Women’s empowerment and unmet needs for family planning in Indonesia

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Abstract. The unmet needs target at 9.9 percent from 2015-2019 The National Medium-Term Development Plan has not been achieved. The 2017 Indonesia Demographic and Health Survey (IDHS) show that unmet needs were 10.6 percent. Unmet needs are factors causing unwanted pregnancy, which can cause maternal morbidity and mortality; to improve maternal health, that is necessary to address women’s empowerment, which is the fifth objective of Sustainable Development Goals (SDGs). This study aims to study the relationship between women’s empowerment on the unmet needs in Indonesia. This study uses data from the 2017 IDHS. The analysis unit is fecund women who were married and required family planning involving observations of 26,249 individuals. The analytical methods used are binary and multinomial logit regression. The results showed that the components of women’s empowerment had a statistically significant effect on all unmet needs categories, namely women’s work participation, level of knowledge, participation in household decision making, and asset ownership. Women’s work participation, level of knowledge, and asset ownership negatively affect unmet needs. Participation in household decision making has a positive effect on unmet needs. Meanwhile, attitude toward wife-beating has no significant effect on all unmet needs categories.

1. Introduction
Improving maternal health is a priority in Indonesia’s health development [1]. One of the efforts to improve the health and welfare of mothers is through pregnancy planning. If the pregnancy is not planned, it will result in unwanted births. The Indonesia Demographic and Health Survey (IDHS) data show that in the 2012-2017 period, unwanted births showed an increase, from 13.6 percent to 15.2 percent [2]. The Ministry of Health (2014) revealed still contraceptive use problems, namely unmet family planning [3]. Unmet need is fecund women who are not using contraception but who wish to postpone the next birth (spacing) or stop childbearing altogether (limiting) [4]. Unmet needs are factors causing unwanted pregnancy and unsafe abortion, which can cause maternal morbidity and mortality [3][5]. Unmet needs are also considered to be an indicator of violations of women’s reproductive health rights. Women have the right to choose the number of their children, the time of pregnancy, and take part in household decision-making [6].

Unmet needs are the targets to be achieved in the population development and family planning program, as outlined in the 2015-2019 National Medium-Term Development Plan (Rencana Pembangunan Jangka Menengah Nasional/RPJMN). The results of the 2017 IDHS show that family planning unmet need is at 10.6 percent, with 4.1 percent of unmet need for spacing births and 6.5
percent unmet need to limit births [2]. This figure still does not meet 2015-2019, the RPJMN target of 9.9 percent unmet family planning [7]. There is even the United Nations [8] in the 2030 project that Indonesia’s unmet need figure is 11.4 percent. Therefore this figure is still far from the RPJMN 2020-2024 target of 7.4 percent [8].

The number of household decisions made by a woman individually or together with her partner indicates women’s empowerment that indirectly affects family planning services, including unmet needs [9]. Women’s empowerment has become a concern in handling the population sector since implementing the International Conference on Population and Development (ICPD) in Cairo in 1994 [10]. Investing in empowering women is not only beneficial for themselves but also in overall socioeconomic development [11]. Women’s empowerment is also one of the Sustainable Development Goals (SDGs) goals listed in goal number five, namely achieving gender equality and empowering women. The status of women’s empowerment in Indonesia can be known through the Gender Inequality Index (GII), where GII Indonesia in 2017 shows an increase in women’s empowerment, from 0.475 in 2012 to 0.453 in 2017 [12]. However, Indonesia’s GII is still above the world GII average and ranks seventh compared to eleven countries in Southeast Asia [12]. Apart from GII, women’s empowerment in Indonesia can be seen from the Gender Development Index (GDI). According to Badan Pusat Statistik (Statistics Indonesia), GDI increased from 90.07 in 2012 to 90.99 in 2018. However, this figure shows that women’s development outcomes are still lower than men’s [13].

Several previous studies have shown the importance of women’s empowerment in increasing maternal health services. Some researchers found a link between women’s empowerment and unmet needs [9,14,15,16]. However, most research in Indonesia focuses on demographic and socioeconomic variables [17,18,19,20]. The relationship between women’s empowerment and unmet need is limitedly examined. Therefore, the research objectives are to study the patterns and differences between women’s empowerment and unmet need in Indonesia and study the relationship between women’s empowerment and unmet need in Indonesia after controlling for demographic and socioeconomic effects variables. This research is expected to reveal the relationship between women’s empowerment and unmet needs.

2. Method
This research uses data from 2017 Indonesian Demographic and Health Survey (IDHS). In this study, the analysis unit is women of childbearing age-aged 15 to 49 years who were married/lived together and required family planning during the survey period. The number of units of analysis in this study was 26,249 respondents. This study uses two dependent variables, namely:

a. The first dependent variable is divided into met need (reference) and total unmet needs using the binary logit regression analysis method.

b. The second dependent variable is divided into three categories: met need (reference), unmet need spacing, and unmet need limitation using the multinomial logit regression analysis method.

The main independent variable used in this study is the component of women’s empowerment. There are five components of women’s empowerment used in this study, namely labor force participation (paid work status), level of knowledge (level of education completed, access to family planning in mass media), participation in household decision-making (women’s health care decisions, expenditure grew up in the household, visited family/relatives), attitude toward wife-beating (disapproval of the beating because the wife left without notifying, neglected children, quarreled with husbands, refused to have sex, cooked food until it was burned), and ownership of assets (land assets and home assets). Women’s work participation is categorized into three categories, namely unemployment, unpaid work, and paid work. Attitude toward wife-beating is categorized into two categories, namely agreeing with at least one reason and agreeing on all reasons. The level of women’s knowledge, participation in household decision-making, and asset ownership were formed using the Principal Component Analysis (PCA) technique, divided into three groups based on the score component values’ quintile values: low, medium, and high. PCA is a multivariate statistical technique
used to reduce the number of variables in the data set to a smaller number of dimensions, namely by reducing the data set variables to one main variable that describes the original variable’s variance. PCA is useful for reducing data, making it easier to interpret the data [21]. The control variables used to consist of eight variables, namely the age of the respondent, the place of residence, the number of living children, the household wealth index, the region of residence, the partner’s education, visits by family planning field workers, and visits to health facilities.

3. Results and discussion

3.1. Sample characteristics
The results showed that 1,440 respondents (5.5 percent) experienced the unmet need for spacing, while 2,262 respondents (8.6 percent) experienced the unmet need for limiting so that the total unmet needs were 3,702 respondents (14.1 percent). Meanwhile, respondents included in the met need for family planning amounted to 22,547 respondents (85.9 percent). These results indicate that the percentage of women who experience the unmet need for limiting is higher than that of the unmet need for spacing. This pattern occurs in almost all countries in Southeast Asia, except Timor Leste [7]. The calculating results of the unmet need for family planning in this study are different from the published results of the 2017 IDHS because they only compare the unmet need for spacing, unmet need for limiting, and met a need for family planning. Meanwhile, the IDHS 2017 publication includes infecund/menopause and women who want children immediately (no unmet need).

The general description of the characteristics of the sample is shown in Table 1. When viewed by working status, most women had employment (60.4 percent), with 47.3 percent having paid work while 13.1 percent do not. This indicates that women are economically empowered. When viewed according to the level of knowledge component, the highest percentage was women with a low level of knowledge (37.3 percent). According to the level of participation in household decision-making, most women have a low level of participation in household decision-making (57.7 percent). While according to the component of asset ownership, most respondents have low assets (48.8 percent).

Based on demographic and socioeconomic variables, the most of respondents in age group 25-34 (33.6 percent), number living children 2-3 (63.2 percent), medium household wealth index (42.1 percent), place of residence in rural (51.5 percent), the region of residence in Java-Bali (58.4 percent), low partner’s education (58.0 percent), not get a visit by family planning field workers (96.3 percent), and visits to health facilities (56.0 percent).

Table 1. Sample distribution based on women’s empowerment, demographic, and socioeconomic variables.

| Characteristics                          | Total      |
|-----------------------------------------|------------|
|                                         | n   | %    |
| Paid work status                        |     |      |
| Not work                                | 10,386 | 39.6 |
| Unpaid work                             | 3,441  | 13.1 |
| Paid work                               | 12,421 | 47.3 |
| Level of knowledge                      |     |      |
| Low                                     | 9,792  | 37.3 |
| Medium                                  | 8,609  | 32.8 |
| High                                    | 7,848  | 29.9 |
| Participation in household decision-making |     |      |
| Low                                     | 15,157 | 57.7 |
| Medium                                  | 5,578  | 21.3 |
| High                                    | 5,514  | 21.0 |
| Ownership of assets                     |     |      |
| Low                                     | 12,822 | 48.8 |
| Medium                                  | 5,911  | 22.5 |
| High                                    | 7,516  | 28.6 |
| Attitude toward wife-beating            |     |      |
| Agree at least one reason               | 8,096  | 30.8 |
| Disagree with all excuses               | 18,153 | 69.2 |
3.2. The relationship between women’s empowerment, demographic, and socioeconomic variables on the unmet need in Indonesia

Based on Table 2, women who work unpaid have the lowest percentage of unmet needs than women who do not work and paid work for all categories of unmet needs. According to the level of knowledge, the proportion of women with the lowest level of knowledge experienced total unmet needs. But if we look more specifically, women with high knowledge experience the most unmet need for spacing, as for the unmet need for limiting are women with low knowledge level. While according to the level of participation in decision making in the household, the proportion of women experiencing unmet needs is the most with the high level of participation in household decisions for all categories of unmet needs.

According to asset ownership, the percentage of women who experience total unmet needs is almost the same as women with low, medium, and high asset ownership. When explicitly viewed, women with the lowest asset ownership experience unmet need for spacing. Meanwhile, women with high asset ownership experience the most unmet need for limiting. Based on the attitudes towards wife-beating, women experiencing unmet needs show almost the same proportion for all categories of unmet needs. For demographic and socioeconomic variables, the most interesting thing is if it is seen by place of residence, the percentage of women who experience unmet needs in urban areas is higher than in rural areas for all unmet needs’ categories. By age, the highest percentage of unmet need for spacing for women aged 15-24 (12.6 percent). Meanwhile, women aged 35-49 had the highest unmet need for limiting (12.9 percent) and total unmet need (15.5 percent).

Table 2. Unmet need based on women’s empowerment, demographic, and socioeconomic variables.

| Characteristics | Unmet need status | n |
|-----------------|-------------------|---|
|                 | For spacing (%) | For limiting (%) | Total (%) | Met Need (%) | Total (%) | n |
| **Paid work status** |                 |               |           |             |           |   |
| Not work        | 5.8              | 8.4           | 14.2      | 85.8        | 100.0     | 10,386 |
| Unpaid work     | 4.2              | 8.1           | 12.3      | 87.7        | 100.0     | 3,441  |
Table 3 shows the results from the binary logit regression and multinomial logit regression models. The binary logit regression results show that the components of women’s empowerment that significantly affect total unmet needs are paid work status, level of knowledge, and household decision-making participation. Paid work status and knowledge level harm total unmet needs. Meanwhile, participation in household decision-making has a positive effect on total unmet needs.
Age, number of living children, place of residence, and region of residence have a statistically significant effect on total unmet needs.

The multinomial logit regression results show that the components of women’s empowerment that have a statistically significant effect on unmet need for spacing are the level of knowledge, participation in household decision-making, and asset ownership. The level of knowledge and asset ownership negatively affects the unmet need for spacing. Meanwhile, participation in household decision-making has a positive effect on the unmet need for spacing. While the components of women’s empowerment that have a statistically significant effect on unmet need for limiting are paid work status, knowledge level, and participation in household decision-making, paid work status and knowledge level harm unmet need for limiting. Meanwhile, participation in household decision-making has a positive effect on the unmet need for limiting.

According to demographic and socioeconomic variables, the statistically significant effect on unmet need for spacing is age, the number of living children, place of residence, a region of residence, partner’s education, and a family planning field visit workers. While the demographic and socioeconomic variables that have a statistically significant effect on unmet need for limiting are age, the number of living children, the region of residence, partner’s education, and a visit to health facilities.

Table 3. Odds ratio (OR) and relative risk ratio (RRR) of women’s empowerment, demographic, and socioeconomic variables on unmet need for family planning.

| Characteristics                                      | Total unmet need | Unmet need for spacing | Unmet need for limiting |
|------------------------------------------------------|------------------|------------------------|-------------------------|
|                                                      | OR               | RRR                    | RRR                     |
| Constanta                                            | 0.207             | 0.189                  | 0.018                   |
| Paid work status                                     |                  |                        |                         |
| Not work (ref)                                       |                  |                        |                         |
| Unpaid work                                          | 0.783             | 0.927                  | 0.711                   |
| Paid work                                            | 0.960             | 1.058                  | 0.887                   |
| Level of knowledge                                   |                  |                        |                         |
| Low (ref)                                             |                  |                        |                         |
| Medium                                               | 0.891             | 0.861                  | 0.910                   |
| High                                                 | 0.889             | 0.893                  | 0.872                   |
| Participation in household decision-making           |                  |                        |                         |
| Low (ref)                                             |                  |                        |                         |
| Medium                                               | 0.961             | 1.051                  | 0.902                   |
| High                                                 | 1.515             | 1.459                  | 1.548                   |
| Ownership of assets                                  |                  |                        |                         |
| Low (ref)                                             |                  |                        |                         |
| Medium                                               | 0.950             | 0.959                  | 0.960                   |
| High                                                 | 0.959             | 0.771                  | 1.065                   |
| Attitude toward wife-beating                         |                  |                        |                         |
| Agree at least one reason (ref)                      |                  |                        |                         |
| Disagree with all excuses                            | 1.012             | 0.987                  | 1.027                   |
| Age                                                  |                  |                        |                         |
| 15-24 (ref)                                           |                  |                        |                         |
| 25-34                                                | 1.021             | 0.979                  | 2.416                   |
| 35-49                                                | 1.534             | 0.493                  | 7.732                   |
| Number of living children                            |                  |                        |                         |
| 0-1 (ref)                                             |                  |                        |                         |
| 2-3                                                  | 0.625             | 0.360                  | 1.283                   |
| 4 +                                                  | 0.807             | 0.245                  | 1.832                   |
3.3. Discussion

Women who work, either paid or not, have a significant and negative effect on unmet needs. Women who work unpaid less likely to have total unmet needs and unmet need for limiting. Meanwhile, women with paid work status less likely to have an unmet need for limiting. This result is in line with Koome and Ndigma’s research, which states that women who work either unpaid or paid have a lower chance of experiencing unmet needs than women who do not work [9]. Other research results also state that women who work have a lower chance of experiencing unmet needs than women who do not work [22,23,24]. This is possible because working women are more likely to be exposed to health information to increase health services [25].

The level of women’s knowledge harms all unmet needs categories (unmet need for spacing, unmet need for limiting, and total unmet needs). This result is in line with the research of Tadesse et al. in Ethiopia, which states that the component of women’s empowerment in the form of exposure to knowledge has a positive effect on contraceptive use [26]. This can contribute to a reduced percentage of unmet need. This may be women who have good knowledge are more likely to use family planning services because they have sufficient information about family planning. Meanwhile, asset ownership negatively affects the unmet need for spacing only. This may be since women who have assets indicate that they are more economically empowered, thus increasing their access to contraceptives.

Participation in household decision-making has a positive effect on unmet needs. Women with high participation in decision making are more likely to experience unmet needs. It is probably caused by women with high participation in household decision-making. It will have more confidence in their ability to make decisions, including decisions about using family planning or unmet needs. Jejehboy (1999) stated that women’s autonomy gives women the right to control and decide about their lives, regardless of their partner’s opinion or pressure from others [27]. Women with low household decision-making participation are less likely to experience unmet needs, perhaps because Indonesia’s family planning program policy focuses on rural communities from lower-middle socioeconomic
levels. The results of this study are in line with the results of Solanke’s [16] research, which shows that women who are not involved at all in household decision making, especially health care decisions, have a lower chance of experiencing unmet needs compared to women themselves as decision-makers [16]. Ameyaw et al. [28] also found that women who did not decide for themselves about health and had large purchases in large households were more likely to use contraception, but this was not significant for indicators of visiting family members [28].

The attitudes toward wife-beating do not significantly affect all unmet needs categories and align with Austin’s research [15]. One of the indicators for measuring women’s empowerment by UNESCO is preventing violence [11]. Attitudes toward wife-beating are still limited to knowledge of violence by partners. It cannot yet describe attitudes and behavior as the ability to prevent violence. This is why the attitudes towards wife-beating do not have a statistically significant effect on unmet needs.

This study also indicates that age harms unmet need for spacing but positively affects the unmet need for limiting and total unmet need. These results are in line with the research of Nzokirishaka and Itua [29]. Probably because women nearing the end of their reproductive age feel that they are no longer at risk of becoming pregnant, so they stop using contraception. The number of living children has a significant effect on all categories of unmet needs. The number of living children harms the unmet need for spacing and total unmet needs. These results are consistent with the research of Asif and Pervaiz [30]. Meanwhile, the number of living children has a positive effect on the unmet need for limiting. These results are in line with the research of Korra, Woldemicael, and Beajout, Taufiqoh, and Wulifan [31,14,20,24].

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Meanwhile, women with high partner’s education had a lower tendency to experience the unmet need for spacing compare than with low partner’s education. This result is consistent with the research of Yaya et al. [35], which revealed that women who have partners/husbands with higher education less likely to have unmet needs [35]. Visits by family planning field workers only have a statistically significant effect on unmet need for spacing. Women visited by family planning field workers tended to experience a less unmet need for spacing than those who did not receive family planning field workers’ visits. These results are in line with the research of Korra and Oginni et al. [31,23].

Meanwhile, visits to health facilities only have a statistically significant effect on unmet need for limiting. Women who visited health facilities were less likely to experience the unmet need for limiting than women who never visited health facilities. These results are in line with research by Korra and Taufiqoh [31,20]. Women who get visits by family planning field workers or who visit health facilities can get information about family planning and consult on problems they experience regarding family planning [20].

4. Conclusion
The components of women’s empowerment have a statistically significant effect on unmet needs (unmet need for spacing, unmet need for limiting, total unmet needs), namely women’s work participation, knowledge level, and household participation decision-making, and asset ownership. Meanwhile, the attitudes towards wife-beating have no statistically significant effect on all categories of unmet needs. Women’s work participation, level of knowledge, and asset ownership harm unmet needs. Meanwhile, the component of women’s participation in household decision-making has a positive effect on all categories of unmet needs. Policies to reduce the unmet need for family planning should be targeted toward women who are not working and have low knowledge levels and asset
ownership. Also, the reduced unmet need for spacing children should be aimed toward younger women, do not have children or have one child and live in urban areas or outside Java and Bali. Moreover, the quality and availability of contraceptives as well as the distribution of quality family planning service facilities and the distribution of health workers who are competent in family planning services should also be improved to reduce the unmet need for limiting children among older women, have more children, and live in urban areas, or outside Java and Bali.

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