



Strategies to Increase Postpartum Contraception in Palu City

Ketut Suarayasa*¹, Elli Yane, Miranti Miranti, Yuli Fitriana

Medical Studies Program, Faculty of Medicine, Tadulako University, Palu, Indonesia

Abstract

BACKGROUND: Fertility is contributed to the high birth rate, mortality, and migration. One effort to control the birth rate is through the family planning program, using contraceptives by couples of childbearing age. The family planning program regulates the distance between mothers' pregnancies, prevents early or late age pregnancies, has quality reproductive health, and reduces maternal mortality.

AIM: This study aims to assess the effectiveness of the balanced family planning counseling strategy (BFP-CS) educational model on changes in postpartum contraception behavior in pregnant women.

METHODS: The research used a quasi-experiment design with a non-randomized pre-test and post-test design, with a control group design. The study consisted of one intervention group (Talise Public Health) and one control group (Singgani Public Health), Palu city, with a purposive sampling technique of 43 respondents per group. Data were analyzed using univariate and bivariate.

RESULTS: The results showed that there was a significant improvement in knowledge ($p = 0.00$), attitude ($p = 0.00$), intention ($p = 0.00$), and the use of postpartum contraceptives ($p = 0.00$) before and after treatment. A significant difference was revealed between intervention and control groups on knowledge ($p = 0.036$), attitude ($p = 0.01$), intention ($p = 0.00$), and the use of postpartum contraceptives ($p = 0.00$).

CONCLUSIONS: Implementing the educational model of the BFP-CS could be an effective solution to improve knowledge, attitudes, intentions, and the use of postpartum contraceptives compared to the usual counseling method.

Edited by: Sasho Stoleski
Citation: Suarayasa K, Yane E, Miranti M, Fitriana Y. Strategies to Increase Postpartum Contraception in Palu City. *Open Access Maced J Med Sci*. 2021 Dec 16; 9(E):1522-1527. <https://doi.org/10.3889/oamjms.2021.7895>
Keywords: Family planning; Balanced counseling strategy; Postpartum; Contraceptions
***Correspondence:** Ketut Suarayasa, Medical Studies Program, Faculty of Medicine, Tadulako University, Palu, Indonesia.
E-mail: surarayasa@yahoo.com
Received: 08-Nov-2021
Revised: 06-Dec-2021
Accepted: 11-Dec-2021
Copyright: © 2021 Ketut Suarayasa, Elli Yane, Miranti Miranti, Yuli Fitriana
Funding: This research did not receive any financial support
Competing Interests: The authors have declared that no competing interests exist
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Introduction

Based on the Inter-Census Population Survey (in Indonesia: *Survei Penduduk Antar Sensus*, abbreviated: *SUPAS*) in 2015, the total population of Indonesia in 2020 is 269.6 million [1]. This large population can cause problems when the increase in fertility rates and population growth rate is not in line with the increase in population quality [2]. Demographically, fertility is defined as the result of reproduction as indicated by the number of live births. Fertility is one of the contributors to the high birth rate of mortality and migration [3]. One of the efforts that can be done to control the birth rate is through the family planning program (in Indonesia: *Keluarga Berencana*, abbreviated: *KB*), through the use of contraceptives by couples of childbearing age [2].

The National Population and Family Planning Agency of Indonesia (in Indonesia: *Badan Kependudukan dan Keluarga Berencana Nasional*, abbreviated: *BKKBN*) states that the long-term contraceptive method (in Indonesia: *Metode Kontrasepsi Jangka Panjang*, abbreviated: *MKJP*) is the most effective contraceptive method with a success rate exceeding 95% [4]. However, the results of the Indonesian demographic and health survey in 2017 stated that only 13.2 % of currently married women of reproductive age used long-term contraceptive methods, even though the mid-term target

of the National Medium-Term Development Plan (in Indonesia: *Rencana Pembangunan Jangka Menengah Nasional*, abbreviated: *RPJMN*) in 2016 had to reach 21.1% [5]. The purpose of the family planning program is to regulate the distance between mothers' pregnancies, prevent early or late age pregnancies, quality reproductive health, and reduce maternal mortality [6].

A study in the Congo showed that the barriers to using postpartum contraception were lack of knowledge, fear of side effects, religious considerations, and husband's support [7]. Educational factors, income, parity, and previous counseling history are also related to postpartum contraception participation [8]. Studies conducted in nine regions in Indonesia show that giving pregnant women a balanced counseling strategy can increase the percentage of postpartum family planning, where postpartum mothers use contraception before they return from service facilities [9]. Another study also showed that respondents who received a balanced counseling strategy were 4.2 times more likely to use postpartum contraception [10]. A recent study showed that 80% of pregnant women in the third trimester received a balanced family planning counseling strategy used contraception immediately after delivery. In addition, the choice of postpartum contraception is influenced by maternal age over 20 years, parity of more than two children, sufficient knowledge, and husband's support [11].

Based on the Central Sulawesi health profile data in 2018, the percentage of postpartum contraception coverage for the Central Sulawesi is 45% [12]. Meanwhile, according to the mother and child health (MCH) section report of the Palu City Health Office, the coverage of postpartum contraception for Palu city in 2020 is 47.7% (Palu City Health Office, 2020). This figure is not much different from the previous postpartum contraception coverage. The stagnation of data on family planning services is due to the lack of optimal counseling to communicate information and education for family planning services. In addition, internal factors from the community also affect the stagnation of family planning services, including age, parity, age of the youngest child, spouse, cost, belief and culture, education level, level of knowledge, and status of women [13].

Data from the MCH section of the Palu City Health Office also show that there are several Public Health Center in Palu city with low postpartum contraception coverage (<10%), including Mamboro Health Center (0.0%), Mabelopura Health Center (1.6%), Public Health Center Nosarara (4.0%), Bulili Health Center (9.3%), and Birobuli Health Center (9.5%). The results of the initial interview with one of the leaders of the Public Health Center stated that the low coverage of postpartum contraception was due to the lack of education of midwives during antenatal care, low awareness of maternity mothers, lack of husband/family support, and the absence of an appropriate strategy to increase maternal awareness of using contraception, immediately after giving birth.

Based on the description above, this study aims to assess the effectiveness of the educational model of the balanced family planning counseling strategy (BFP-CS) on changes in postpartum contraception behavior in pregnant women.

Methods

This research used a quasi-experimental design with a non-randomized pre-test and post-test with a control group design. The first measurement (pre-test) was carried out on the intervention group and the control group. After, an intervention was carried out in education on a BFP-CS to pregnant women and their families (husbands), while the control group was not given any treatment. The research was located in Palu city, Talise Public Health Center (Intervention Group) and Singgani Public Health Center (Control Group). The population in this study was all third-trimester pregnant women who visited the research location with a sampling technique using purposive sampling, totaling 43 respondents for each group. The study's independent variable was the education module/guideline for the BFP-CS, and the dependent variable was the knowledge, intention,

and action of using postpartum contraceptives. Data analysis was in univariate analysis to describe the knowledge, intentions, and actions of using postpartum contraception in the intervention and control groups. Bivariate analysis was to determine the differences between the pre-test and post-test of each group using the Wilcoxon and Chi-square tests and the differences between groups using the Mann–Whitney test.

Figure 1 shows the diagrams and cards for counseling and helps with the family planning counseling process, while Figure 2 shows a guidebook that was prepared to make it easier for midwives to understand the stages of family planning counseling.

Results

Characteristics of respondents

Table 1 shows that the most of the pregnant women in the intervention and control groups who were respondents aged 20–35 years, about 68 people (79%), the number of children two was 70 people (81%), estimated gestational age 38–42 weeks was 41 people (48%) and had never used contraception before was 59 people (69%).

Table 1: Characteristics of respondents in the intervention group and control group

Variable	N	(%)
Age		
<20	6	7
20–35	68	79
>35	12	14
Number of children		
≤2	70	81
>2	16	19
Estimated gestational age		
28–32 weeks	20	23
33–37 weeks	25	29
38–42 weeks	41	48
Previous contraceptive use		
Yes	27	31
No	59	69

Univariate analysis

Table 2 shows a significant improvement from pre-test to post-test on the knowledge (from 44% of good

Table 2: Knowledge, attitudes, intentions, and use of contraceptive devices before and after education through providing explanation of balanced family planning counseling strategies in intervention groups at talise health centers in 2021

Intervention groups Variable	Pre-test		Post-test	
	n	(%)	N	(%)
Knowledge of the use of contraceptives				
Good	19	44	40	93
Less	24	56	3	7
Attitudes in the use of contraceptives				
Good	12	28	40	93
Less	31	72	3	7
Intentions in the use of contraceptives				
Good	17	40	38	88
Less	26	60	5	12
Action in the use of contraceptives				
Good	0	0	38	88
Less	0	0	5	12

knowledge to 93% of good knowledge), attitude (from 28% of good to 93% of good), and intention (from 40% of good to 88% of good). While on the action variable, there were 38 mothers (88%) who used one of the contraceptives.

Table 3 shows a significant improvement from pre-test to post-test on knowledge (from 58% of good knowledge to 77% of good knowledge), attitude (from 37% of good to 63% of good), and intention (from 40% of good to 74% of good). While on the action variable, 17 mothers (40%) decided to use one of the contraceptives.

Table 3: Knowledge, attitudes, intentions, and use of contraceptive devices before and after education through providing explanation of balanced family planning counseling strategies in control groups at talise health centers in 2021

Control groups Variable	Pre test		Post test	
	N	(%)	N	(%)
Knowledge of the use of contraceptives				
Good	25	58	33	77
Less	18	42	10	23
Attitudes in the use of contraceptives				
Good	16	37	27	63
Less	18	42	10	23
Intentions in the use of contraceptives				
Good	17	40	32	74
Less	26	61	11	26
Action in the use of contraceptives				
Good	0	0	17	40
Less	0	0	26	60

Bivariate analysis

Table 4 shows significant differences in the variables of knowledge, attitude, intention, and use of contraceptives before and after the intervention ($p < 0.05$). This shows that the BFP-CS significantly changed the research variables.

Table 4: Differences in knowledge and attitudes about family planning before and after treatment in the intervention group

Variable	Pre-test	Post-test (%)		Total (%)	p
		Good	Less		
Knowledge of the use of contraceptives	Good	16 (84)	3 (16)	19 (100)	0.000*
	Less	24 (100)	0 (0)	24 (100)	
	Total	40 (93)	3 (7)	43 (100)	
Attitudes in the use of contraceptives	Good	11 (92)	1 (8)	12 (100)	0.000*
	Less	29 (94)	2 (6)	31 (100)	
	Total	40 (93)	3 (7)	43 (100)	
Intentions in the use of contraceptives	Good	16 (94)	1 (6)	17 (100)	0.000*
	Less	22 (85)	4 (15)	26 (100)	
	Total	38 (88)	5 (12)	43 (100)	
Action in the use of contraceptives	Good	38 (88)	5 (12)	43 (100)	0.000**
	Less	0	0	0	
	Total	38 (88)	5 (12)	43 (100)	

Table 5 shows the differences in the knowledge and attitude variables ($p < 0.05$), although the differences

Table 5: Differences in knowledge and attitudes about family planning before and after treatment in the control group

Variable	Pre-test	Post-test (%)		Total (%)	p
		Good	Less		
Knowledge of the use of contraceptives	Good	22 (88)	3 (12)	25 (100)	0.033*
	Less	11 (61)	7 (39)	18 (100)	
	Total	33 (77)	10 (23)	43 (100)	
Attitudes in the use of contraceptives	Good	8 (50)	8 (50)	16 (100)	0.034*
	Less	19 (70)	8 (30)	27 (100)	
	Total	27 (63)	16 (37)	43 (100)	
Intentions in the use of contraceptives	Good	15 (88)	2 (12)	17 (100)	0.157*
	Less	6 (23)	20 (77)	26 (100)	
	Total	21 (49)	22 (51)	43 (100)	
Action in the use of contraceptives	Good	17 (40)	26 (60)	43 (100)	0.170**
	Less	0	0	0	
	Total	17 (40)	26 (60)	43 (100)	

were not significant. However, there was no difference in the variables of the mother's intentions and actions in using postpartum contraception between before and after being counseling ($p > 0.05$).

Table 6 in the intervention and control groups shows the difference between the pre-test and post-test results (this indicated that both approaches had positive results). However, there were significant differences in the research variables ($p < 0.05$). This shows that the BFP-CS intervention was quite effective in increasing knowledge, attitudes, intentions, and use of postpartum contraception compared to the counseling model used so far (using flipcharts and posters).

Table 6: Comparison of mothers' knowledge levels and attitudes about family planning in the intervention group and control group

Variable	Control	Intervention (%)		Total (%)	p***
		Good	Less		
Knowledge	Good	32 (97)	1 (3)	33 (100)	0.036
	Less	8 (80)	2 (20)	10 (100)	
	Total	40 (93)	3 (7)	43 (100)	
Attitudes	Good	27 (100)	0 (0)	27 (100)	0.001
	Less	13 (81)	3 (19)	16 (100)	
	Total	40 (93)	3 (7)	43 (100)	
Intentions	Good	16 (76)	5 (24)	21 (100)	0.000
	Less	22 (100)	0 (0)	22 (100)	
	Total	38 (88)	5 (12)	43 (100)	
Action	Good	13 (77)	4 (23)	17 (100)	0.000
	Less	25 (96)	1 (4)	26 (100)	
	Total	38 (88)	6 (12)	43 (100)	

Discussion

Knowledge, attitudes, intentions, and use of contraceptive devices before and after education through providing explanation of balanced family planning counseling strategies in intervention and control groups

There were differences in the pre-test and post-test results on the four research variables (knowledge, attitudes, intentions, and use of contraceptives), both in the intervention and control groups. According to the theory proposed by Notoatmodjo (2010) in [12], effective family planning counseling can increase knowledge of family planning which will form certain beliefs so that a person behaves according to his beliefs.

Research conducted by Hasyati Al *et al.* (2019) [14] also showed that mothers with less or sufficient knowledge after being given a BFP-CS used postpartum contraception higher than mothers who were not given a BFP-CS. However, mothers who were not given the BFP-CS (control group) also showed increased knowledge, attitudes, and actions in using postpartum contraceptives, although the results were not as significant as in the intervention group.

Another study by Ake *et al.* (2020) [15] showed that in the intervention group, there was a significant difference in knowledge before and after being BFP-CS

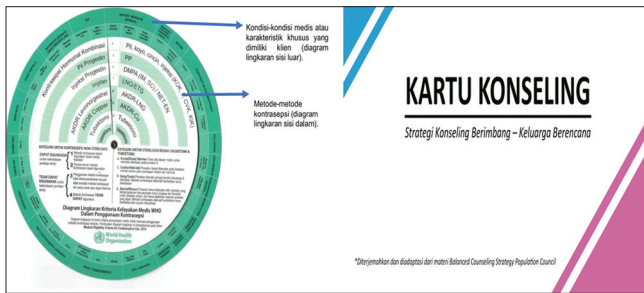


Figure 1: Diagram of assistance and counseling card of strategi konseling berimbang keluarga berencana

with video learning in the third trimester pregnant women at the Pitumpanua Public Health, Wajo Regency ($p < 0.05$). This increase in knowledge (post-delivery intrauterine device) was seen more quickly in the intervention group given BFP-CS with video learning.

Differences in knowledge, attitudes, intentions, and use of contraceptive devices before and after education on BFP-CS in the intervention and control groups

Analysis using the Wilcoxon test showed significant differences in the variables of knowledge, attitude, intention and use of contraceptives before and after the BFP-CS intervention ($p < 0.05$). Then, in the control group, there was no significant difference between knowledge, attitude and use of contraceptives. At the same time, the intention variable was not found any difference. Knowledge is the result of knowing, and this occurs after people have sensed a certain object. Sensing of objects occurs through the five human senses, namely, sight, hearing, smell, taste, and touch. Knowledge or cognition is critical in creating an action (over behavior) [16].



Figure 2: Strategi konseling berimbang keluarga berencana module

Improving knowledge and attitudes require appropriate interventions. Family planning counseling in its implementation is not optimal. Meanwhile, counseling carried out in a structured and balanced manner can increase knowledge, attitudes, and use of contraception [17].

The family planning balanced counseling strategy is a client-decision-oriented family planning counseling method where the rights of the counselor and client are equal, and decisions are not influenced by the counsellor's wishes [18]. This is in accordance with a study conducted in Ethiopia on couples of childbearing age which stated that counseling could help women increase knowledge and avoid misunderstandings about each contraceptive option [19].

Effectiveness of education through balanced family planning counseling strategies on changes in postpartum contraception behavior

Using the Mann-Whitney test, comparative analysis between the intervention and control groups showed a significant difference in all study variables ($p < 0.05$). Knowledge is the result of knowing, and this occurs after people have sensed a particular object. Meanwhile, attitude is the level of a person to have a good or bad evaluation of certain behaviors. A person's attitude is determined by a person's belief in the behavior to be displayed. If the individual has a perception that using contraception is a positive behavior, then the individual will have a positive attitude toward the acceptance of contraceptives. A person's positive attitude must be accompanied by strong beliefs to perform positive behavior, such as using postpartum contraception.

Attitude is a reaction or response that is still closed from a person to a stimulus or object. Attitudes clearly indicate the suitability of reactions to certain stimuli [20]. The response will only arise when the individual is faced with a stimulus that requires an individual reaction. Evaluation response means that the reaction expressed as an attitude arises based on the evaluation process within the individual in the form of positive and negative values that can be a reaction to the attitude object [21].

The intention is a person's desire to act with the stimulus he gets [16]. The intention in this study was stimulated by the provision of family planning counseling in the hope that pregnant women after counseling would intend to use modern contraception. According to the [22] in Theory Reason Action, subjective attitudes and norms determine behavior based on intentions. The more positive attitudes and subjective norms a person has, the more positive the intention will be.

This study showed that the provision of counseling during antenatal care could increase the frequency of maternal intentions regarding postpartum

contraception. There was a difference in intention in the intervention group ($p < 0.05$) and the control group ($p > 0.05$). The final result is seen in the action variable. Postpartum contraceptives were very good in the intervention group (88% decided to use one of the postpartum contraceptives) compared to the control group (42% decided to use one of the postpartum contraceptives).

This is in line with research conducted by [23] which showed a significant relationship with intention to use postpartum contraception, where women who had received counseling intervention during antenatal care were 1.7 times more likely to use contraception. The study conducted by [24] showed the results of RR, 1.11; 95% CI, 1.01–1.22, which means that there is an intention from the client to use more effective contraception in the future where the provision of adequate family planning counseling tends to increase the use of contraception after childbirth.

Conclusion

Based on the study results, there was an increase in the percentage of knowledge, attitude, intention, and use of postpartum contraceptives in the intervention group and control group and differences in knowledge, attitudes, intentions, and use of contraceptives in the intervention group ($p < 0.05$). In the control group, only the intention variable was not significant. The family planning balanced counseling strategy was very effective in increasing knowledge, attitudes, intentions, and postpartum contraception compared to the usual counseling method ($p < 0.05$).

Acknowledgments

The author thanks to all who contributed to this research, the head of the public health center, midwives, other medical personnel, and the respondents who participated in the research.

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