The Impact of Information Sources and Access to Health Facilities on the Continuity of Contraceptive Use

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ABSTRACT

Background: The family planning program (Keluarga Berencana or KB) is one of the Indonesian government’s efforts to suppress population growth. The program focuses on contraceptive usage. However, in practice, the level of continuity of contraceptive use are still low. The purpose of this study is to analyze the effect of sources of information and access to health facilities on the continuity of contraceptive use.

Method: This quantitative study with a cross-sectional design had 1,195 respondents with an age range of <20 years to >35 years. Data were collected through structured interviews and questionnaires. Univariate data analysis was conducted with frequency distribution; bivariate data analysis utilized crosstabs, and the multivariate analysis used logistic regression.

Results: The continuity of contraceptive use was 91.9% among respondents who received information about the family planning program, either orally, on mass media, or electronically, and it was 82.8% among respondents who accessed family planning services. This study found that factors that influence the continuity of contraceptive use were sources of electronic media information (OR = 0.6633; 95% CI = 0.4852 – 0.9067; p = 0.010) and access to family planning services (OR = 2.677; 95% CI = 1.652 – 4.337; p = 0.001). These findings suggest that the sources of information and access to health facilities affect the continuity of contraceptive use.

INTRODUCTION

Population growth is considered one of the most significant population issues in Indonesia. Based on the 2015 Intercensal Population Survey (Survei Penduduk Antar Sensus or SUPAS), Indonesia’s population reached 255.18 million people. High fertility is among the factors for this population growth. According to the results of the Indonesian Demographic and Health Survey (IDHS), the Total Fertility Rate (TFR) in 2017 was 2.4 children, indicating that on average, an Indonesian woman would approximately give birth to 2-3 children during her reproductive period. Meanwhile, the TFR has yet to reach the national target of 2.33. On the other hand, the TFR in Jambi Province reached 2.3 in 2017.

The Indonesian government has prepared several measures to lower the birth rate, one of which is the family planning program. In this program, families have to regulate the number of children they have and determine the birth gap, which can be achieved by the use of contraception. The Indonesian Demographic and Health Survey (IDHS) 2017 reported that 64% of married women use a contraceptive or follow a family planning procedure. The use of contraceptives by 15-49-year-old women in Jambi Province was 46.5%, while 15-49-year-old married women who were contraceptive users reached 61.8%.

The continuity of contraceptive use can be determined by the contraceptive dropout rate. If the rate of contraceptive dropout is high, this indicates that the continuity of contraceptive use is low. The contraceptive dropout rate in Jambi Province was at 25% in 2018. Previous studies report a significant impact between the mother’s age, knowledge, parity, education level, side effects, sociocultural factors and family planning acceptors’ dropout cases.

Several factors contributing to contraceptive usage include family planning training, knowledge on family planning and reproductive health, the role of health services, and family planning services. Previous studies...
reveal that there is a correlation between access to health facilities and the long-term use of contraceptives. A lack of health facilities will affect contraceptive dropout rates. This is in line with previous research which shows that 40.8% of their respondents reported a lack of health facilities and infrastructure.9

Another factor that affects the use of contraceptives is the source of information. A significant correlation was found between the source of information and the use of contraceptives or its procedures.10,11 Specifically, television was the most common information source of family planning used by individuals aged 15-19 years in West and Central Africa (69.2%).12 Some of them had low exposure to information on family planning on the media and thus they tend not to use contraceptives higher at 1.96 times (95% CI: 1.21-3.17) as those exposed.12

Previous studies have contributed to access and source of information to continuous contraceptive use although a definite conclusion is taken. Grounded on the background, this current study aimed to analyze the impacts of access to health facilities and the source of information on the continuity of contraceptive use.

METHOD

This quantitative study with a cross-sectional design used data collected from the Accountability and Performance Survey Program (Survei Kinerja dan Akuntabilitas Program or SKAP) conducted by the Jambi Provincial Population Family Planning and Family Development (KKBPK or Kependudukan Keluarga Berencana dan Pembangunan Keluarga) in 2018. The data covered demographic characteristics, family planning status, population, adolescent reproductive health, family resilience, family empowerment, and family exposure to the institution’s program. There were four questionnaires in this survey, related to household, family, women of childbearing age, and adolescent. Only data on women of childbearing age were included for analysis.

This study was conducted in Jambi Province from July to November 2020. The research respondents were women of childbearing age with an age range of 15-49 years who were not pregnant and used contraception during the survey period. A total of 1,195 respondents who met the criteria were included in this study.

The dependent variable in this study is the continuity of contraceptive use, and the independent variables include demographic factors (age, education level, ethnicity, marital status, and employment), source of family planning information, health officer visitation, and continuity of family planning services. An information source of family planning is defined as a source of family planning information the respondents get exposed to, such as mass media, electronic, institutions, communities, and health workers.

The age variable is categorized into three groups: <20 years old, 20-35 years old, and >35 years old. The variable of education level is categorized into seven groups: not attended school, elementary education level, junior secondary level, senior secondary level, D1/D2/D3/Academy level, and college level. The respondents’ ethnicity is grouped into 10 categories, including the Acehnese, Batak, Buginese, Chinese Indonesians, Javanese, Malays, Minangkabau people, Sundanese, and others. Next, the marital status variable consists of two categories, namely married and unmarried. The employment status variable is also divided into two categories, namely employed and unemployed. The health officer visitation variable is categorized into two, namely visited by health officers and not visited by health officers. The continuity of family planning services use is grouped into planning to re-visit family planning services and not planning to re-visit family planning services. Lastly, the source of information is categorized into five categories: formal education, non-formal education, community organization, community groups, and activity groups.

This study used frequency distribution for the univariate analysis, the crosstabulation method for the bivariate analysis, and the logistic regression technique for the multivariate analysis. The procedure of frequency distribution for each variable was described in the univariate analysis. Crosstabulation was applied to observe the inter-variable relationship by categories. Logistic regression analysis was used to determine the impacts of information source and access to health facilities on the continuity of contraceptive use.

The Health Research Ethics Commission - Faculty of Public Health, Universitas Diponegoro has given permission for conducting this study with the endorsement letter number of 198/EA/KEPK-FKM/2020.

RESULTS AND DISCUSSION

Table 1 exhibits that most of the respondents were from the age group of more than 35 years old (53.1%), and that 34.1% of the respondents held elementary school education. Almost all of the respondents were married (95.4%), of which 70.7% of them were unemployed, and 38.6% were Malays.

The continuity of contraceptive use mostly occurs in the age group of more than 35 years old (50.2%), indicating women beyond their ideal age to give birth tend to use it. The data also show that the continuity of contraceptive use occurred to all of married women (100%) and 78.8% of unemployed women. Moreover, it usually occurs to some women with elementary education levels (33.6%).
Table 1. Frequency distribution

| Independent variables                  | Continuity of contraceptive use | Total | n   |
|----------------------------------------|----------------------------------|-------|-----|
|                                        | No | Yes |                   |     |
| **Age (n: 1,195)**                     |    |     |                   |     |
| <20                                    | 0.3| 1.3 | 1.0               | 12  |
| 20-35                                  | 39.3| 48.5| 45.9              | 548 |
| >35                                    | 60.4| 50.2| 53.1              | 635 |
| **Level of Education (n: 1,195)**      |    |     |                   |     |
| Not attended schools                   | 2.6| 1.6 | 1.9               | 23  |
| Not in school yet                     | 0.3| 0.5 | 0.4               | 5   |
| Elementary education                  | 35.5| 33.6| 34.1              | 408 |
| Junior secondary education            | 25.1| 24.9| 24.9              | 298 |
| Senior secondary education            | 24.9| 27.6| 26.8              | 320 |
| D1/D2/D3/Academy                      | 3.5| 3.4 | 3.4               | 41  |
| College                                | 8.1| 8.5 | 8.4               | 100 |
| **Employment (n: 1,195)**             |    |     |                   |     |
| Employed                               | 34.4| 27.2| 29.7              | 350 |
| Unemployed                             | 65.6| 78.8| 70.7              | 845 |
| **Marital Status (n: 1,195)**         |    |     |                   |     |
| Unmarried                              | 15.9| 0   | 4.6               | 55  |
| Married                                | 84.1| 100 | 95.4              | 1140|
| **Ethnicity (n: 1,195)**              |    |     |                   |     |
| Acehnese                               | 0.3| 0.1 | 0.2               | 2   |
| Banjarese people                       | 4.6| 3.5 | 3.8               | 46  |
| Batak people                           | 2.6| 2.8 | 2.8               | 33  |
| Buginese                               | 4.3| 3.4 | 3.7               | 44  |
| Chinese Indonesians                    | 0  | 0.2 | 0.2               | 2   |
| Javanese                               | 32.1| 34.5| 33.8              | 404 |
| Malays                                 | 36.1| 39.6| 38.6              | 461 |
| Minangkabau people                     | 6.9| 4.5 | 5.2               | 62  |
| Sundanese                              | 4.9| 4.8 | 4.9               | 58  |
| Others                                 | 8.1| 6.5 | 6.9               | 83  |
| **Health officer visitation**         |    |     |                   |     |
| Visited by health officer              | 7.5| 10.7| 9.8               | 117 |
| Not visited by health officer          | 92.5| 89.3| 90.2              | 1078|
| **Continuity to the family planning service** | | | | |
| Re-visit the family planning service  | 66.7| 82.8| 81.7              | 705 |
| Did not re-visit the family planning service | 33.3| 17.2| 18.3              | 158 |

The data in Table 2 also show that the respondents who received information related to the family planning program (91.9%) tend to continually use contraceptives. More than half of the respondents obtained family planning-related information from electronic media (57.8%), while the majority accessed it on mass media (61.9%), officers/community (52.9%), and institutions (61.2%), but all of them were categorized as less
appropriate. The majority who were not visited by health officers tend to continue using contraceptives (89.3%). While, the majority of respondents who returned to a family planning health facility used contraceptives (82.8%). In general, the continuity of contraceptive use was 71% covered among all respondents.

Table 2. Source of information

| Source of information | Access to continuity contraceptive use | Total | n  |
|-----------------------|----------------------------------------|-------|----|
|                       | No (%) & Yes (%)                        |       |    |
| **Electronic Media**  |                                        |       |    |
| Radio                 | 4.2 & 5.0                               | 4.8   | 52 |
| Television            | 89.4 & 91.7                             | 91.0  | 994|
| Website/Internet      | 22.1 & 21.5                             | 21.7  | 237|
| MUPEN KB (information unit care of family planning) | 30.4 & 31.7 | 31.3 | 342|
| Never access          | 4.5 & 3.6                               | 3.8   | 42 |
| **On the Mass Media** |                                        |       |    |
| Newspapers            | 18.6 & 14.1                             | 15.4  | 168|
| Magazine/tabloid      | 8.0 & 11.4                              | 10.4  | 114|
| Pamphlets/leaflets/brochures | 21.5 & 20.6 | 20.9 | 228|
| Flipchart             | 17.6 & 18.7                             | 18.4  | 201|
| Poster                | 48.7 & 47.1                             | 47.5  | 519|
| Sign                  | 54.2 & 52.6                             | 53.0  | 579|
| Banner                | 22.8 & 17.3                             | 18.9  | 206|
| Billboard             | 33.3 & 33.3                             | 33.3  | 364|
| Exhibition            | 5.8 & 4.5                               | 4.9   | 53 |
| Mural/wall painting/gravity | 5.1 & 6.9 | 6.4   | 70 |
| Never access          | 4.5 & 3.6                               | 3.8   | 42 |
| **Officer/Community** |                                        |       |    |
| PLKB/family planning instructor | 33.0 & 36.8 | 35.7 | 390|
| Teacher               | 18.6 & 16.7                             | 17.2  | 188|
| Religious figures     | 16.0 & 14.7                             | 15.1  | 165|
| Public figure         | 25.6 & 25                               | 25.2  | 275|
| Doctor                | 43.3 & 40.3                             | 41.1  | 449|
| Midwives/nurses       | 87.8 & 85.0                             | 85.8  | 937|
| Village apparatus     | 38.8 & 42.4                             | 41.4  | 452|
| Village family planning assistant (Pembantu Pembi Kaluarga Berencana Desa/PPKBD) /SUB-Village family planning assistant /health cadres | 48.7 & 50.5 | 50.0 | 546|
| Friends/neighbors/relatives | 74.4 & 74.2 | 74.3 | 811|
| Never                 | 4.5 & 3.8                               | 4.0   | 44 |
| **Institution**       |                                        |       |    |
| Formal education      | 19.2 & 20.6                             | 20.2  | 221|
| Non-formal education  | 2.9 & 2.6                               | 2.7   | 29 |
| Community organizations | 64.7 & 66.2   | 65.8  | 718|
| Community groups      | 35.3 & 32.4                             | 33.2  | 363|
| Activity group        | 13.8 & 12.4                             | 12.8  | 140|
The use of pamphlets/leaflets and brochures as an information source is higher in previous research than this current study. Women who read pamphlets and brochures were 1.3 times more likely to use contraception than women who did not read them.21

Furthermore, the number of respondents obtaining information from midwives/nurses is higher in this study compared to the previous study. The important role of medical workers in providing information about contraception determines how individuals will perceive to use contraceptives. They play a role in transferring knowledge about the medical aspects of contraceptive methods, such as the mechanism of contraceptive devices/methods and their side effects. Their communication skills are important when they convey information and provide counseling about contraceptives and their proper use. Information they provide will help individuals understand contraceptives and impact their decision-making.23

Health workers in China conducted contraceptive counseling individually to university students.24 School-based contraceptive counseling could reduce unwanted pregnancies, the transmission of sexually transmitted infections, and other risks associated with sexual intercourse. These findings suggest that contraceptive counseling may be an important intervention method to increase contraceptive use. In addition, it mentions that providing free contraceptives could increase the likelihood of contraceptive use and consistency.24

The results of the bivariate analysis in Table 3 indicate that there was an influence between revisitation to family planning services and the continuity of contraceptive use (p = 0.003). This is in line with a previous study showing a relationship between family planning counseling and the use of long-term contraceptives, specifically the IUD (p = 0.0001).25

Based on the multivariate analysis results, factors that influence the continuity of contraceptive use include sources of electronic media information and revisitation to family planning services (p < 0.05). Respondents who had easy access to information sources on electronic media were 0.6633 times more likely to maintain contraceptive use compared to respondents who had difficulty in accessing other sources (OR = 0.6633; 95% CI = 0.4852 – 0.9067; p = 0.010). It means that electronic media may promote and disseminate information about family planning programs to the community. Both electronic media and print media affect the acceptance of information related to family planning programs for all and are expected to influence their attitude and behavior towards the use of contraceptives.26

Maturity level by age also affects the decision-making process on contraception. The age groups of 20-35 and more than 35 years tend to have more knowledge about various types of contraceptives and their benefits.13-15 Besides, marital status also has a significant relationship with contraceptive usage. A previous study mentions that contraceptive use is more likely to occur in women who are married or cohabitating with their partners than those who are unmarried.13

In line with this study, previous research finds contraceptive usage among unemployed women was inversely proportional (2018), while working women had a 26% higher chance of using contraception than unemployed women.16 Regarding educational level, women who graduated from elementary school education and who graduated from higher education had continued contraceptive usage at 27% and 10%, respectively.17

Previous research states that there is a relationship between ethnicity and the use of modern contraceptives. Respondents living in urban areas of Kankan and Faranah were more likely to use modern contraceptive methods than in Conakry (Guinea’s capital city).18 Adolescents and young women belonging to the Malinke and Peulh ethnic groups were less likely to use contraceptives than those from the Soussou ethnic group.18 Another study showed that subjective norms had a direct effect on contraceptive use among women without formal schooling and who live in rural or urban areas. Therefore, cultural values and norms should be considered when health workers provide information related to contraceptive usage.19

Furthermore, the desire to use or not use family planning services affects the continuity of contraceptive use. However, it depends on one’s exposure to information about family planning and satisfaction with family planning.20 The majority of the respondents who accessed the information about family planning program (91.9%) tend to use contraceptives recurrently. They obtain the information from television (91.7%), banners (52.6%), midwives/nurses (85%), and community organizations (66.2%). Another study finds a fewer number of women accessing information about contraception from television (63.2%).17 Previous studies state that sources of information are closely related to knowledge about contraception.21 Women who watch informational messages on television were 1.5 times more likely to use contraception than women who do not watch these informational messages. In addition, the presence of advertisements on television also influences the use of contraception as they have images or visuals to persuade people. It could also reach a wider target and be broadcasted repeatedly.22
Table 3. Bivariate and multivariate analyses of continuity of contraceptive use

| Variables                   | n   | Continuity of contraceptive use | p-values | OR     | p-values | CI 95% Lower | CI 95% Upper |
|-----------------------------|-----|---------------------------------|----------|--------|----------|--------------|--------------|
|                             |     | No (%)                          | Yes (%)  |        |          |              |              |
| **Electronic Media**        |     |                                 |          |        |          |              |              |
| Difficult                   | 182 | 33.0                            | 67.0     | 0.227  | 0.6633   | 0.010        | 0.4852       | 0.9067       |
| Easy                        | 1013| 28.2                            | 71.8     |        |          |              |              |
| **Mass Media**              |     |                                 |          |        |          |              |              |
| Difficult                   | 464 | 30.4                            | 69.6     | 0.421  | 1.1621   | 0.382        | 0.8296       | 1.6278       |
| Easy                        | 731 | 28.0                            | 72.0     |        |          |              |              |
| **Officer/Community**       |     |                                 |          |        |          |              |              |
| Difficult                   | 147 | 32.7                            | 67.3     | 0.338  | 1.2255   | 0.2340       | 0.8769       | 1.7126       |
| Easy                        | 1048| 28.4                            | 71.6     |        |          |              |              |
| **Institution**             |     |                                 |          |        |          |              |              |
| Difficult                   | 355 | 31.5                            | 68.5     | 0.224  | 0.8093   | 0.197        | 0.5868       | 1.1162       |
| Easy                        | 840 | 27.9                            | 72.1     |        |          |              |              |
| **Continuity to visit family planning services** | | | | | | | |
| Re-visited family planning services | 705 | 5.7 | 94.3 | 0.003* | 2.677 | 0.001* | 1.652 | 4.337 |
| Did not re-visit family planning services | 158 | 12.7 | 87.3 |        |        |              |              |

Note: p <0.05

Furthermore, various sources of information help motivate individuals to acquire new knowledge and decide to accept innovation or not. In addition, the delivery of information from various sources may increase the knowledge of family planning participants about the program’s benefits and importance of contraception according to their preference on its compatibility, effectiveness, and safety.27,28

Respondents who did not revisit family planning services had 2,677 times higher risk of not maintaining contraceptive use compared to respondents who did (OR = 2.677; 95% CI = 1.652 – 4.337; p = 0.001). This is in line with previous research which states that delivering information on family planning programs can be done through interpersonal communication between health workers and individuals. It may change not only knowledge and awareness, but also one’s behavior towards contraception. Individuals who follow family planning and are more often exposed to information about it tend to use contraception continuously.29

Moreover, guidance and assistance in choosing contraceptive methods are needed to make couples use contraceptives in the long term and solve problems that arise from contraceptive use.30

CONCLUSION

Sources of information and access to health services affect the continuity of contraceptive use in the community. Some sources contributing to consistent contraceptive use include television, banners, midwives/nurses, and community organizations. In addition, individuals who visited family planning services tend to use contraceptives more consistently compared to those who did not. The sustainable use of contraceptives in the community is a shared responsibility between health workers, educators, communities, and health organizations. Promoting benefits of contraceptives should be done to increase public knowledge and confidence about contraception use. In addition, consultation services and promotion should be accessible online or offline to support the continuous use of contraceptives.

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