

Cardiopulmonary Resuscitation and First-Aid Training Program for Vietnamese Marriage-Migrant Women

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Abstract

This study was conducted among Vietnamese marriage-migrant women to investigate the effect of both cardiopulmonary resuscitation (CPR) and first-aid training on their knowledge and attitude towards CPR, self-efficacy, and understanding of first aid. CPR and first aid performed by the first witness of a cardiac arrest can directly affect the prognosis of the patient. Therefore, CPR training and relevant information should be continually provided for Vietnamese marriage-migrant women.

Keywords: *cardiopulmonary resuscitation, knowledge, attitude, self-efficacy, coping with emergency situations*

1. Introduction

In 2014, 48.4% of all foreign residents were women, the number of marriage migrants was 149,764, and people of Chinese nationality comprised the largest group of marriage migrants, followed by people of Vietnamese nationality [1]. Outside the hospital, cardiac arrests occur most frequently at home, followed by a public place and in the street. A majority of cardiac arrest cases are witnessed by family members or the public [2]. Mortality increases as time between the onset of cardiac arrest and CPR increases; however, survival rate is reported to be 2-3 times if cardiopulmonary resuscitation (CPR) is performed by a witness [3]. Hence, there is an increasing recognition for the need to educate the general public on CPR [4].

Korea has a higher rate of safety accidents (37.4%) compared to advanced countries such as the US (30.2%) and Australia (12.4%) [5]. Furthermore, a high proportion of child safety accidents involve infants and toddlers under the age of 6 (e.g. 79.4% over 3 years from 2012 to 2014) [5]. Child safety accidents primarily occur at home. Although they occur mostly in the presence of a parent or other family members as first witnesses, it is difficult for parents to handle an emergency situation appropriately, because most parents do not have specialized knowledge regarding first aid [6].

The present study was conducted as a part of an educational program to train Vietnamese marriage-migrant women on first aid to enable them to cope with emergency situations at home that might happen to their children.

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2. Materials and methods

All printed material, including text, illustrations, and charts, must be kept within the parameters of the 8 15/16-inch (53.75 picas) column length and 5 15/16-inch (36 picas) column width. Please do not write or print outside of the column parameters. Margins are 1 5/16 of an inch on the sides (8 picas), 7/8 of an inch on the top (5.5 picas), and 1 3/16 of an inch on the bottom (7 picas).

2.1. Data collection and participants

Study participants were Vietnamese marriage-migrant women with an infant or toddler under the age of 3, who were registered as members of a cultural center located in the J province. All participants were informed of the study objectives and gave their informed consent to participate in the study. We conducted the study using this specific population for the following reasons. First, Vietnamese make up 22.7%–34.3% of all marriage-migrant women who settled in Korea, which is the largest group [7]. Second, most of Chinese marriage-migrant women are of Korean descent, with a very similar culture to the Korean culture. Vietnamese migrant women have difficulties in raising their children in Korea due to cultural differences [8][9][10]. Third, there is an average age difference of about 17.0 years between Vietnamese marriage-migrant women and their husbands, and they are typically not fluent in Korean because there is relatively less communication with their husbands [11]. In other words, not only do Vietnamese marriage-migrant women express on their parenting difficulties in the Korean society more often than other marriage-migrant women, they are also restricted to fewer educational opportunities due to the language barrier. Lastly, infants and toddlers tend to have strong curiosities and impulses; therefore, they have a high risk of accidents [6]. The most important person to accurately recognize and handle an emergency situation involving an infant or toddler is the mother, but marriage-migrant women may not appropriately perform first aid in an emergency, because of a lack of knowledge [12].

2.2. Measures

2.2.1. Knowledge on CPR: We used an instrument developed by Park et al. [13] to measure knowledge on CPR based on the instructor's manual used by first responders of the US National Highway Traffic Safety Administration. Of the 15 items on knowledge on CPR, one item was revised by changing the ratio of chest compression to artificial respiration from 15:2 to 30:2 according to the most recent AHA guidelines. Each item was scored 1 point for the correct answer and 0 point for an incorrect answer, with a possible total score ranging 0–15 points. A high total score indicated a high level of knowledge.

2.2.2. Attitude to CPR: Attitude to CPR was measured using an 11-item instrument developed by Park et al. [13]. Each item was measured on a 5-point Likert scale, with the positive answer “very likely” given 5 points and the negative answer “very unlikely” 1 point. Negatively phrased items were reverse-scored. A total score could range between 11 and 55, with a high score indicating a more positive attitude to CPR. The instrument's Cronbach's alpha was .80 in Lee et al. [4] and .76 in the current study.

2.2.3. Self-efficacy: Self-efficacy regarding CPR was assessed with a single item: “How confident are you in performing CPR if a cardiac arrest occurs?” The response category “I

can perform CPR very well” was scored 5 points and the response category “I cannot perform CPR at all” was scored 1 point. A high score meant a high level of self-efficacy.

2.2.4. Knowledge on coping with emergency situations: To measure knowledge on coping with emergency situations, we constructed 20 items based on both of the instruments used in previous research on first-aid methods in emergency situations involving infants and toddlers [14][15][16] and the AHA Guidelines for CPR and emergency cardiovascular care. Consent was obtained from the developers of the original instrument. Considering the characteristics of marriage-migrant women, we composed the items in simple and easy-to-understand sentences. Then, the instrument was tested by 2 emergency medicine physicians and 3 professors of pediatric nursing to compute a content validity index (CVI). The finalized instrument consisted of a total of 19 items, each of which was scored 1 point for the correct answer and 0 point for an incorrect answer. A high total score indicated a high level of knowledge about coping with an emergency.

2.3. Data analysis

Data analysis was conducted using SPSS for Windows, version 18.0 (IBM Corporation, Armonk, NY, USA). Homogeneity test of general characteristics and dependent variables was conducted via χ^2 -test and t-test. Knowledge and attitude towards CPR, self-efficacy, and knowledge about coping with emergency situations were compared between the experimental and the control groups using paired t-test and independent t-test. Content validity and reliability of the measurement instruments used in the study were tested with CVI and Cronbach’s alpha coefficients.

3. Results

The effects of CPR and first-aid training program are shown in Table 1. After the administration of the training program, the score for knowledge on CPR was 10.23 ± 2.65 points in the experimental group and 6.10 ± 2.36 points in the control group, showing a significant between-group difference ($t = 3.26, p = 0.002$). Regarding attitude towards CPR, the score was 42.48 ± 5.49 points in the experimental group and 36.76 ± 3.66 points in the control group, with a significant difference between groups ($t = 4.46, p = 0.019$). The groups also showed a significant difference in self-efficacy (2.45 ± 0.67 points in the experimental group vs. 1.86 ± 0.57 points in the control group; $t = 2.77, p = 0.010$), as well as in knowledge on coping with an emergency situation (10.91 ± 2.58 points in the experimental group vs. 6.48 ± 2.86 points in the control group; $t = 2.77, p = 0.008$).

4. Conclusion

The current study confirmed that the CPR and first-aid training improved knowledge, attitude, and self-efficacy towards CPR and knowledge on first aid in Vietnamese marriage-migrant women. Most Vietnamese marriage-migrant women live in farming or fishing villages with low accessibility to a healthcare facility. Accordingly, CPR and first aid performed by the first witness of a cardiac arrest can have a direct influence on the prognosis of the patient. Therefore, CPR training and relevant information should be continually provided to them.

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Table 1. Comparison of knowledge and attitude on CPR, self-efficacy, and knowledge on coping with an emergency situation among the two groups (n = 43)

Variables	Groups	Pretest	Posttest	Difference	t (p)
		Mean±SD	Mean±SD	Mean±SD	
Knowledge on CPR	Exp. (n=22)	5.91 ± 2.89	10.23±2.65	4.32±3.98	3.26 (0.002)
	Cont.(n=21)	5.62± 2.92	6.10±2.36	0.48±3.74	
Attitude towards CPR	Exp. (n=22)	36.95± 3.31	42.48±5.49	5.16±5.48	4.46 (0.019)
	Cont.(n=21)	36.16±3.96	36.76±3.66	0.60±3.90	
Self-efficacy	Exp. (n=22)	2.05 ± 0.49	2.45±0.67	0.41±0.80	2.77 (0.010)
	Cont.(n=21)	1.95± 0.50	1.86±0.57	-0.10±0.30	
Knowledge on coping with an emergency situation	Exp. (n=22)	6.91 ± 3.31	10.91±2.58	4.00±4.46	2.77 (0.008)
	Cont.(n=21)	6.43± 3.40	6.48±2.86	0.05±4.89	

CPR= Cardio-pulmonary resuscitation.

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