying the weighting factor.

### **Methods**

Method for calculating unmet need for contraception of new version based on Bradley et al.<sup>[5]</sup>, from questions of questionnaire the 2012 IDHS, following number: 212, 215, 226, 228, 229, 238, 302, 303, 313, 401, 405, 406, 447, 601, 610, 615, 703, 704, 705, 706, 707, 708 and 709.

Independent variables consisted from several variables: age, total children ever born (CEB) (parity), education, occupation, husband's education, husband's occupation, residence, migration, race, wealth index, family pattern, visited by FP/health workers, exposure to mass media.

The wealth index was calculated using easy-to-collect data on a household's ownership of selected assets. The wealth index was presented in the DHS Final Reports and survey data sets, and generated with a statistical procedure known as principal components analysis. DHS separates all households into five wealth quintiles: 1) the poorest (score < 20%), 2) poorer (score 20%–39%), 3) middle (score 40%–59%), 4) richer (score 60%–79%), 5) the richest (score  $\geq$  80%).

Visited by FP/health workers were defined if women were visited by a FP or health worker in 12 months preceding the interview (none/either/both). Exposure to mass media were defined if women heard FP on radio/TV/newspaper/magazine last few months.

### **Statistical analysis**

This research was analyzed using univariate, bivariate, and multivariate analysis (Logistic regression). Bivariate analysis provided a preliminary look at characteristics of married women with unmet need and their determinant using Chi-square technique with 95% confidence interval (95%CI). The bivariate results provide a basis for the selection of significant variables to be included in next step to multivariate analysis.  $P < 0.05$  was

considered to be significantly different.

## Results

A total of 685 women were collected. Based on this study, unmet need for contraception in NTB was 17.1% (Table 1). A met need for contraception was 56.0%. Thus, total of contraception service needs for married women aged 15–49 years in NTB was 73.1% detail as follows: not using contraception, but wanted for spacing (11.5%), not using contraception, but wanted for limiting (5.6%), using contraception for spacing (34.6%), using contraception for limiting (21.4%).

**Table 1 Unmet need for contraception in NTB in 2012 (among married women)**

Contraception status	Frequency	Percentage (%)
Unmet need for spacing	79	11.5
Unmet need for limiting	38	5.6
Currently using for spacing	237	34.6
Currently using for limiting	147	21.4
Non unmet need (pregnant, etc.)	142	20.7
Infecund or menopause	43	6.2
Total	685	100.0

In addition, Table 2 shows that the highest percentage of unmet need for spacing was on married women aged 25–29 years (17.6%), women with parity (CEB) 1 person (19.5%), women with junior high school education level (13.1%), women with husband graduated from primary school (13.4%), women with low-income household (12.8%), no visited by health workers within a year (13.8%). According to the data, there was a significant correlation to all variables ( $P<0.05$ )

It can be seen that unmet need for limiting was majority on women aged 45–49 years (16.5%), women with parity of 4 children (19.2%), women with higher education background (10.3%), women with husband not enrolled in school (7.5%), women with high-income household (6.7%), women with no visit by health workers within a year (7.0%). To conclude, there was a significant correlation to all variables ( $P<0.05$ ).

According to the result, unmet need for contraception in NTB did not have correlation with factors such as migration, women's job, husband's job, residence, tribe, family formation and mass media exposure. According to test result using Logistic regression, the selected models to explain determinants of unmet need for contraception in NTB in 2012 are parity, women's education, economy/household assets, visited by health workers (Table 3).

**Table 2 Unmet need for contraception in NTB province and determinants, 2012**

Variables	Type unmet need for family planning			P
	Unmet need for spacing (%)	Unmet need for limiting (%)	Met need and others (%)	
Women's age (year)				<0.001
15-19	4.0	0.0	96.0	
20-24	15.1	1.1	83.9	
25-29	17.6	2.9	79.4	
30-34	12.9	3.6	83.6	
35-39	12.5	4.5	83.0	
40-44	6.5	9.7	83.9	
45-49	2.4	16.5	81.2	
Parity (CEB)				<0.001
1	19.5	1.4	79.1	
2	12.5	5.2	82.3	
3	7.4	5.0	87.6	
≥ 4	2.0	19.2	78.8	
Women's education				≤ 0.005
Primary school	11.7	6.7	81.6	
Junior high school	13.1	3.5	83.4	
High school or above	1.7	10.3	87.9	
Husband's education				≤ 0.005
No education	13.2	7.5	79.2	
Primary school	13.4	6.9	79.7	
Junior high school	11.3	4.0	84.7	
High school or above	4.3	4.3	91.4	
Wealth quintile				≤ 0.005
Low	12.8	5.9	81.2	
Middle	10.4	6.6	83.0	
High	9.2	6.7	86.1	
Visited by FP/health workers				≤ 0.005
None	13.8	7.0	79.1	
Either	8.1	4.1	87.8	
Both	12.8	2.1	85.1	

According to Table 3, parity factor of 2-3 children had value  $OR=0.735$ . It can be seen that unmet need among women with parity of 2-3 children was 0.735 times higher than women with parity without 2-3 children. Education had value  $OR=0.688$ , which means that unmet need among women with junior high school education level or higher was 0.688 times higher than women with education level less than junior high school.

Economy or household assets factor had value  $OR=0.774$ , which means that unmet need among women with economic level above average was 0.774 times higher than women with economic level below average. Visited by health workers had value  $OR=0.687$ , which

**Table 3 Determinants of selected model of the unmet need in NTB**

Variables	$\hat{a}$	<i>P</i> value	<i>OR</i>
Parity (2–3 children)	–0.307	0.021	0.735
Education (Junior high school or above)	–0.374	0.013	0.688
Economy/assets (above average)	–0.256	0.047	0.774
Visited by FP/health workers	–0.375	0.036	0.687
Constant	–0.950	0.000	0.387

means that unmet need among women who had been visited by health workers was 0.687 times higher than unmet need among women who had not been visited by health workers. All variables selected had value *OR* under 1.

## Discussion

Based on this study, unmet need for contraception in NTB was 17.1%, far above the national average (11.4%)<sup>[6]</sup>. This rate increased 4.2% compared with unmet need for contraception based on survey in 2007, which was 12.9%<sup>[4]</sup>. This is contradictory with unmet need condition in Indonesia which shows decline from 13.1% in 2007 to 11.4% in 2012<sup>[5,6]</sup>. The rate is far to meet the Millenium Development Goals (MDGs) 2015, target 5b (realizing reproduction health access for all), which one of the indicator is 5% unmet need for contraception or revised to be 6.5%<sup>[4,7,8]</sup>.

In addition, compared with the condition of unmet need for contraception in other countries, according to the research in 111 countries, the trend shows unmet need decline from 15.4% in 1990 to 12.3% in 2010<sup>[9]</sup>. Besides, in one of the districts in Kairo, unmet need prevalence is 7.4%<sup>[10]</sup>. Unmet need frequency for modern contraception method in 6 big cities in Iran is 17.4%<sup>[11]</sup>. It is quite lower than in Aurangabag, India with unmet need that reaches 20.54%<sup>[12]</sup>.

It is known that the total need of contraception service in NTB in 2012 reaches 73.1% (unmet need and met need), not far from the national contraception need in Indonesia (73.2%). The increase rate of contraception need is followed by decrease of unmet need for contraception, from 17.0% in 1991 to 11.4% in 2012<sup>[6]</sup>.

Many factors related to unmet need for contraception. Similar with study in Dangila Town, that women who were not counseled about FP by health workers [*OR* = 6.76 (3.17–14.42)], women whose partner had non-supportive attitude for FP use [*OR* = 3.34 (1.26–8.90)] were also more likely to have unmet need for FP<sup>[13]</sup>. And similar with study in Bondowoso Regency<sup>[14]</sup>, that found risk of unmet need among married women with primary school education level is 1.6 times higher (95%CI: 0.34–1.35) and not attending school is 1.2 times higher (95%CI: 0.30–5.38) compared with women with junior high school, and higher education level. Besides, risk of unmet need among women in underprivileged family group

is 1.6 times higher (95%CI: 0.28–1.37) compared with the privileged family. It is true that parity and modern contraception use factors are also related to unintended pregnancy event due to unmet need for contraception in Khartoum, Sudan<sup>[15]</sup>. Study in Nigerian that younger, low-parity, Muslim women were significantly less likely than older, high-parity, non-Muslim women to have an unmet need to limit fertility, also in women whose most recent child had died<sup>[16]</sup>.

This research found that household assets, which are the indicator of family economic level, affects to unmet need for contraception. Family economic level can influence unmet need for contraception through various ways, such as disapproval attitude toward contraception, insufficient information, and financial problem.

Disapproval attitude toward contraception (by respondent, husband, religion prohibition), and lack of information about contraception methods are the reasons of 12% women from very low-income family and 9% women from lower-income family, compared with 6% women from upper-income family<sup>[17]</sup>. The role of information factor among the lowest-income family is supported by IDHS 2012. Around 67.9% of women and 61.6% of men from the lowest-income level have not received information about contraception within the last 6 months (via radio, TV, newspaper/magazine, poster, pamphlet) compared with 27.4% of women and 19.5% of men from the highest income family.

Financial problem is the reason of 6% women from very low-income family and 10% from lower-income family compared with 4% from upper-income family<sup>[17]</sup>. IDHS 2012 also gives information about financial role estimation for unmet need for contraception. Around 61.9% married women use contraception, specifically 31.9% injectables, 13.6% pill and 16.4% other methods. In addition, 83.1% injectables and 68.2% contraceptive pill are received from private sector. Injectables and pill method require regular and discipline use, although most of them are received from private sector. Consequently, the lowest-income level group is at risk of incapable using contraception regularly.

This research had the similar result with research in Madagascar<sup>[18]</sup>, which found that lack of knowledge had correlation to unmet need for contraception among women workers. In addition, IDHS 2007 shows that lack of information, and disapproval attitude of husband are the factors that contribute to unmet need for contraception among young women in Indonesia<sup>[19]</sup>. Other factors are fear of side effects to health, less exposed to pregnancy risk, husband's disapproval, or religion reasons<sup>[20]</sup>. Region and regional level factor also play an important role in contraception use. The use proportion of contraception will be higher if the facility is available or in an environment with more favorable service<sup>[21]</sup>.

### **Research implication towards policy and program**

Deeper analysis is required to find factors that contribute to increase of unmet need phenomenon in NTB since 2012. Problem of unmet need for contraception indicates the gap between reproduction purpose of women and their contraception attitude. It shows that

women have intention to avoid pregnancy but they do not do pregnancy prevention.

Information about rate and characteristics of unmet need can help FP program and its development in the future<sup>[7]</sup>. By this research, unmet need data are expected to be available, so it can identify cultural and contextual restriction, also the service weaknesses to improve the program and the policy in the future<sup>[22]</sup>. This information is important to know the projection of potential contraception users, which can be the indicator of need of investment growth to meet contraception method demands and reproduction health improvement.

Benefit if using contraception based on study in India<sup>[23]</sup>, shows that women using contraception are less likely to have unintended pregnancy. According to the estimation result in 2008, unmet need for contraception to reduce unintended pregnancy in developing countries can save costs up to \$5.1<sup>[24]</sup>.

Since IDHS data can not directly answer the factors contributing to unmet need increase in NTB between 2007 and 2012, it requires qualitative study on unmet-need determinants. The explanation about the increase of unmet need for contraception requires contextual variables in regional level which is processed in multilevel analysis model, such as policy and program in districts/cities, partnership/support from many parties, or other things which are not available in IDHS data.

Study results in some countries<sup>[25]</sup>, identify that unmet need for contraception can globally reduce 29% of maternal mortality. If all women in developing countries want to avoid pregnancy using effective contraception method, maternal mortality rate can be reduced up to 30% by met of unmet need for contraception. Besides, it can reduce almost 10% of child mortality, by reducing pregnancy spacing for less than 2 years<sup>[1,26]</sup>. Research findings demonstrate the importance of contraceptive-use in the pursuit of the realization of childhood mortality reduction in Nigeria<sup>[27]</sup>.

The obstacles of contraception implementation can occur because of reformation effort and decentralisation of decision making of health sector in several countries<sup>[28]</sup>. Government regulation to increase access of giving birth process without payment, such as *Jampersal* policy, psychologically can reduce fear of financial problem of giving birth, so women will be more ready and able to experience pregnancy and births.

Policy and fertility rate reduction program must pay attention to the factor contributing to unmet need, especially proximate determinant. Selected model shows an importance of those four factors in intervention program to reduce unmet need for contraception in NTB. Women education factor also plays an important role to explain unmet need in NTB. Therefore, both women and their husband require knowledge and skill development through socialization, home visit, and sustainable evaluation monitoring. Treatment of unmet need for contraception requires consistent and sustainable effort, as well as government support through central and regional government policy.

## **Conclusion and suggestion**

Unmet need in NTB Province is accounted for 17.1%, which is 11.5% for spacing, and 5.5% for limiting. The total of service needs of contraception is 73.1%. Factors that contribute to unmet need for contraception is parity, education level, economy, and lack of visited by FP/health workers.

Information about unmet need for contraception is important to develop FP program in the future. Government has to pay attention to those four factors as priority to increase FP participation. It also requires intervention to deal with unmet need for contraception consistently and sustainably which is supported by central and regional government policy. Finally, it can improve women health as well as reducing maternal mortality.

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