



Effects of Birth Control Empowerment Program for Married Immigrant Vietnamese Women in South Korea

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Purpose: Aims of the researchers were to develop an birth control empowerment program (BCEP) designed to help married immigrant women in Korea to plan their pregnancies. **Methods:** This study was as a randomized controlled trial to verify the effects of the BCEP. The BCEP was developed based on Falk-Rafael (2001)'s Empowerment caring model. The program was offered once a week, for 90 minutes per session, for a total of 10 weeks. The BCEP incorporated group instruction, group discussion, and counseling. The eligible participants were randomly assigned to either experimental group (n=23) or control group (n=23). **Results:** Participants in the intervention group had significantly better outcomes in contraceptive knowledge ($p < .001$), contraceptive self-efficacy ($p = .014$), perceived contraceptive control ($p < .001$), sex-related spousal communication ($p < .001$), and sexual autonomy ($p = .009$). **Conclusion:** The BCEP was effective intervention method, which can promote family planning practices among married immigrant women.

Key Words: Contraception, Women, Immigrants

INTRODUCTION

The increasing trend of international marriage is an important phenomenon of this era of globalization and open economies. The proportion of international marriages in South Korea has increased significantly, from 3.5% in 2000 to 7.0% in 2016[1]. The largest proportion of marriage immigrant women (MIW) in South Korea is from Vietnam [1]; the percentage of these immigrants increased from 25.1% in 2008 to 31.7% in 2016. Married women of reproductive age are at a higher risk of developing reproductive health issues pertaining to pregnancy, delivery, contraception, miscarriage than other age women [2]. Because most MIW move to Korea on the basis of marriage, they were reported to face the challenges of pregnancy and delivery without sufficient planning and preparation [3].

Birth control is an important topic for women of reproductive age. Although it was used to control population growth in the past, birth control now serves mainly to

prevent sexually transmitted diseases and unwanted pregnancies and has contributed to improvements in sexual health and quality of life for women [4]. Failed birth control leads to unwanted pregnancy and potential abortion, which could result in serious pain and suffering resulting from complications and other negative emotional factors [3]. Even if a woman decides to continue with an unwanted pregnancy, inappropriate prenatal care could pose a significant risk to both the mother and unborn child [3]. Women can also experience fear of potential unwanted pregnancy, sexual dissatisfaction, and low self-esteem [5,6]. For these reasons, practicing birth control should be an essential and natural part of a safe and satisfying sex life.

Despite its importance, existing studies report that birth control is practiced by a mere 35.6% of MIW in Korea compared to 79.9%. who also tend to have a low level of knowledge on the topic [4]. Vietnamese women's communication and knowledge regarding contraception also appear to lag behind domestic Korean women [7].

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Birth control is not merely about controlling the number of children they give birth to, but also about improving their sexual life and health. Previous research shows that major factors affecting one's health-improving activities include self-efficacy [6], social support [8], self-control [8], sexual autonomy [9], sex-related communication [9], and improvement of knowledge of sex [3-5,9] are also important factors that help people continue birth control practices. This implies that a nursing intervention program which can simultaneously enhance one's self-control, self-efficacy, social support, knowledge, sex-related communication, and sexual autonomy is needed to promote the practice of birth control.

Empowerment refers to the process involved in strengthening an individual's ability to improve the self, interpersonal relationships, and behaviors [10]. Because a sense of empowerment helps individuals to overcome challenges while increasing their ability to adapt to new environments and tasks, it is often regarded as a strategy to promote healthy behaviors [10]. In fact, an increased sense of empowerment contributes to improved self-efficacy, social relationships, and sexual relationships, which exert a positive influence on women's decisions regarding contraception options and their use [11]. An empowerment program designed to promote birth control use in MIW in South Korea is expected to be a highly effective intervention strategy.

The purpose of this study was to develop and examine the effects of an empowerment program, which was designed to help MIW in South Korea to plan their pregnancies. The specific objectives are as follows:

- Develop an empowerment program to help women plan pregnancies.
- Examine the effects of the empowerment program on MIW contraceptive knowledge, contraceptive self-efficacy, perceived contraceptive control, sex-related spousal communication, and sexual autonomy.

METHODS

1. Study Design

This study was a single-blind, randomized controlled trial to examine the effects of the birth control empowerment program (BCEP).

2. Setting and Sample

To determine the sample size, existing studies examining spousal communication in multicultural couples were

consulted. Based on previous research [12], we used Cohen's [13] test to calculate a minimum sample size of 23, with an effect size of 0.6, statistical power of 0.78, and a significance level of 0.05. Considering the 6% attrition rate in existing studies, 24 participants were selected. Eligibility criteria were (a) MIW aged at least 20 years, (b) able to understand the study purpose and provide consent for participation, (c) who had attended Korean language classes at a multicultural family support center for more than 8 months and (d) able to communicate in Korean language. Participants were ineligible if they were pregnant or going through the postpartum period or using permanent birth control in their sexual relationship.

Researchers evaluated the inclusion criteria for 61 candidates based on initial interview. Of this number, aside from 13 who had exclusion characteristics, 48 candidates were found to be eligible and were included in the study. These 48 candidates signed the informed consent and were randomly assigned to a study group using a computer-generated simple randomization sequence with a 1:1 allocation ratio. The random allocation sequence and envelope concealment was conducted by a research assistant independent to the study who had no contact with the study participants. The participants remained blinded to group assignment during the entire intervention and follow-up. However, due to the nature of the intervention, it was not possible to blind the researcher administering interventions. Out of this initial sample (n=48), 24 were the experimental group and 24 were control. Attendance of a minimum of 8 out of 10 weekly BCEP sessions were required for the experimental group and the program participation rate among the subjects was 95.6 %. During the study period, one participant dropped from experimental group because of relocation, and one participant lost from control group because of inadequate response. The flow diagram of the studied sample is presented in Figure 1.

3. Ethical considerations

Ethical approval for the study was obtained from the institutional review board at the hospital at which the study was conducted (Approval No. MC13EASE0046). Data collection was performed after obtaining participants' consent. Participants capable of making decisions and signing their names were considered capable of providing informed consent. Informed consent was obtained from participants once their rights, the study aims, study process, procedural details, potential benefits, and risks of participation had been explained to them. After the posttest, participants were provided with a gift card (equivalent to

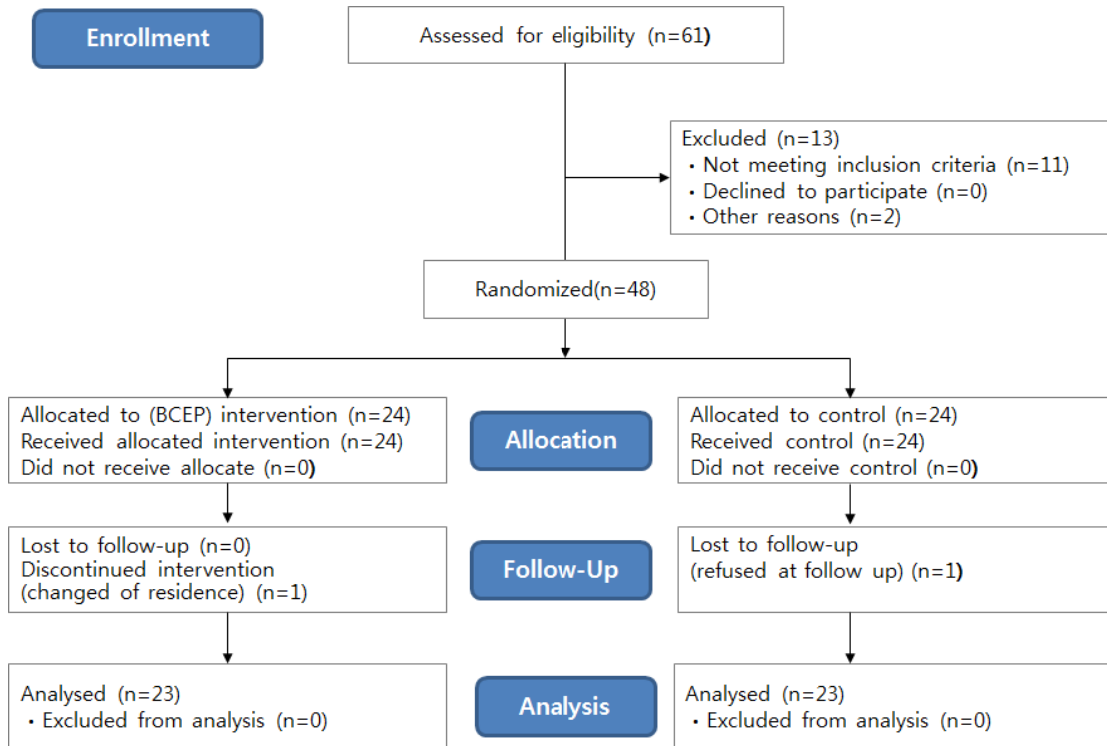


Figure 1. The flow diagram of the study sample.

8 US dollars) as a token of appreciation for their time and effort.

4. Procedures

The study was conducted in 2 multicultural family support centers in South Korea. Four centers were preliminarily selected to provide information for and take part in a birth control program from two rural communities, C city and M city, in South Korea. Out of the four, two centers were randomly selected and advertisements were posted to recruit study subjects on a first-come, first-serve basis. The program was provided by the researcher who had prior experiences in multiculturalism research and teaching MIW.

In order to ensure timely accrual of sufficient number of participants for the classroom-based interventions, participants were randomly assigned within each center. All participants underwent an extensive baseline evaluation at week 1. Measures included contraceptive knowledge, contraceptive self efficacy, perceived contraceptive control, sex-related communication, and sexual autonomy. Members of the control group received no specific group based intervention and received only the Korean language education. At week 11, a post intervention evaluation was completed with the same battery of questions.

5. Intervention: BCEP

1) Development of the BCEP

The BCEP used in the study followed the conceptual framework of Falk-Rafael's [10] empowerment caring model and was developed based on the results of existing studies, utilizing focus group interviews. The validity of the BCEP was verified by a panel of experts consisting of 3 women's health study professors, 1 MIW expert, and 1 obstetrician (Figure 2).

The BCEP included group instruction, group discussion, and counseling. The following 5 intervention strategies were developed according to the empowerment caring model [10]: perceived control, self-efficacy, cultivating knowledge and skills, active participation, and social support. These strategies were based on essential characteristics of empowerment (Table 1). To improve the level of perceived control in MIW, participants attended information sessions and group discussions with the following topics: "things I can do to practice birth control," "factors that interfere with birth control use," and "factors that encourage birth control use." Bandura's [14] self-efficacy strategies were used to improve self-efficacy in MIW. Education and counseling provided the women with the opportunity to achieve academic goals and experience others' success vicariously via group discussion sessions,

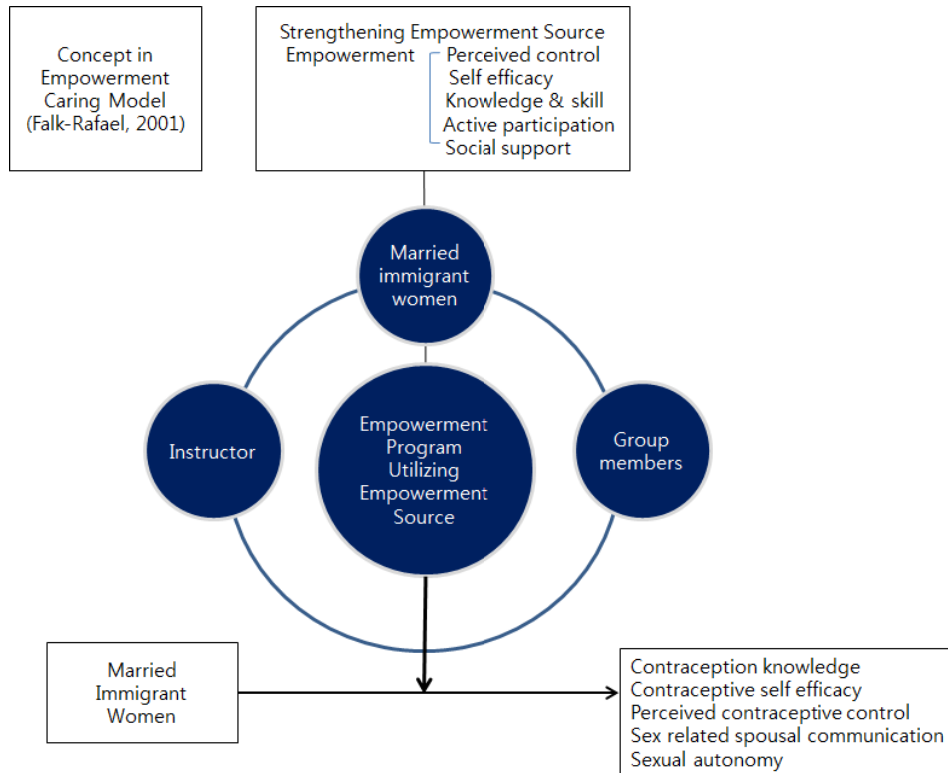


Figure 2. Theoretical framework of this study based on the empowerment caring model.

Table 1. Contents of the Birth Control Empowerment Program (BCEP)

	No	Contents	Strategies	Duration
Problem recognition	1	· Establishing the necessity of birth control and recognition · Recognizing the issues of birth control	· Perceived control	90 min
Exposure to problem	2	· Recognizing one's birth control issues · Factors that impede and improve birth control · Identifying communication issues of couples associated with birth control	· Self efficacy · Cultivating knowledge and skills	90 min
Problem solving	3	· Birth control method education: Oral pill, Condom, Withdrawal, Intra Uterine Device (IUD), Emergency contraceptive pills · Re-examining one's birth control method	· Active participation	90 min
Problem solving	4	· Birth control method education: Vasectomy, Fallopian tube excision, Subdermal implant, Rhythm method, Spermicide · Re-examining one's birth control method	· Social support	90 min
Selection and application	5	· Selecting the most proper birth control method for oneself · Adjustment of birth control method through communication of couples		90 min
Reconstruction	6	· Retraining reconstructed birth control methods · Expressing one's feelings and thoughts about applying reconstructed birth control method		90 min
Continuous action	7~10	· Encouraging continuous birth control behavior and counseling on Birth control issues		90 min

which contributed to increased self-efficacy. To provide a sense of social support, participants were encouraged to provide positive feedback [15], such as that involving “praising each other’s efforts,” during group discussion sessions and share the difficulties experienced in practicing birth control.

2) Applying the BCEP

The BCEP consisted of the following 6 distinct phases: problem recognition, problem exposure, problem solving, selecting and application of contraception, reconstruction, and continuous action.

Based on previous research, BCEP sessions were designed as 90-minute sessions and were provided once a week for 10 weeks [12,16-19]. Each session included group instruction, group discussion, and counseling. The first 6 sessions consisted of direct instruction, and the remaining 4 involved telephone counseling. 10~14 participants attended each session. The program was implemented in rooms at two multicultural family support centers in C city and M city. The program began at 10 am at both centers but on different days (Tuesdays and Wednesdays). The researcher was responsible for the overall educational and operational aspects of the program. To prevent the potential influence of other programs on the participants, the program was provided during a center vacation period, when no other educational programs were offered. A Korean-Vietnamese textbook [20] and Power Point materials were used in the instructional sessions.

Two Vietnamese interpreters were recruited and sat in on every class of the program to help the participants understand the classes better. Each session was structured as follows: In the introduction stage, goal attainment for the past week was evaluated (10 minutes). In the main stage, education (40 minutes) and group discussions (30 minutes) on the weekly topics were conducted. Weekly education on the need for birth control, influencing factors of birth control practice, birth control methods, and spousal communication was conducted along with practical training. The group discussions that were conducted after the education were structured to encourage independent problem solving by talking about one’s own problems and experiences on the weekly topics, and discussing solutions that could solve the problems. The conclusion stage (10 minutes) closed each session of the program by setting the goals for the next week and marking it on the goal card.

6. Measurement scales

A Self-report questionnaire was used for the measure-

ment. The questionnaire consisted of 54 items focused on contraceptive self-efficacy, and the average time to complete the questionnaire was about 20 minutes.

1) Contraceptive knowledge

The 15-item Birth Control Knowledge Measuring Scale developed by Kim [21] was used to measure contraceptive knowledge. Items were given response choice of ‘True’, ‘False’ and ‘Do not know.’ Each correct response was scored 1 point and incorrect responses and ‘do not know’ were given 0 points. Thus, total scores ranged from 0 to 15, with higher scores representing better contraceptive knowledge than the lower ones. Cronbach’s α for the scale was .73 when measured initially [21] and .78 in this study.

2) Contraceptive self-efficacy

The Birth Control Self-Efficacy Scale developed by Hwang and Chung [15] and based on Kang’s [22] Condom Use Self-Efficacy Scale and Galavotti et al.’s [23] Birth Control Self-Efficacy Scale was used to measure contraceptive self-efficacy. The scale includes 12 items, responses to items were scored on a 5-point Likert-type scale from 1 (don’t agree at all) to 5 (totally agree). Higher scores indicate greater self-efficacy related to birth control use. Cronbach’s α for the scale was .76 when measured initially [15] and .74 in this study.

3) Perceived contraceptive control

For perceived contraceptive control, Kim and Kang’s Perceived Control Scale [9] was used. The scale consists of 7 items, with responses measured using a 5-point Likert scale from 1 (don’t agree at all) to 5 (totally agree). Higher scores indicate greater perceived control. Cronbach’s α for the scale was .88 when measured initially [9] and .93 in this study.

4) Sex-related spousal communication

The Sex Communication Scale developed by Kim and Kang [9] was used to measure sex-related spousal communication. This 6-item scale is rated a 5-point Likert-type scale from 1 (don’t agree at all) to 5 (totally agree), with higher scores indicating greater communication. Cronbach’s α for the scale was .83 when measured initially [9] and .89 in this study.

5) Sexual autonomy

Kim and Kang’s 6-item Sexual Autonomy Scale [9] was used to measure sexual autonomy. Responses to items were scored on a 5-point Likert-type scale from 1 (don’t

agree at all) to 5 (totally agree) with higher scores indicating greater sexual autonomy. Cronbach's α for the scale was .60 when measured initially [9] and .89 in this study.

7. Data analysis

The Window SPSS program version 20.0 (SPSS Inc., Chicago, IL, USA) was used to analyze the collected data. Since there were less than 30 people in the experimental group, some variables failed to satisfy the normality hypothesis for a Shapiro-Wilk test for normality. Thus, parametric and non-parametric statistics of each group were utilized for the data analysis. And a χ^2 test and an independent test were carried out to examine similarity of the groups in the general characteristics and variables. Independent t test and Mann-Whitney U tests were performed to examine differences in the effects of the empowerment program between the 2 groups.

RESULTS

1. Demographic Characteristics and Homogeneity

Participants' average age was 27.0 years in the experimental group and 26.6 years in the control group. Average marriage duration was 35.9 months in the ex-

perimental group and 41.9 months in the control group. Age, duration of marriage, family type, employment status, and religion did not differ significantly between the 2 groups, indicating that they were homogeneous (Table 2). 52.2% and 47.8% of participants in the experimental and control groups, respectively, were not practicing birth control at the time of the study. "I don't know what to do" was the most commonly cited reason for failure to practice birth control in both groups.

The two groups were also homogeneous in contraception-related characteristics such as contraceptive knowledge, contraceptive self-efficacy, perceived contraceptive control, sex-related spousal communication, and sexual autonomy (Table 3).

2. Effects of the Intervention

The effects of the intervention are shown in Table 4.

1) Contraceptive knowledge

The experimental group's score for contraceptive knowledge increased from 5.22 to 10.17 following program completion. The control group's score increased from 6.43 to 7.22. The difference in the contraceptive knowledge between the experimental group and the control group before and after the intervention was found to be statistically significant ($p < .001$).

Table 2. Homogeneity Test of General Characteristics between Two Groups

(N=46)

Characteristics	Categories	Exp. (N=23)	Cont. (N=23)	χ^2 or t	p
		n (%) or M \pm SD	n (%) or M \pm SD		
Age (yr)		27.00 \pm 5.15	26.61 \pm 3.73	0.30	.769
Marital period (month)		35.91 \pm 28.34	41.91 \pm 25.6	-0.76	.453
Level of education	Less than high school	15 (65.2)	14 (60.9)	0.93	.760
	High school and above	8 (34.8)	9 (39.1)		
Number of children	None	7 (30.4)	8 (34.8)		.861 [†]
	1	12 (52.2)	10 (43.5)		
	2	4 (17.4)	5 (21.7)		
Type of family	Nuclear	4 (17.4)	6 (26.1)		.722 [†]
	Extended	19 (82.6)	17 (73.9)		
Job status	Employed	16 (69.6)	18 (78.3)	0.66	.513
	Unemployed	7 (30.4)	5 (21.7)		
Religion	No	7 (30.4)	10 (43.5)	0.91	.371
	Yes	16 (69.6)	13 (56.5)		
Birth control behavior	Use contraception	11 (47.8)	12 (52.2)	0.29	.774
	Do not use contraception	12 (52.2)	11 (47.8)		

Exp=experimental group; Cont.=control group; [†] Fisher's exact test.

Table 3. Homogeneity Test of Dependent Variables between Two Groups

(N=46)

Variables	Possible score range	Exp. (N=23) n (%) or M±SD	Cont. (N=23) n (%) or M±SD	t	p
Contraceptive knowledge	0~15	5.22±2.86	6.43±3.15	-1.37	.177
Contraceptive self efficacy	1~60	39.04±9.47	40.65±5.73	-0.70	.489
Perceived contraceptive control	1~35	20.17±6.95	23.70±6.82	-1.74	.090
Sex-related spousal communication	1~30	19.96±6.10	22.00±5.44	-1.29	.196
Sexual autonomy	1~30	19.09±3.62	19.65±4.26	-0.79	.432

Exp.=experimental group; Cont.=control group.

Table 4. Effects of the BCEP on Outcome Variables

(N=46)

Variables	Group	Pretest	Posttest	Difference	t or U	p
		M±SD	M±SD	M±SD		
Contraceptive knowledge	Exp.	5.22±2.86	10.17±2.33	4.96±0.77	4.07	< .001
	Cont.	6.43±3.15	7.22±3.47	0.78±3.52		
Contraceptive self-efficacy	Exp.	39.04±9.47	45.96±5.24	6.91±9.17	2.57	.014
	Cont.	40.65±5.72	41.17±5.47	0.52±7.63		
Perceived contraceptive control	Exp.	20.17±6.95	28.78±5.60	8.61±1.86	4.16	< .001 [†]
	Cont.	23.70±6.82	23.13±5.98	-0.57±1.89		
Sex-related spousal communication	Exp.	19.96±6.10	24.57±3.47	4.61±5.36	3.65	< .001
	Cont.	22.00±5.44	19.91±4.82	-2.09±5.88		
Sexual autonomy	Exp.	19.09±3.62	22.87±4.26	3.78±4.82	2.63	.009
	Cont.	19.65±4.26	20.00±3.18	035±4.78		

Exp.=experimental group; Cont.=control group; [†] Mann-Whitney U test.

2) Contraceptive self-efficacy

The experimental group's birth control self-efficacy score increased from 39.04 to 45.96. The control group's score increased from 40.65 to 41.17. The difference in the birth control self-efficacy between the experimental group and control group before and after the intervention was found to be statistically significant ($p=.014$).

3) Perceived contraceptive control

The experimental group's score for perception of control regarding birth control use increased from 20.17 to 28.78, whereas the control group's score decreased. The difference in the perception of control regarding birth control use between the experimental group and the control group before and after the intervention was found to be statistically significant ($p<.001$).

4) Sex-related spousal communication

The experimental groups' sex-related spousal communication score increased from 19.96 to 24.57 whereas the control group's score decreased. The difference in the

sex-related spousal communication between the experimental group and the control group before and after the intervention was found to be statistically significant ($p<.001$).

5) Sexual autonomy

The experimental group's sexual autonomy score increased from 19.09 to 22.87 following the intervention. The control group's score increased at a smaller scale from 19.65 to 20.0. The difference in the sexual autonomy between the experimental group and the control group before and after the intervention was found to be statistically significant ($p=.009$).

DISCUSSION

The BCEP used in this research focused on strengthening the ability of MIW using practical birth control techniques suggested by experts and encouragement of active participation in supportive group discussions. As a result women who participated in the BCEP had statistically sig-

nificant increases in contraceptive knowledge, perceived contraceptive self-efficacy, perceived contraceptive control, sexual related spousal communication, and sexual autonomy than the women who did not participate in the program.

The results showed that the participants' knowledge levels were very low, as indicated by the pre-intervention scores of 5.22 and 6.43 out of a possible 15 in the experimental and control groups, respectively. This finding, which is similar to that observed in Kim and colleagues' [4] study (5.49 points out of 15), highlights the lack of knowledge among MIW, required to prevent unwanted pregnancies and engage in behaviors that promote reproductive health effectively. Knowledge regarding birth control is critical to effective birth control and planned pregnancies [18,24,25]. According to studies examining birth control practices and associated attitudes in Asian women, contraceptive use is strongly associated with educational attainment and autonomy. Greater educational attainment has been linked to higher rates of contraceptive use [20,26], which is important as this study found that approximately 60% of participants had lower than high school education. The 6 weeks of direct instruction and 4 weeks of telephone counseling provided in the program could have contributed to the increase in contraceptive use in the participating Vietnamese marriage immigrants.

The improvement in participants' knowledge levels could have exerted a significant effect on their self-efficacy concerning contraceptive use, as indicated in the results. Although similar studies were not available, the current findings are similar to those reported by Choi and Oh [19], who examined the effects of a 10-week empowerment program in MIW. The positive outcomes observed could be attributable to the fact that, through group instruction and discussion sessions, the empowerment programs provided participants with an opportunity to gain knowledge and skills that could be applied in real life.

Perceived contraceptive control also increased significantly. Perceived control regarding contraceptive use refers to the degree to which individuals believe that their birth control efforts will be successful, and is an essential factor in birth control practice. According to a study that compared self-efficacy levels in individuals who did or did not practice birth control continuously [21], those who demonstrated greater self-efficacy tended to practice birth control in a continuous manner. The marriage immigrants in the current study improved their contraceptive knowledge and associated self-efficacy by learning the importance of birth control via various contraceptive methods and this improvement appears to have increased their per-

ceived control regarding contraceptives. Individuals with greater perceived control have been reported to be more likely to practice healthy behaviors [27]. In view of this, improving self-efficacy, or the sense of control, could be an important strategy to increase birth control and family planning rates. A healthy marital relationship must be established before effective and sustained birth control and family planning can occur [27,28], and this necessitates the development and implementation of interventions such as empowerment programs for MIW.

This research carried out the BCEP over 10 weeks but could not measure the direct intentions and practices of contraception behavior. However, preceding research shows that the mediation of empowerment significantly increases contraception practice rate [26], and that women with higher levels of empowerment have higher rates of contraception practices and birth control practices [29]. As such, sex-related empowerment is an important predictive factor for intentions and practice of contraception. Therefore, we propose that future research investigates the changes in the rates, intentions, and behavior of contraception practices after the BCEP.

The current study was subject to some limitations. To improve participants' understanding, a Vietnamese interpreter was recruited to interpret every class for the subjects, and the class materials were available in both Korean and Vietnamese. However, considering many of the subjects arrived in South Korea less than three years ago, there were limitations to the subjects' full understanding of the classes. Therefore, we propose further studies where classes are provided in Vietnamese for effective education.

Future empowerment programs would benefit from incorporating instruction, discussion, and the use of support groups into interventions. In addition, training in communication strategies, repeat studies involving women with a variety of ethnic backgrounds, and intervention programs designed for couples would also be beneficial in ensuring effective and sustained birth control efforts in this population.

CONCLUSION

The BCEP was an effective intervention method, which promote family planning practices in MIW via increasing contraception knowledge, contraception self-efficacy, perceived control regarding contraception use, and sexual autonomy. This study helped to improve the problems faced by MIW through repetitive and continuous education, counseling, and group discussions. It also verified that continuous education on the difficulties experienced

by MIW regarding birth control was effective for increasing their knowledge, attitude, and practice of birth control.

Based on the results, we suggest the following: First, studies on the application of the BCEP with an extended period of education in consideration of linguistic limitations and the level of knowledge of MIW are suggested. Second, follow-up studies with the participation of both spouses are suggested.

1. Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and publication of this article.

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Summary Statement

■ **What is already known about this topic?**

The proportion of international marriages in South Korea has increased significantly. The rates of sustained birth control practices in married immigrant women(MIW) are lower than those in married domestic women. Immigrant women's communication and knowledge regarding contraception also appear to lag behind those of domestic women.

■ **What this paper adds?**

Birth control has contributed to improvements in sexual health and quality of life for women. The birth control empowerment program for married immigrant women can increase family planning practices in MIW by increasing contraception knowledge, contraception self-efficacy, perceived control regarding contraception use, and sexual autonomy.

■ **Implications for practice, education and/or policy**

This birth control empowerment program can be applied and extended not only to MIW and their partners but also to other women in various clinical and community conditions.