



# The effect of balanced counseling strategy family planning against attitude, subjective norm, and intentions on the use of modern contraception behavior in the Singgani Public Health Center work area of Palu city<sup>☆</sup>

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## ABSTRACT

**Objective:** There is a declining trend in the use of modern contraception in the community. The stagnation of family planning services is due to the lack of optimal family planning counseling. Family Planning Balanced Counseling Strategy (FP-BCS) is a family planning counseling that is practical, interactive, and encourages client participation. This study aimed to analyze the influence of the FP-BCS on attitudes, subjective norms, and intentions on modern contraception in the working area of Singgani Health Center, Palu, Indonesia.

**Method:** This research was a quasi-experimental with non-randomized pretest-posttest along to control group design. The sample of the study was third-trimester pregnant women who did antenatal care in the working area of the Singgani Community Health Center. The total sample was 17 respondents for each group; intervention group (treated by Maternal and Child Health (MCH) book and FP-BCS) and control group (treated by MCH Book without FP-BCS). The influence of FP-BCS toward attitudes, subjective norms, and intentions on modern contraception was statistically analyzed using the Wilcoxon Signed Rank Test, McNemar, Mann–Whitney, and Chi-Square.

**Result:** The Wilcoxon Signed Rank Test and McNemar analysis on the intervention group showed an increase in attitude ( $p=0.000$ ), subjective norms ( $p=0.000$ ), and intention ( $p=0.000$ ). The control group showed an increase in intention ( $p=0.031$ ), subjective norms ( $p=0.005$ ), but there was no increase in attitude ( $p=0.081$ ). The Mann-Whitney and Chi-Square analysis showed differences in attitudes ( $p=0.000$ ), subjective norms ( $p=0.021$ ), and intentions ( $p=0.010$ ) between groups, which were given an FP-BCS and those not given an FP-BCS.

**Conclusion:** All in all, it is expected that Family Planning-Balanced Counseling Strategy will be an option in providing family planning counseling.

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## Introduction

The population problem is a global problem that is a focus of countries worldwide, particularly developing countries. Based on the data from the World Population Data Sheet in 2018, Indonesia ranks fourth in the world in the estimation of the largest population after China, India, and the United States, amounting to 265.2 million inhabitants.<sup>1,2</sup>

In Indonesia, an increase in population affects the health status of the community. Based on the Indonesia Demographic and Health

Survey report, the Total Fertility Rate (TFR) in Indonesia from 2002 to 2012 settled at 2.6, and in 2017 it decreased by 2.4. It means that the target of the 2015-2019 National Medium-Term Development Plan has not been reached, namely TFR of 2.3%.<sup>3,4</sup> One reason for not achieving the desired fertility rate is the low prevalence of modern contraceptive use.<sup>5</sup> Modern contraceptive methods include male and female sterilization (vasectomy and tubectomy), intrauterine devices (IUD) and subdermal implants, oral contraceptives, condoms, injections, emergency contraceptive pills, patches, diaphragms, and cervical contraception caps, spermicidal agents (gels, foams, creams, and suppositories), vaginal rings, and sponges. Traditional contraceptives include the calendar method, the Billings ovulation method, the symptom-thermal method, the lactation amenorrhoea method, and interrupted coitus/interrupted intercourse and abstinence.<sup>6,7</sup>

The use of modern contraception in Indonesia shows a declining trend in the last few years. In the city of Palu, which is the capital

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**Table 1**  
Differences test in attitudes and subjective norms of pretest–posttest in the intervention and the control groups.

Variable	Intervention (n = 17)			Control (n = 17)		
	Mean	SD	p-Value <sup>a</sup>	Mean	SD	p-Value <sup>a</sup>
<i>Attitude</i>						
Pretest	25.53	2.07	0.000	27.00	2.00	0.018
Post-test 1	29.41	1.54		27.94	1.98	
Pretest	25.53	2.07	0.000	27.00	2.00	0.081
Post-test 2	30.94	1.14		27.71	1.96	
Post-test 1	29.41	1.54	0.001	27.94	1.98	1.000
Post-test 2	30.94	1.14		27.71	1.96	
<i>Subjective norms</i>						
Pretest	14.35	1.46	0.001	14.59	1.37	0.008
Post-test 1	15.47	1.07		15.00	1.32	
Pretest	14.35	1.46	0.000	14.59	1.37	0.005
Post-test 2	15.94	1.20		15.06	1.20	
Post-test 1	15.47	1.07	0.011	15.00	1.32	0.317
Post-test 2	15.94	1.20		15.06	1.20	

Note: Intervention group treated by MCH book + FP-BCS, control group treated by MCH book.

<sup>a</sup> Wilcoxon signed rank test.

of the Central Sulawesi Province, the use of contraception tends to be still low. The IDHS report in 2017, the number of modern contraceptive uses is lower in urban areas than in rural areas.<sup>3,8</sup>

The stagnation of the increase in family planning services is due to the lack of optimal counseling as a means of information and education communication (IEC) of family planning services. A meta-analysis study shows that structuring counseling about side effects from contraception, counseling done during antenatal care or postpartum, and counseling with partners effectively increases the use of contraception.<sup>9</sup>

Attitudes, subjective norms, and perceptions of behavioral control show positive effects indirectly, and intention is having a direct impact on participation in the use of long-term contraceptive methods.<sup>10,11</sup> Other results show that attitudes, subjective norms, behavioral control, and support show positive results for long-term use of contraception. Knowledge, health education, and education level indirectly affect long-term use of contraception.<sup>12</sup>

Studies on the effect of counseling in general on the use of contraception show positive results. However, there is still limited research related to balanced family planning counseling strategies. This study uses a modified Reasoned-Action Theory (RAT) approach to predict whether someone will or not to do a behavior. The research focuses on modern contraception, which led to the importance of this research, which contributed to the decrease in unwanted pregnancies. Thus, this research needs to be done. This study aims to determine the effect of Family Planning Balanced Counseling Strategy (FP - BCS) on attitudes, subjective norms, and intentions on modern contraception in the working area of Singgani Health Center, Palu, Indonesia.

## Method

This research was a quasi-experimental design with a non-randomized pretest–posttest with a control group design that aimed to assess the effect of specific treatments on a variable. The dependent variable in this study was Family Planning Balanced Counseling Strategy, while the independent variable was the attitude, subjective norms, and intention to use modern contraception.

The type of data in this study was primary data. The sampling technique used in this study was purposive sampling. The sample in this study was third-trimester pregnant women who visited and did the antenatal care in the working area of the Singgani Community Health Center and met the inclusion and exclusion criteria, about 17 people in each group (the intervention group and the control group). So the total sample was 34 people. The intervention group would have Maternal Child Health (MCH) book along with

FP-BCS, and the control group would have an MCH book without FP-BCS.

Inclusion criteria are criteria or characteristics that need to be fulfilled by each person of the population taken as a sample, were: 1) 3rd-trimester pregnant women with a minimum number of children was one child, gestational age  $\geq 32$  weeks, previous contraception using only traditionally birth control and or with unwanted pregnancy; 2) mothers with a minimum education was high school level; 3) willing to be a respondent. Exclusion criteria were illness and resettled.

Primary data was collected through respondents' interviews by answering questions in the questionnaire (pretest and posttest). The data analysis was done using bivariate analyses by presenting the results in the form of tables.

## Result

The result of bivariate analysis for the effect of Family Planning Balanced Counseling Strategy (FP-BCS) on attitudes, subjective norms, and intentions on modern contraception in the working area of Singgani Health Center, Palu city is as below.

Table 1 shows the increase in the average score of attitudes and subjective norms in the intervention group before and after the modern contraception explanation from the MCH and FP - BCS. The average attitude score increased from 25.53 to 29.41 and 30.94. The average subjective norm score increased from 14.35 to 15.47 and 15.94. The statistical test results showed that there were significant differences in subjective attitudes and norms before and after the treatment by the MCH book and FP-BCS ( $p < 0.05$ ) in the intervention group.

The control group showed an increase in maternal attitudes at pretest posttest 1 (27.00–27.94). Statistical test results showed that there were significant differences in maternal attitudes before and after the explanation of modern contraception was given from the MCH book where  $p$ -value = 0.018 ( $p < 0.05$ ). In other words, there was an increase in maternal attitudes toward modern contraception, even though no FP-BCS was given. While the average score of attitude at pretest–posttest 2 was 27.00–27.71, and posttest 1–posttest 2 was 27.94–27.71. Thus the statistical test results showed no significant differences in maternal attitudes before and after the explanation of modern contraception was given from the MCH book ( $p > 0.05$ ).

In the control group, there was an increase of subjective norms score at pretest–posttest 1 (14.49–15.00) and the pretest–posttest 2 (14.49–15.06). Statistical test results showed that there were significant differences in subjective norms before and after treatment

**Table 2**  
Difference tests of intention in pretest–posttest of modern contraception in the intervention and control groups.

Groups	Pretest–posttest 1				Pretest–posttest 2				Posttest 1–posttest 2			
	Pretest	Posttest 1		p value <sup>a</sup>	Pretest	Posttest 2		p value <sup>a</sup>	Posttest 1	Posttest 2		p-Value <sup>a</sup>
		No	Yes			No	Yes			No	Yes	
Intervention (n = 17)	No	3	12	0.000	No	2	13	0.000	No	2	1	1.000
Control (n = 17)	Yes	0	2	0.031	Yes	0	2	0.031	Yes	0	14	1.000
	No	9	6		No	9	6		No	8	1	
	Yes	0	2		Yes	0	2		Yes	1	7	

Note: Intervention group treated by MCH book + FP-BCS, control group treated by MCH book.

<sup>a</sup> McNemar test.

**Table 3**  
Comparative test on attitudes and subjective norms of the intervention and control groups.

Variable	Intervention group (mean ± SD)	Control group (mean ± SD)	p-value <sup>a</sup>
<i>Attitude</i>			
Pretest	25.53 ± 2.07	27.00 ± 2.00	0.041
Posttest 1	29.41 ± 1.54	27.94 ± 1.98	0.019
Posttest 2	30.94 ± 1.44	27.71 ± 1.96	0.000
<i>Subjective norm</i>			
Pretest	14.35 ± 1.46	14.59 ± 1.37	0.731
Posttest 1	15.47 ± 1.07	15.00 ± 1.32	0.279
Posttest 2	15.94 ± 1.20	15.06 ± 1.20	0.021

Note: Intervention group treated by MCH book + FP-BCS, control group treated by MCH book.

<sup>a</sup> Mann Whitney test.

( $p < 0.05$ ), which means there was an increase in mothers' subjective norms about modern contraception even though FP-BCS was not given. While in posttest 1–posttest 2, the average score of subjective norm (15.00–15.06) obtained  $p$ -value 0.317 ( $p > 0.05$ ).

Table 2 shown in the intervention group, the frequency of mothers who did not intend to use modern contraception were 15 respondents, and those intending were two respondents. In posttest-1 and posttest-2, respondents intended using modern contraception increased to 14 respondents and 15 respondents. At the same time, those who do not intend were three respondents and two respondents. McNemar statistical analysis on both pretest–posttest one and pretest–posttest 2 showed significant differences in intention before and after modern contraception explanations ( $p$ -value  $< 0.05$ ). In other words, there was an effect of giving FP-BCS to the increased frequency of intention mothers about the use of modern contraception. While in posttest 1–posttest 2 the value of  $p = 1.000$  ( $p > 0.05$ ).

In the control group shown in Table 2, the frequency of mothers who did not intend to use modern contraception were 15 respondents, and those intending were two respondents. In posttest one and posttest 2, the frequency of mothers who intend to use modern contraception increased to 8 respondents each group, while those who did not intend were nine respondents in each group. McNemar statistical analysis on both pretest–posttest one and pretest–posttest 2 showed significant differences in intention before and after modern contraception explanations by MCH book ( $p$ -value  $< 0.05$ ). It means there was an effect of modern contraception explanations by MCH book to an increase in intention of the use of modern contraception even though FP-BCS was not given. While in posttest 1–posttest 2 the value of  $p = 1.000$  ( $p > 0.05$ ).

Table 3 shows the comparison of the average score of attitude and subjective norms before and after between the intervention group and the control group. There were significant differences ( $p < 0.05$ ) on the attitude score, before and after treatment, between both groups.

The average score of initial and posttest 1 of subjective norm between the intervention (14.35) and control (14.59) groups, there was no significant difference ( $p > 0.05$ ), meaning that both groups had relatively the same average score on the initial subjective norm.

After being given a second treatment, the average rating of subjective norm between the intervention (15.47 and 15.94) and control (15.00 and 15.06) groups showed a significant difference ( $p < 0.05$ ).

Table 4 shows there is no significant difference  $p = 1.000$  ( $p > 0.05$ ) in the frequency of mothers who intend and who do not intend to use modern contraception in both groups. It means that both groups have the same initial intention frequency of 11.8% and the frequency with no intention of 88.2%. After being given treatment, the mothers who intended and who did not intend to use modern contraception between the intervention and control groups showed significant differences ( $p < 0.05$ ).

## Discussion

One of the family planning counseling methods is the Family Planning Balanced Counseling Strategy (FP-BCS), which is oriented towards client decisions where counselor and client rights are equal, and the decision is not influenced by the counselor's wishes.<sup>13</sup> This study wanted to identify at the effect of Family Planning Balanced Counseling Strategies on pregnant women, particularly attitudes, subjective norms, and intentions on the use of modern contraception in the working area of Singgani Health Center, Palu.

## Attitude

Based on observations, it is known that there were significant differences in attitude before and after the explanation of contraception from the MCH book and FP-BCS toward the intervention group and the explanation of contraception from the MCH book only toward the control group. There was an increase in the average attitude score, which was higher in the intervention group given the FP-BCS compared to the control group. Besides, an increase in the average score of mothers' attitudes about modern contraception was found after the FP-BCS was applied. While in the control group, there were differences in the average attitude scores at pretest and posttest 1. Anyhow, in pretest–posttest two and posttest 1–posttest 2, there were no differences in the attitudes of pregnant women

**Table 4**  
Comparative test of intention in the modern contraceptive in intervention and control groups.

Intention	Pretest					Posttest 1					Posttest 2				
	Intervention		Control		p-Value <sup>a</sup>	Intervention		Control		p-Value <sup>a</sup>	Intervention		Control		p-Value <sup>a</sup>
	n	%	n	%		n	%	n	%		n	%	n	%	
Yes	15	88.2	15	88.2	1.000	3	17.6	9	52.9	0.031	2	11.8	9	52.9	0.010
No	2	11.8	2	11.8		14	82.4	8	47.1		9	88.2	8	47.1	
Total	17	100	17	100		17	100	17	100		17	100	17	100	

Note: Intervention group treated by MCH book + FP-BCS, control group treated by MCH book.

<sup>a</sup> Chi-Square test.

before and after the contraception explanation was given from the MCH book.

According to Ajzen (2005), attitude is the level of the person to have a good or bad evaluation of certain behaviors. A person's attitude is determined by one's belief in the behavior to be displayed.<sup>14</sup> If the individual has the perception that using modern contraception is a positive behavior, then the individual will have a positive attitude towards the acceptance of modern contraception. A person's positive attitude must be accompanied by a strong belief so that clients do positive behavior that is using modern contraception.

The Family Planning Balanced Counseling Strategy (FP-BCS) is a family planning counseling that is friendly to clients, interactive, and encourages active client participation. The results of a study conducted by Darmastuti in 2019 at the Tanah Kalikedinding Health Center showed significant differences in attitude in the intervention group given the FP-BCS compared to the control group.<sup>15</sup>

The results of research conducted by Simanjuntak (2016) showed an increase in attitude in the treatment group given higher structured counseling (11.52) compared to the control group (3.25) with a *p*-value < 0.001. Structured counseling has also been shown to increase positive attitudes about modern contraception in Unmet Need couples of childbearing age.<sup>16</sup>

### Subjective Norm

The results of this study show that there were no significant differences in subjective norms in both the intervention and control groups. In the intervention group, it was found that there were significant differences in subjective norms of pregnant women before and after modern contraception explanations were given by the MCH book and FP-BCS. There was an influence of FP-BCS on the increase of subjective norms scores. Whereas in the control group that was not given FP-BCS in the pretest, posttest 1, and posttest 2, found significant differences in subjective norms of pregnant women before and after the modern contraception explanation from the MCH book. At posttest 1 to posttest 2, there was no difference in subjective norms in mothers after childbirth in which the average norm score was relatively the same.

Subjective norms are also influenced by the mother's trust in the surrounding norms. Subjective norms of pregnant women who previously used traditional birth control have an essential role in fostering positive attitudes about modern contraception to increase the intention to participate in using modern contraception. The study by Ujah et al. (2017) shows the need to engage partners and religious leaders in clarifying misguided information and misconceptions regarding contraceptive use may be a huge step in the right direction in improving women's uptake and utilization of contraceptives in the postpartum period as this clearly has shown benefit in reducing maternal and neonatal morbidities and mortalities.<sup>17</sup>

The results showed there were no differences between the intervention and control groups on the subjective norms of mothers in the pretest and posttest 1. But in posttest 2, there were significant

differences between the two groups where the subjective norms of mothers after delivery were higher in the intervention group given the FP-BCS compared to the group control.

Subjective norms are also assumed to be a function of beliefs that specifically agree or disagree with showing a behavior. An individual will intend to show a behavior if he perceives that other important people, such as couples, friends, family, etc., think that he should do it. Subjective norms are also influenced by the perception of social norms in the environment to behave. This is based on the belief in socio-cultural norms and the motivation of the closest people who encourage the mother's intention to act.<sup>18</sup> That also has an effect, so the difference in knowledge scores in the intervention and control groups is significant after observation in posttest 2. It is also supported by the Transtheoretical Model (TTM) theory, where during the pretest and posttest 1, the mother is in the contemplative stage when someone cares to change but does not change immediately—usually observed between one to six months.<sup>19</sup>

The resulting study by Notoatmodjo (2014) indicated that there was a statistically significant correlation between subjective norms and the use of long-term contraceptive methods.<sup>20</sup> Women of reproductive age with good subjective norms had a logit function of 3.25 higher to participate in long-term contraceptive methods than an omen of reproductive age with not-good subjective norms. It means that the better the subjective norms of women of reproductive age are, the stronger the willingness is to use the long-term contraceptive methods.

### Intentions

The intention is the desire of someone to act with the stimulus he gets. In this study, this intention was triggered by providing modern contraceptive counseling in the hope that pregnant women, after being given FP-BCS, intend to use modern contraception. According to Notoatmodjo (2014), in Reason Action Theory, someone who behaves following the intentions is determined by subjective attitudes and norms.<sup>20</sup> The more positive attitudes and subjective norms a person has, the intention will also be more positive. Pregnant women who have previously used traditional birth control who have had the intention and plans to use modern contraception will have an excellent opportunity to realize their intention to use modern contraception.<sup>21</sup>

In this study, before the intervention, there were no significant differences in maternal intentions regarding modern contraception in both groups. After received the particular treatment, there was a significant difference in intention between the intervention group and the control group, where the frequency of maternal intention to use modern contraception was higher in the intervention group compared to the control group. Also, the results of this study showed significant differences in intention before and after in both groups. The increased frequency of intention before and after was higher in the intervention group. In posttest one and posttest 2, in each group was no significant difference in intentions before and after treatment was given. It occurred because the posttest 1 of the

intentions of pregnant women with positive attitudes and subjective norms towards modern contraception had determined their intention in the third trimester of pregnancy.

Research conducted by Wuni et al. (2017) which shows RR results, 1.11; 95% CI, 1.01–1.22, which means there is an intention from the client to use more effective contraception in the future where the provision of effective family planning counseling tends to increase the use of contraception after giving birth.<sup>22</sup>

In this study, the intervention of counseling during antenatal care may increase the frequency of maternal intentions regarding modern contraception. It is in line with the finding of Keogh et al. showed a significant association with intention to use postpartum contraception were women who had received counseling interventions during antenatal care were 1.7 times more likely to intend using the modern contraception.<sup>23</sup> Research conducted by Zapata et al. and Nur et al. which shows that the prevalence of postpartum modern contraceptive use increases when counseling is given both during the antenatal care and postnatal care periods.<sup>24,25</sup> The study was conducted by Chhabra et al. shows structured contraception counseling” using standardized protocol resulted in significant improvements in the selection of contraceptive methods by postpartum women.<sup>26</sup>

## Conclusion

This research found there were differences in attitudes, subjective norms, and intentions towards modern contraception between the intervention and the control groups, which means that there is an influence of the FP-BCS on the behavior of modern contraceptive use. Besides, it is known that there is an influence of the FP-BCS on increasing attitudes, subjective norms, and intentions about modern contraception in the intervention group given the FP-BCS. However, there is no effect of the FP explanation from the MCH book on the improvement of attitudes, subjective norms, and intentions of modern contraception in the control group that was not given an FP-BCS.

## Conflicts of interest

The authors declare no conflict of interest.

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