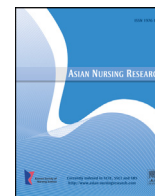


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Research Article

Effects of a Psychological Adaptation Improvement Program for International Marriage Migrant Women in South Korea

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SUMMARY

Purpose: This study was conducted to develop and evaluate the Psychological Adaptation Improvement Program (PAIP) for international marriage migrant women in South Korea.**Methods:** A total of 43 international marriage migrant women who were enrolled in six rural multi-cultural family support centers in South Korea were included in this study. They were randomly assigned to the intervention group ($n = 21$) or to the control group ($n = 22$). The intervention group received 10 sessions of PAIP, 1 or 2 sessions per week for 8 weeks. The dependent variables were self-esteem, depression and social problem solving ability. The data were analyzed by Fisher's exact test, t test, and repeated measures analysis of variance using SAS program.**Results:** PAIP was effective in increasing self-esteem and reducing depression, and partially showed significant positive effects on participants' social problem solving ability, suggesting increased levels of positive problem orientation and decreased avoidance style in the social problem solving ability subscales.**Conclusion:** PAIP might be used as an effective intervention to improve psychological adaptation among international marriage migrant women in the rural community of South Korea.

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Introduction

Recently, a predominant phenomenon related to international migration in South Korea is that foreign women who immigrated to South Korea for marriage with Korean men (international marriage migrant women) have increased. The international marriage rate in 2000 was 3.5% of all marriages in South Korea and it increased up to 9.0% in 2011; of this 9.0%, the marriage between Korean man and foreign woman was 74.8% (Korea National Statistical Office, 2012). This is viewed as an inevitable phenomenon in Korean society due to variety of situations in and outside the country, such as low birth rate, increased single Korean women, avoiding marriage with rural men, globalization, and influence of the Korean wave in Asia (Yang et al., 2012).

On the other hand, international migration is individually a very stressful life event. It is known that many immigrants experience acculturative stress, negatively influencing one's psychological

well-being and causing mental health problems such as depression, substance abuse and post traumatic stress disorder (Bhugra, 2004; Hoschl et al., 2008; Hovey & Magana, 2002). In terms of the international marriage migrant women in South Korea, previous studies reported that they experience difficulties in adjusting to the Korean society due to cultural differences, language problem, discriminative and unfriendly attitude for foreign woman, and lack of support systems (Jeong & Lee, 2010; Lee & Kim, 2010; Nam & Ahn, 2011). Earlier research results from Kwon and Park (2007), as well as Kim (2010) showed high acculturative stress level and low life satisfaction among international marriage migrant women. In the study by Kim (2011) where international marriage migrant women were surveyed, the results indicated that 45.5% of participants had mild depression, which was higher than 2.9–5.6% observed in the study by Cho et al. (2009), involving Korean adults. Besides, several studies reported that international marriage migrant women in rural areas experienced more severe domestic work-related stress and acculturative stress, worse quality of life, lower self-esteem, and worse mental health problem such as depression, compared with those in urban areas (Kim & Park, 2008; Kwon, 2011; Nam & Ahn, 2011).

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The Korean government has implemented policies to help the adaptation of international marriage migrant women to the Korean society. However, most of these policies focused on services for sociocultural adaptation such as Hangeul (Korean Alphabet) teaching, and supporting employment, while Korean culture education and psychological problems, such as mental health problems, tend to be lightly treated (Kim & Lee, 2010; Lee & Kim, 2010). For example, depression in the Korean society is apt to be left ignored for a long time due to the perception that depression can be handled by one's own will (Oh & Park, 2007). These results indicate that mental healthcare experts need to actively develop an intervention strategy to deal with psychological problems among rural international marriage migrant women, focusing on their psychological adaptation.

Domestic and foreign researches on international migrants were mostly descriptive studies focused on their sociocultural or psychological adaptation (Bradley & Van Willigen, 2010; Gomez, Kelsey, Glaser, Lee, & Sidney, 2004; Hoschl et al., 2008; Kim, 2011; Kim & Chyun, 2012; Kwon, 2011; Lee & Kim, 2010; Lim, Oh, & Han, 2009). In particular, domestic studies on this population have focused on their sociocultural adaptation (Kim & Chyun, 2012). Recently, studies addressing their psychological adaptation have increased, but most of those were also descriptive studies (Kim, 2011; Kim & Chyun, 2012; Kwon, 2011; Lee & Kim; Lim et al., 2009). Despite the emphasis on developing intervention programs for their psychological adaptation in the literature (Kim; Kwon, 2011; Lee & Kim; Lim et al.), there is little research on this topic.

Individual psychological adaptation level is a very important indicator to show one's psychological well-being and the overall adaptation level. It was commonly measured with the level of self-esteem, depression and life satisfaction (Bradley & Van Willigen, 2010; Lee & Kim, 2010; Shin, Han, & Kim, 2007). Based upon the literature, our study measured the level of psychological adaptation with self-esteem, depression, and social problem solving ability levels.

Self-esteem is an individual factor that improves mental health problems, such as depression among immigrants (Bae & Park, 2010; Bhugra, 2003). Depression was one of the most talked-about mental health problems as the negative indicator of psychological adaptation (Lee & Kim, 2010). In addition, the problem solving ability that is regarded as an indicator on social capability might be a key component of psychological adaptation. Researchers who tried to approach mental health problems with the problem solving ability, remarked that psychological adaptation is associated with the degree of problem solving ability within the social relationship (D'Zurilla & Nezu, 1982). Previous studies showed that social problem solving ability was significantly associated with better mental health, higher quality of life (Chinaveh, 2010), and better family functioning (Siu & Shek, 2010). Conversely, low social problem solving ability was shown to be associated with depression (Prachakul, Grant, & Keltner, 2007). Thus, addressing the social problem solving ability can constitute a way to improve psychological adaptation among international marriage migrant women.

As a result, this study was conducted to develop and evaluate the intervention program for improving psychological adaptation among rural international marriage migrant women in South Korea. We therefore developed the Psychological Adaptation Improvement Program (PAIP) which consisted of a brief psychosocial intervention and focused on increasing self-esteem, reducing depression and improving social problem solving ability.

The overall purpose of this study is to identify the short-term effects of PAIP on self-esteem, depression and problem solving ability among rural international marriage migrant women in South Korea.

Methods

Study design

A quasi-experimental study with nonequivalent control group with a nonsynchronized design was used. Independent variable was 10 sessions of PAIP. The dependent variables were the indicators of psychological adaptation, including self-esteem, depression and social problem solving ability.

Setting and sample

The participants consisted of 43 international marriage migrant women, who were enrolled in six multi-cultural family support centers of 6 cities (Andong, Yeongju, Uiseong, Gyeongju, Cheongsong, and Mungyeong) in rural areas in South Korea. Each center had a total enrollment of 300–400 and provided no psychosocial intervention service for the clients.

Participants met the following inclusion criteria: they were (a) with foreign nationality who married a Korean man, (b) able to communicate with the researchers in Korean, (c) able to understand and respond to the questionnaires used, (d) not diagnosed with mental illness, and (e) willing to sign informed consent forms to participate in this study.

The sample size was calculated using a G*Power program (Faul, Erdfelder, Buchner, & Lang, 2009). In order to have an effect size of 0.25, a power of .95, and have repeated measures analysis of variance (ANOVA) be applicable, 18 subjects were needed for each group.

Ethical consideration

Ethical approval of this study was granted by the Institutional Review Board of Catholic University in South Korea (approval no. CUMC11U037). All study participants were provided with information regarding the contents of PAIP. They were also informed that their responses would be kept confidential and the results of the study would be used only for the purposes of the study. The participants then signed the informed consent forms.

Measurements

Self-esteem

Self-esteem levels of the study participants were assessed using the Self-Esteem Scale (SES) developed by Rosenberg (1965) and translated into Korean by Jeon (1974). It consists of 10 items (5 positive items and 5 negative items) and uses a 4-point scale from 1 (*strongly disagree*) to 4 (*strongly agree*). The scores for the negative items were calculated inversely. Higher scores indicate higher self-esteem levels. In a study by Jeon, the reliability of the SES was established with a Cronbach's alpha of .85. In our study, the reliability of this instrument was established with a Cronbach's alpha of .76.

Depression

Depression levels of the study participants were assessed with the Center for Epidemiologic Studies–Depression Scale (CES-D), developed by Radloff (1977) and translated into Korean by Choi, Yang, and Chon (2001). CES-D has been used to measure the level of depression in many different ethnic groups and among the people who were under chronic stress and/or difficult situations (Radloff & Locke, 1983; Shin et al., 2007). It consists of 20 items (4 positive items and 16 negative items), and uses a 4-point scale from 0 (*rarely or none of the time*) to 3 (*most of or all the time*). Each of the 20 items states an experience related to depressive mood and symptom that the subjects might have had in the past week. The

possible score range is 0–60; higher respondent's scores indicate higher levels of depression. The reliability of the CES-D instrument in the study by Choi et al. (2001) was established with a Cronbach's alpha of .91. In our study, the reliability of this instrument was established with a Cronbach's alpha of .88.

Social problem solving ability

Social problem solving ability levels of the study participants were assessed using the Social Problem Solving Inventory-Revised (SPSI-R) (Maydeu-Olivares & D'Zurilla, 1996) translated into Korean by Choi (2002). It consists of 52 items and uses a 5-point scale from 1 (*strongly disagree*) to 5 (*strongly agree*). SPSI-R is divided into 5 subscales: positive problem orientation (PPO, 5 items), negative problem orientation (NPO, 10 items), rational problem solving (RPS, 20 items), impulsive/careless style (ICS, 10 items), and avoidance style (AS, 7 items). The total scores were calculated via a formula, $PPO/5 + (40-NPO)/10 + RPS/20 + (40-ICS)/10 + (28-AS)/7$. The possible score ranges from 0 to 20 and higher scores indicate better social problem solving ability. The reliability of the SPSI-R instrument in the study by Choi was established with a Cronbach's alpha of .90. In our study, the reliability of this instrument was established with a Cronbach's alpha of .90.

Development of the program contents

PAIP was developed based on the cognitive behavioral model (Ellis, 2002) that is proven to be effective in improving self-esteem and depression (Park, 2011). The problem solving model was developed to promote social problem solving ability (D'Zurilla & Nezu, 2007; Nezu, Nezu, & Perri, 1989).

Using the cognitive reconstruction of cognitive behavioral model, the intervention helped participants develop resources to establish positive self-image and to overcome negative feelings such as depression. In terms of the problem solving model, problem solving strategies including acquiring various problem solving skills, reinforced problem solving ability in participants.

The program was divided into three phases, with each phase consisting of two or three sessions. The first phase, cognitive reconstruction, focused on producing a positive self-image through the development of their own strengths, understanding the emotions and behaviors caused by cognitive distortion and reinforcing rational thoughts. The second phase, reinforcing the problem solving skill, led the participants to change their coping behavior on problems through the development of the problem solving skill. The third phase focused on practicing the integrating learned contents in the program via role playing (Table 1).

To structure the program contents, the researchers conducted a comprehensive review of published papers, current textbooks, and research on the subject and theoretical models applied in this study; they also consulted with two mental health nursing professors. Two mental health care experts, including one psychiatrist and one psychiatric mental health advanced practice nurse, validated the content and the appropriateness of PAIP.

Procedures

After being approved for the data collection by these centers, 46 participants were recruited from six multicultural family support centers that were similar in their rural locations, the types of

Table 1 Contents of Psychological Adaptation Improvement Program.

	No.	Themes	Contents	Duration
Introduction	1	Orientation	<ul style="list-style-type: none"> • Introduction of the program • Self-introduction • Establish the rules for the group • Administer the pre-test 	60 min
Cognitive reconstruction	2	Establishing a positive self-image	<ul style="list-style-type: none"> • Identify participants' negative attitudes toward themselves (physical, mental, & behavioral) • Explore strengths & weaknesses of the participants • Help the participants recognize their condition and express it with positive statements 	90 min
	3	Understanding consequence of distorted cognition	<ul style="list-style-type: none"> • Introduce the Accident, Belief, and Consequence (ABC) Model • Explore emotional and behavioral reactions to the cognitive distortions • Identify the differences of emotional, behavioral consequence according to change of thoughts 	90 min
	4	Reinforcing rational thoughts	<ul style="list-style-type: none"> • Introduce the accepting problem by rational viewpoint • Reinterpret the stressful events through changing the way of thinking • Find mind-set for reinforcing rational thoughts 	90 min
Reinforcing problem-solving skill	5	Developing an objective perspective	<ul style="list-style-type: none"> • Present specific and realistic perspective on the problem using the five W's and one H • Set up realistic goals with cases 	90 min
	6	Selecting optimal solution	<ul style="list-style-type: none"> • Apply brainstorming for creative problem solution: Principle of quantity, deferment of judgment, variety • Select optimal solution • Set up action plan for optimal solution 	90 min
	7	Reinforcing coping behaviors	<ul style="list-style-type: none"> • Conduct relaxation training • Explore past ways of coping with stressful events • Establish effective stress coping strategy • Conduct assertion training using an "I-message" 	90 min
Integrated practice	8	Case practice I	<ul style="list-style-type: none"> • Establish a problem situation (cultural difference-related conflict situation) • Practice learned contents in the program through role playing • Evaluate and provide the feedback on role playing 	90 min
	9	Case practice II	<ul style="list-style-type: none"> • Establish a problem situation (finance-related conflict situation) • Practice learned contents in the program through role playing • Evaluate and provide the feedback on role playing 	90 min
Ending	10	Evaluation	<ul style="list-style-type: none"> • Reconsider whole process of the program • Share feelings about ending of the program • Introduce community resources to support psychological adaptation • Administer the post-test 	60 min

Note. min = minutes.

program provided and man power allocation. All participants were informed of a full explanation of the study by the researchers. Informed consent was obtained from each participant who agreed to participate in our study. They were assigned by a draw to the intervention group and control group, 23 participants in each group, according to their centers to avoid intervention contamination. A total of three participants (2 in the intervention group and 1 in the control group) dropped out because two participants in the intervention group did not participate in the program for more than two sessions due to part-time employment or sudden life events, and one in the control group moved to another city. Thus, 43 participants, 21 in the intervention group and 22 in the control group, were included in this study.

PAIP was conducted with the intervention group as a group intervention. The intervention group received 10 sessions of PAIP over an 8-week period (1 session per week, but 2 sessions in the first and last week) between June 2011 and February 2012 as well as routine services provided by a center such as Hangeul (Korean Alphabet) teaching, supporting employment and Korean culture education. The control group received only routine services provided by a center. The PAIP was administered at the education room in the centers where participants in intervention group were enrolled or conference room of college where the first author works. Three subgroups were included in the intervention group. Each subgroup consisted of 7–8 participants. Each program session lasted for 90 minutes (15 minutes of introduction, 60 minutes of activity, and 15 minutes of closing).

Although we recruited participants who were able to communicate with the researchers in Korean, given that the participants were foreigners, we used simple and easy words and phrases, case-based approach, activities, and visual materials such as Gestalt Relationship Improvement Program (GRIP) set to facilitate verbal communication with participants in the program and verified if they well understood the program contents every time.

GRIP set was developed for aiding participants who have difficulties in verbal communication by a Korean professor and Gestalt therapy expert. Of all the five components of GRIP set, we used four components, including 62 picture cards that painted diverse situations that one might meet in daily life, 250 emotion word cards that showed an emotion word and picture explaining the word for each card, 65 mindset cards that presented a positive mindset and picture explaining that for each card, and 6 family dolls for role play.

PAIP was conducted by the first author who is a mental health nursing professor and has a psychiatric mental health advanced practice nurse license. At the time of study, she had 5 years of experience as a psychiatric unit manager and a therapist for group therapy that is focused on problem solving ability for patients with substance use disorder. She also had 4 years of experience teaching mental health nursing in a college as a professor. She completed the cognitive behavioral therapy expert course for the study.

The effects of PAIP were measured using a self-reporting questionnaire, including demographic characteristics and three scales that addressed self-esteem, depression, social problem solving ability. A pre-test was administered to both the intervention and control groups using this questionnaire by a study assistant who was trained to support this study. The participants were provided with three different language questionnaires translated into the participants' native languages (Chinese, Vietnamese, and Filipino) as well as Korean. Two participants from Uzbekistan and Japan used the Korean questionnaires because they had a good command of the Korean language.

After the pre-test, the intervention group participated in PAIP for 8 weeks and then performed a post-test using the same questionnaire at the last session of PAIP. The control group completed

the same post-test 8 weeks after the pre-test. For ethical consideration on the control group, a researcher provided a handout summarizing PAIP for the control group after the post-test.

Data analysis

The statistical analysis was performed using SAS software version 9.2 (SAS Institute, Cary, NC). Demographic data were summarized by percentile, mean and standard deviation. The homogeneity of demographic data and dependent variables in both groups were analyzed by the Fisher's exact test and *t* test. Repeated measures ANOVA was used to analyze the differences of scores from the pre- and post-tests of the intervention and control groups. Statistical significance was established at *p* < .05.

Results

Participants' demographic characteristics and homogeneity test results

The participants' demographic data and the homogeneity test results for demographic characteristics between the intervention and control groups at the time of the pre-test are shown in Table 2. There was no significant difference on any demographic

Table 2 Participants' Demographic Characteristics and Homogeneity Test (N = 43).

Characteristics	IG (n = 21) CG (n = 22)		p	
	M (SD) or n (%)			
Age (yr)	27.38 (2.06)	28.00 (2.35)	.365	
Nationality	Vietnam	8 (38.1)	6 (27.3)	.897
	Philippine	4 (19.0)	4 (18.2)	
	Japan	0 (0.0)	1 (4.5)	
	China (Han tribe)	6 (28.6)	8 (36.4)	
	China (Chosun tribe)	2 (9.5)	3 (13.6)	
	Uzbekistan	1 (4.8)	0 (0.0)	
Educational level	Middle	7 (33.3)	8 (36.4)	1.000
	High	10 (47.6)	10 (45.4)	
	College	4 (19.1)	4 (18.2)	
Religion	Protestant	4 (19.1)	3 (13.6)	.817
	Catholic	6 (28.5)	4 (18.2)	
	Buddhism	4 (19.1)	5 (22.7)	
	None	7 (33.3)	10 (45.5)	
Family income, monthly (10,000 won)	< 150	5 (23.8)	7 (31.8)	.654
	≥ 150, < 200	12 (57.1)	10 (45.5)	
	≥ 200, < 300	3 (14.3)	5 (22.7)	
	≥ 300	1 (4.8)	0 (0.0)	
Occupation	None	16 (76.2)	15 (68.2)	.767
	Simple labor	3 (14.2)	5 (22.7)	
	Office work	1 (4.8)	0 (0.0)	
	Professional	1 (4.8)	2 (9.1)	
Duration of marriage (yr)	< 2	1 (4.8)	3 (13.6)	.534
	≥ 2, < 4	7 (33.3)	5 (22.7)	
	≥ 4, < 6	9 (42.9)	12 (54.6)	
	≥ 6	4 (19.0)	2 (9.1)	
Husband's occupation	Agriculture	10 (47.6)	13 (59.1)	.676
	Architecture	0 (0.0)	1 (4.5)	
	Office work	8 (38.1)	6 (27.3)	
	Self-employed business	3 (14.3)	2 (9.1)	
Husband's educational level	Middle	4 (19.1)	6 (27.3)	.775
	High	13 (61.9)	11 (50.0)	
	College	4 (19.0)	5 (22.7)	
No. of children	None	1 (4.7)	2 (9.1)	.898
	1	9 (42.9)	7 (31.8)	
	2	9 (42.9)	10 (45.5)	
	≥ 3	2 (9.5)	3 (13.6)	
Live-in family	Couples	0 (0.0)	1 (4.6)	.712
	Couples + children	8 (38.1)	11 (50.0)	
	PIL + Couples + children	12 (57.1)	9 (40.9)	
	PIL + Couples	1 (4.8)	1 (4.5)	

Note. IG = intervention group; CG = control group; PIL = parents-in-law.

Table 3 Homogeneity of Dependent Variables ($N = 43$).

Variables	IG ($n = 21$)	CG ($n = 22$)	t	p
	M (SD)	M (SD)		
Self-esteem (score)	26.62 (4.56)	27.56 (4.14)	-0.70	.489
Depression (score)	21.57 (7.51)	22.68 (6.79)	-0.51	.613
Overall SPSI-R (score)	11.59 (1.92)	11.70 (2.08)	-0.19	.853
PPO	12.48 (2.46)	13.14 (3.06)	-0.78	.442
NPO	18.10 (7.22)	17.91 (6.70)	0.09	.931
RPS	42.67 (10.88)	44.00 (10.31)	-0.41	.682
ICS	17.00 (3.80)	17.36 (3.71)	-0.32	.752
AS	10.71 (3.78)	11.18 (4.42)	-0.37	.712

Note. IG = intervention group; CG = control group; SPSI-R = Social Problem Solving Inventory-Revised; PPO = positive problem orientation; NPO = negative problem orientation; RPS = rational problem solving; ICS = impulsive/careless style; AS = avoidance style.

characteristics between the groups, including age, nationality, educational level, religion, monthly family income, occupation, duration of marriage, husband's occupation, husband's educational level, number of children, and live-in family.

Homogeneity tests were performed on the dependent variables between the intervention and control groups at the time of the pre-test. There was no significant difference between the groups regarding the dependent variables (Table 3).

Effects of intervention on dependent variables

Repeated measure ANOVA was used to compare the pre- and post-test scores for self-esteem, depression, and social problem solving ability of the intervention and control groups. The results are shown in Table 4.

The average pre-test scores for self-esteem as measured by SES were 26.62 ($SD = 4.56$) and 27.56 ($SD = 4.14$) and the average post-test scores were 30.33 ($SD = 3.32$) and 27.18 ($SD = 2.92$) for the intervention and control groups, respectively. The results showed

Table 4 Effects of Intervention on Dependent Variables ($N = 43$).

Variables	Group	Pre-test	Post-test	Source	F	p
		M (SD)	M (SD)			
Self-esteem	IG	26.62 (4.56)	30.33 (3.32)	Group	1.87	.180
	CG	27.56 (4.14)	27.18 (2.92)	Time	4.19	.047
				Group \times Time	6.21	.017
Depression	IG	21.57 (7.51)	14.95 (3.99)	Group	7.75	.008
	CG	22.68 (6.79)	22.18 (6.84)	Time	7.87	.008
				Group \times Time	5.81	.021
Overall SPSI-R	IG	11.59 (1.92)	12.82 (1.22)	Group	1.48	.231
	CG	11.70 (2.08)	11.76 (1.71)	Time	2.99	.092
				Group \times Time	2.48	.123
PPO	IG	12.48 (2.46)	14.71 (1.93)	Group	1.07	.306
	CG	13.14 (3.06)	12.82 (2.24)	Time	4.41	.042
				Group \times Time	7.81	.008
NPO	IG	18.10 (7.22)	14.62 (3.09)	Group	1.09	.302
	CG	17.91 (6.70)	17.55 (4.76)	Time	2.85	.099
				Group \times Time	1.87	.179
RPS	IG	42.67 (10.88)	45.62 (8.62)	Group	0.01	.924
	CG	44.00 (10.31)	44.68 (7.30)	Time	0.83	.368
				Group \times Time	0.32	.572
ICS	IG	17.00 (3.80)	18.68 (3.10)	Group	1.55	.220
	CG	17.36 (3.71)	16.27 (4.86)	Time	0.11	.745
				Group \times Time	2.46	.124
AS	IG	10.71 (3.78)	7.52 (3.98)	Group	4.97	.031
	CG	11.18 (4.42)	11.59 (3.80)	Time	4.21	.047
				Group \times Time	7.06	.011

Note. IG = intervention group ($n = 21$); CG = control group ($n = 22$); SPSI-R = Social Problem Solving Inventory-Revised; PPO = positive problem orientation; NPO = negative problem orientation; RPS = rational problem solving; ICS = impulsive/careless style; AS = avoidance style.

significant score differences within the groups over time, indicating significant time effects ($F = 4.19$, $p = .047$) and significant score differences between the groups over time, indicating significant interaction effects of time and group ($F = 6.21$, $p = .017$).

The average pre-test scores for depression measured by CES-D were 21.57 ($SD = 7.51$) and 22.68 ($SD = 6.79$) and the average post-test scores were 14.95 ($SD = 3.99$) and 22.18 ($SD = 6.84$) for the intervention and control groups, respectively. The results showed significant score differences between the groups and within the groups over time, indicating significant group effects ($F = 7.75$, $p = .008$) and time effects ($F = 7.87$, $p = .008$), respectively. The results also showed significant score differences between the groups over time, indicating significant interaction effects of time and group ($F = 5.81$, $p = .021$).

The average pre-test scores for social problem solving ability as measured by the SPSI-R were 11.59 ($SD = 1.92$) and 11.70 ($SD = 2.08$) and the average post-test scores were 12.82 ($SD = 1.22$) and 11.76 ($SD = 1.71$) for the intervention and control groups, respectively. In the overall SPSI-R scores, there were no significant score differences between the groups, or within the groups over time. The results also showed no significant interaction effects of time and group. However, in comparing the five SPSI-R subscale scores, there were statistically significant score differences in the positive problem orientation and avoidance style between the groups. With respect to positive problem orientation, the results showed significant score differences within the groups over time, indicating significant time effects ($F = 4.41$, $p = .042$) and significant score differences between the groups over time, indicating significant interaction effects of time and group ($F = 7.81$, $p = .008$). The results also showed significant group effects ($F = 4.97$, $p = .031$), time effects ($F = 4.21$, $p = .047$), and interaction effects of time and group ($F = 7.06$, $p = .011$) regarding the avoidance style.

Discussion

This study was conducted to develop a program for psychological adaptation and evaluate the effects of the PAIP with regard to improving self-esteem, depression and social problem solving ability among rural international marriage migrant women. The results of this study showed a significant increase in self-esteem and decrease in depression; however it did not show a significant effect in the overall social problem solving ability among intervention group participants after participating in PAIP.

The self-esteem scores in the intervention group participants significantly increased after participating in PAIP. Similar results were observed in one study by Lee and Kang (2007), in which international marriage migrant women participated in the reality therapy, the contents of which were similar to those in PAIP. This increase may be explained as follows: First, through our PAIP, participants were able to establish a positive self-image, objectively observing their attributes and exploring their strengths. Second, self-esteem is a changeable characteristic according to personal situation and/or environment and has a significant positive correlation with social support (Lee & Kim, 2010). Intervention group participants were accepted and supported by mental healthcare expert and other participants during PAIP, which may have increased their self-esteem. Rural areas in South Korea keep hold stronger Korea traditional values such as the male-centered family structure and conservative tendency, compared with urban areas (Kim, 2008; Lim et al., 2009; Nam & Ahn, 2011), which might lead to rural international marriage migrant women being forced to obey their husband rather than being supported by them. Community-based mental healthcare experts thus need to strengthen their families' perception toward the important role of support in order that the women stay in increased self-esteem.

The participants' mean depression score as measured by CES-D in our study showed a score of 21 in the pre-test. This score was higher than the 16 and 19 observed in the study of Yang and Kim (2007) and Lim (2010) in which urban international marriage migrant women were surveyed. These differences might result from the lack of social support resources in rural areas. Social support resources play an important role in decreasing depression and promoting psychological well-being among immigrants (Kim, 2011; Lee & Kim, 2010). However, it has been reported that rural areas have insufficient social support resources to address psychological adaptation in international marriage migrant women, compared with that in urban areas (Kim; Kwon & Park, 2007). Thus, mental healthcare providers need to assess the mental health problems of international marriage migrant women in different communities and develop differentiated programs based on community characteristics.

The intervention group participants in our study showed a significant decrease in depression after participating in the PAIP. This result was consistent with a study by Park (2011), in which cognitive-behavioral group therapy was effective in relieving depression of female victims from family violence. Cognitive theories suggest that individuals with cognitive vulnerability are likely to develop depression following stressful life events (Carter & Garber, 2011). PAIP in our study included the process of cognitive reconstruction, in which the participants were able to understand the consequences of their distorted cognitions toward themselves and stressful situations, and change their irrational thoughts into rational ones. This process might help them decrease their level of depression. Another explanation for our result is that given that in the study by Bae and Park (2010), depression scores in Korean American immigrants showed a significant negative correlation with self-esteem, our intervention group most likely benefitted from our PAIP efforts to increase self-esteem with the goal of improving psychological adaptation.

Regarding the levels of overall SPSI-R, there was no significant score increases after participating in PAIP. Of the five SPSI-R subscales, PAIP had significant positive effects on positive problem orientation and avoidance style, showing a significant increase in positive problem orientation and a significant decrease in avoidance style after participating in PAIP. With our PAIP, participants had an opportunity to enhance positive problem orientation via practice; participants expressed positive viewpoints of stressful problems encountered in everyday life, which might have led them to perceive stressful problems as a challenge, not a threat. Participants also had an experience to solve the problems by themselves throughout role play, which might have led them not to avoid stressful problems.

In contrast to the results of our study, Um, Lee, and Lim (2010) reported a significant difference in the overall SPSI-R between their experimental group and control group. The different results can be explained by differences in the total intervention time for problem solving ability (5 sessions in our study vs. 9 sessions in theirs). Therefore, we assume that it might be more effective to increase the intervention time and to consider individual intervention which might help foreign participants to focus on the program for improving the overall SPSI-R.

In conclusion, PAIP was found to improve self-esteem and depression in our study sample of rural international marriage migrant women. Although PAIP did not show a significant positive effect on the overall SPSI-R, it is considered significant in that avoidance style, which is strongly associated with psychological health (Penley, Tomaka, & Wiebe, 2002) significantly decreased after participating in PAIP.

Limitations of our study include that participants were recruited from several rural areas in South Korea, which limits the general

applicability of our study results and that our study only used self reports to evaluate the effects of the intervention program. Therefore, we need to collect data with various methods, including interview or observational data, to more clearly verify the effects of the program in future studies. Another limitation is that our study did not compare the level of fluency of Korean between the groups. Considering that verbal communication might be important for achieving the goal of cognitive behavioral therapy, future studies need to investigate the fluency of Korean in participants with objective measurement tool in advance of the intervention to more strongly present the effects of the program.

Conclusion

The results of this study suggested that PAIP was effective in increasing self-esteem and reducing depression, as both are known to be indicators for psychological adaptation. Therefore, PAIP may be used as an effective intervention to improve psychological adaptation among rural international marriage migrant women. However, the PAIP showed partially significant effects on the participants' social problem solving ability. Therefore, we need to review and modify the program contents to enhance social problem solving ability among rural international marriage migrant women.

This study has the following contributions to nursing science: (a) PAIP was developed and conducted by experts in mental health nursing and might contribute to the use of evidence-based nursing intervention for international marriage migrant women in the community; (b) this study was a first step toward assessing and trying to improve the social problem solving ability of international marriage migrant women; and (c) the study might contribute to the development of more effective psychosocial intervention programs, resulting in improving psychological adaptation in international marriage migrant women and might invigorate related studies.

Based on the results from our study, we recommend that future studies (a) investigate the changes in the participants' social problem solving ability induced by PAIP, which were not significant in our study, through supplementation and modification of the program contents; (b) identify the long-term effects of the program, and (c) investigate differences in the effects of the program in accordance with individuals' demographic characteristics such as country, educational level, religion, income, occupation, and migration period.

Conflict of Interest

None of the authors have any conflicts of interest to declare.

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References

- Bae, J., & Park, H. (2010). Depression and the influencing factors in Korean American immigrants. *Journal of Korean Academy of Psychiatric and Mental Health Nursing*, 19(1), 67–75.
- Bhugra, D. (2003). Migration and depression. *Acta Psychiatrica Scandinavica*, 108(Suppl. 418), 67–72.
- Bhugra, D. (2004). Migration and mental health. *Acta Psychiatrica Scandinavica*, 109(4), 243–258. <http://dx.doi.org/10.1046/j.0001-690X.2003.00246.x>
- Bradley, D., & Van Willigen, M. (2010). Migration and psychological well-being among older adults: a growth curve analysis based on panel data from the health and retirement study, 1996–2006. *Journal of Aging and Health*, 22(7), 882–913. <http://dx.doi.org/10.1177/0898264310368430>
- Carter, J. S., & Garber, J. (2011). Predictors of the first onset of a major depressive episode and changes in depressive symptoms across adolescence: Stress and

- negative cognitions. *Journal of Abnormal Psychology*, 120(4), 779–796. <http://dx.doi.org/10.1037/a0025441>
- Chinaveh, M. (2010). Training problem-solving to enhance quality of life: implication towards diverse learners. *Procedia Social and Behavioral Sciences*, 7, 302–310. <http://dx.doi.org/10.1016/j.sbspro.2010.10.042>
- Cho, M. J., Chang, S. M., Hahm, B. J., Chung, I. W., Bae, A., Lee, Y. M., et al. (2009). Prevalence and correlates of major mental disorders among Korean adults: A 2006 national epidemiologic survey. *Journal of Korean Neuro-psychiatric Association*, 48(3), 143–152.
- Choi, S. C., Yang, B. C., & Chon, K. K. (2001). Integrated adaptation of CES-D in Korea. *Korean Journal of Health Psychology*, 6(1), 59–76.
- Choi, Y. S. (2002). A study of the reliability and validity of the social problem solving inventory-revised (SPSI-R). *The Korean Journal of Clinical Psychology*, 21(2), 413–428.
- D'Zurilla, T. J., & Nezu, A. M. (1982). Social problem-solving in adults. In P. C. Kendall (Ed.), *Advances in cognitive behavioral research and therapy*. New York: Academic Press.
- D'Zurilla, T. J., & Nezu, A. M. (2007). *Problem solving therapy: A positive approach to clinical intervention* (3rd ed.). New York: Springer.
- Ellis, A. (2002). *Overcoming resistance: A rational emotive behavior therapy integrated approach*. New York: Springer.
- Faul, F., Erdfelder, E., Buchner, A., & Lang, A. G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, 41(4), 1149–1160. <http://dx.doi.org/10.3758/BRM.41.4.1149>
- Gomez, S. L., Kelsey, J. L., Glaser, S. L., Lee, M. M., & Sidney, S. (2004). Immigration and acculturation in relation to health and health-related risk factors among specific Asian subgroups in a health maintenance organization. *American Journal of Public Health*, 94(11), 1977–1984. <http://dx.doi.org/10.2105/AJPH.94.11.1977>
- Hoschl, C., Ruiz, P., Casas, M., Musalek, M., Gaebel, W., & Vavrusova, L. (2008). The impact of migration on mental health and mental illness. *European Psychiatry*, 23(Suppl. 2), S42. <http://dx.doi.org/10.1016/j.eurpsy.2008.01.154>
- Hovey, J. D., & Magana, C. G. (2002). Psychosocial predictors of anxiety among immigrant Mexican migrant farm workers: Implications for prevention and treatment. *Cultural Diversity and Ethnic Minority Psychology*, 8(3), 274–289. <http://dx.doi.org/10.1037/1099-9809.8.3.274>
- Jeon, B. J. (1974). Self-esteem: A test of its measurability. *Yonsei Nonchong*, 11, 107–129.
- Jeong, N., & Lee, M. H. (2010). A predictive model on health promotion behavior in women who immigrate for marriage. *Journal of Korean Academy of Nursing*, 40(5), 695–704. <http://dx.doi.org/10.4040/jkan.2010.40.5.695>
- Kim, H. J. (2008). A study of spousal support, the demand for health education, and quality of life for married female immigrants. *Korean Journal of Women Health Nursing*, 14(1), 5–11.
- Kim, H. S. (2010). Social integration and health policy issues for international marriage migrant women in South Korea. *Public Health Nursing*, 27(6), 561–570. <http://dx.doi.org/10.1111/j.1525-1446.2010.00883.x>
- Kim, H. S. (2011). Impacts of social support and life satisfaction on depression among international marriage migrant women in Daegu and Kyungpook area. *Journal of Korean Academy of Psychiatric and Mental Health Nursing*, 2(2), 188–198.
- Kim, J., & Chyun, C. W. (2012). The self-esteem of immigrant women in rural areas effects on the family cohesion and adaptability: Around Jeonbuk Mujugun area. *Korean Journal of Local Government and Administration Studies*, 26(1), 107–126.
- Kim, J. H., & Park, O. I. (2008). Comparative analysis on family conflict and life satisfaction between rural and urban immigrated women. *The Journal of Rural Society*, 18(1), 127–160.
- Kim, S. G., & Lee, C. J. (2010). The effect of linguistic ability and social support on adjustment among women of multicultural families in Korea. *Korean Journal of Family Welfare*, 15(1), 5–20.
- Korea National Statistics Office. (2012). Marriage rate for Korean men and foreign women: Population movement study. Retrieved April 19, 2012, from <http://kosis.kr/nsportal>
- Kwon, G. Y., & Park, K. W. (2007). A study on influence factors to the mental health of foreign wives. *Social Research*, 14(2), 187–219.
- Kwon, M. H. (2011). Effects of accumulative cultural stress of women migrated for marriage on their psychological wellbeing-focused on mediating and moderating effects on psychosocial resources. *Korean comparative Government review*, 15(1), 275–302.
- Lee, C. J., & Kim, S. G. (2010). Social networks and psychological adjustment of female foreign immigrants in Korea. *Korean Journal of Family Welfare*, 15(4), 73–91.
- Lee, M. Y., & Kang, K. J. (2007). Effects of a reality therapy group program for improving the self-esteem and marriage satisfaction of migrant women. *Korean Journal of Family Welfare*, 15(2), 29–44.
- Lim, H. S. (2010). The impact of acculturative stress and perceived social support on depression of marriage based immigrant women in Korea: An examination of moderating and mediating effects of social support. *Korean Journal of Family Welfare*, 15(2), 27–45.
- Lim, S., Oh, S., & Han, G. (2009). Predictors of depression and anxiety among foreign wives through marriage migration. *The Korean Journal of Woman Psychology*, 14(4), 515–528.
- Maydeu-Olivares, A., & D'Zurilla, T. J. (1996). A factor-analytic study of the social problem solving inventory: an integration of theory and data. *Cognitive Therapy and Research*, 20(2), 115–133. <http://dx.doi.org/10.1007/BF02228030>
- Nam, I. S., & Ahn, S. H. (2011). Comparison of stress, social support, and marital satisfaction between married immigrant women in urban and rural areas. *Korean Journal of Women Health Nursing*, 17(2), 99–108.
- Nezu, A. M., Nezu, C. M., & Perri, M. G. (1989). *Problem-solving therapy for depression: Therapy, research, and clinical guidelines*. New York: Wiley.
- Oh, S. H., & Park, K. H. (2007). A study of Korean immigrants in Australia: Factors affecting immigrant's psychological health. *The Korean Journal of Social and Personality Psychology*, 21(4), 55–69.
- Park, A. K. (2011). The study of the application of the cognitive behavioral model for social adaptation improvement among female victims from family violence focused on the shelter residents. *21st Century Social Work Research*, 8(1), 31–59.
- Penley, J. A., Tomaka, J., & Wiebe, J. S. (2002). The association of coping to physical and psychological health outcomes: A meta-analytic review. *Journal of Behavioral Medicine*, 25(6), 551–603. <http://dx.doi.org/10.1023/A:1020641400589>
- Prachakul, W., Grant, J. S., & Keltner, N. L. (2007). Relationships among functional social support, HIV-related stigma, social problem solving, and depressive symptoms in people living with HIV: a pilot study. *The Journal of the Association of Nurses in AIDS Care*, 18(6), 67–76. <http://dx.doi.org/10.1016/j.jana.2007.08.002>
- Radloff, L. S. (1977). The CES-D scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement*, 1(3), 385–401. <http://dx.doi.org/10.1177/014662167700100306>
- Radloff, L. S., & Locke, B. Z. (1983). *The community mental health survey and CES-D scale*. Rockville, MD: National Institute of Mental Health.
- Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.
- Shin, H. S., Han, H. R., & Kim, M. T. (2007). Predictors of psychological well-being amongst Korean immigrants to the United States: A structured interview survey. *International Journal of Nursing Studies*, 44(3), 415–426.
- Siu, A. M. H., & Shek, D. T. L. (2010). Social problem solving as a predictor of well-being in adolescents and young adults. *Social Indicators Research*, 95(3), 393–406. <http://dx.doi.org/10.1007/s11205-009-9527-5>
- Um, H. Y., Lee, H., & Lim, Y. (2010). Effects of a problem-solving program on problem-solving ability, self-esteem, and depression for middle school girls. *Journal of Korean Academy of Psychiatric and Mental Health Nursing*, 1(3), 318–328.
- Yang, J. H., Park, H. J., Kim, S. S., Kang, E. J., Byun, S. H., & Bang, J. S. (2012). Adaptation experience to family of immigrant women in multicultural families. *Journal of Korean Academy of Nursing*, 42(1), 36–47. <http://dx.doi.org/10.4040/jkan.2012.42.1.36>
- Yang, O. K., & Kim, Y. S. (2007). A study on the effects of depressiveness among foreign wives through marriage migration. *Mental Health and Social Work*, 26(8), 79–110.