

## Factors Associated with the Practice of Traditional Prenatal Education (Taegyo) among Pregnant Korean Women

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**Purpose:** Recently as couples have only one or two children, they concern about their children's optimal health. Furthermore, as the basic principles of Korean traditional prenatal education (Taegyo) are supported by scientific evidence, and as increasing numbers of pregnant women are recognizing Taegyo refresh, the practice of Taegyo is growing. The purpose of this study was to identify the factors associated with the practice of Taegyo among pregnant Korean women. **Methods:** This was a cross-sectional, survey study of 228 pregnant women recruited at a health center in South Korea using a convenience sampling method. The instruments included the perception of Taegyo scale, the spouse's support scale, the self-confidence for infant care scale, and the practice of Taegyo scale. The data were analyzed using descriptive statistics and multiple regression analyses. **Results:** The results of the stepwise multiple regression analysis indicated that the following factors accounted for 26.5% of the variance in the practice of Taegyo: the perception of Taegyo, family income. **Conclusion:** Consequently, this result showed that the pregnant women were influenced by family income, spouses' support as requisite factors, and also they developed the level of self-confidence for infant care and the perception of Taegyo as self-care agency for the practice of Taegyo. The present study findings will add to the accumulated knowledge of health care professionals about the cultural factors involved in the practice of Taegyo and the traditional cultural beliefs and culture-specific health promoting behaviors of ethnic minority pregnant women to provide culturally competent care for them.

**Key Words:** Tradition, Prenatal care, Education, Pregnant women

### INTRODUCTION

In earlier times, women learned about and prepared for childbearing and childrearing from their extended family members such as mother, mother-in-law, aunt, and grandmother (Ho, Holroyd, 2002). Taegyo is a traditional custom for prenatal education that has descended to modern times and consists of various self-care behaviors that Korean parents intentionally perform in everyday life for their baby's physical and psychological, growth and development (Chang, Park, & Chung, 2004). Taegyo exerted great influence on pregnant women in traditional times, but its influence slowly decreased with rising scientific uncertainty following the introduction of western medicine (Cho,

1987). In the initial stage of this introduction, health care professionals emphasized the treatment of pregnant women based on their physical health and normal fetal physical growth and physiological development (Kim, 1996). The resulting prenatal education from health care professionals was primarily programmed to deal with prenatal care focused on physical and pathophysiological checks, the process of labor, pain relief in labor, a tour of the delivery room, management of emotional problems, postnatal care, breastfeeding, newborn care, and common problems in neonates (Ho, Holroyd, 2002; Kim, 1996).

Recently as couples have only one or two children (Lee, Shin, & Jo, 2005), they concern about their children's optimal health. Furthermore, as the basic prin-

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ciples of Taegyo are supported by scientific evidence, and as increasing numbers of pregnant women are recognizing Taegyo refresh, the practice of Taegyo is growing (Chang, Park, & Chung, 2004; Choi, Kim, 1995). In particular, nowadays pregnant women want to take active control of their bodies in the practice of prenatal care (Cho, 1987). Chang, Park, Choi, & Chung (1996) described the components of Taegyo as being fetal psychological stability (equity), fetal personality development, maternal-fetal interaction, fetal intellectual development and physical health promotion. They concluded that Taegyo was the multidimensional, goal-oriented, and active self-care of Korean pregnant women. It is important that pregnant women adhere to self-care and are empowered in their self-care (Toljamo, Hentinen, 2001). Self-care as a human regulatory function is performed to maintain physical and psychological functioning and support personal development at all levels of dependency by managing the internal and external factors that contribute to personal well-being. It must be learned and carried out continuously according to the individual's state of health (Orem, 2001; Pearson, Vaughan, & Fitzgerald, 2005). Croghan (2005) reported that if a woman believed that her behavior during pregnancy would have a major influence on her baby, and if she wanted to maintain or change to a good and new behavior, then identifying her internal and external factors will help her succeed in changing her health or lifestyle behavior. Therefore, the development of a culturally sensitive Taegyo program promises to enhance the knowledge and provide guidance for health care professionals. The purpose of this study was to identify the factors associated with the practice of Taegyo among pregnant Korean women.

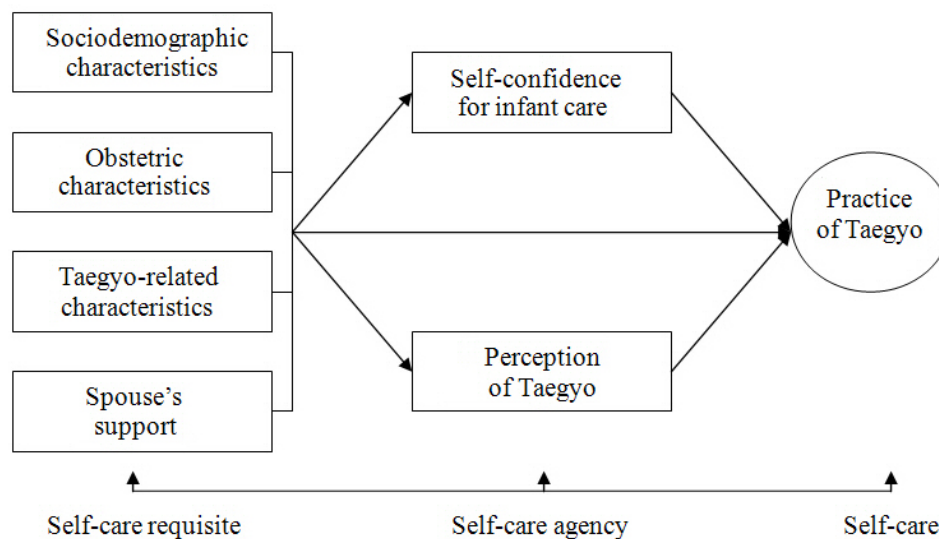
#### A. Theoretical basis

Orem's self-care theory served as the conceptual framework for this study.

Self-care theory includes three elements: self-care requisites, self-care agency, and self-care (Denyes, Orem, & SozWiss, 2001). Self-care requisites represent the internal or external factors that affect a person's abilities to care for self (Denyes, Orem, & SozWiss, 2001; Wilson, Mood, Risk, & Kershaw, 2003), and comprise the following ten basic conditioning factors: "Age; gender; developmental state; health state; socio-cultural orientation; health care system factors, for example, medical diagnostic and treatment modalities;

family system factors; pattern of living, including activities regularly engaged in; environmental factors; and resource availability and adequacy" (Denyes, Orem, & SozWiss, 2001; Orem, 2001, p. 245). Self-care agency, personal powers and abilities for action are developed, "through the spontaneous learning, intellectual curiosity, instruction and supervision from others, and experience in performing self-care measures" (Orem, 2001, p. 255). It is possible to examine self-care agency through an individual's, "skill repertoires and the kinds of knowledge he/she has and uses" (Orem, 2001, p. 256). Self-care is action to control or regulate one's own function and development in stable or changing environments (Orem, 2001). Because self-care is a purposeful, sequential, and patterned action, when persons use self-care deliberately, it helps to regulate or maintain their own structural integrity for promoting health and well being under existent or changing environmental conditions (Orem, 2001, p. 43). Self-care requisites influence both self-care agency and self-care practice (Wilson, Mood, Risk, & Kershaw, 2003). For example, Slusher (1999) reported a significant positive correlation between healthy adolescents' self-care agency and self-care practice. Campbell & Weber (2000) proposed a model of women's responses to battering that age, education and cultural influences, as basic conditioning factors, directly affected both self-care agency and relational conflict on health. Nevertheless, Hart (1996) found no significant relationships between the pregnancy variables (basic conditioning factors) and pregnant women's self-care agency, and rather pregnancy among the basic conditioning factors only showed a direct negative effect on basic prenatal care actions. However, self-care agency showed a direct relationship with basic prenatal care actions and foundations for dependent care agency (self-care actions). In conclusion, further assessment is needed of pregnant women's educational level, motivation, decision-making, physical ability, environment, social support, family, and economic status in order to improve the engagement in prenatal care activities (Hart, 1996).

Therefore, in this study, self-care requisite was evaluated by sociodemographic (age, religion, education, family income, marital satisfaction), obstetric (desired gender of baby, planned pregnancy), Taegyo-related characteristics (source of Taegyo information, having family members who practiced Taegyo) questionnaires, and spouse's support scale. For self-care agency, self-confidence for infant care scale, and perception of



**Figure 1.** Theoretical and measurement model for the practice of Taegyo.

Taegyo scale were measured in this study. In addition, self-care was determined by the practice of Taegyo scale. Based on Orem's self-care theory, this analysis tested the following hypotheses. (1) Sociodemographic, obstetric- and Taegyo-related characteristics, and the existence and quality of spousal support are positively related to self-confidence in a woman's capacity for infant care, and her perception of Taegyo. (2) Self-confidence in a woman's capacity for infant care, and perception of Taegyo are positively related to a woman's practice of it. (3) Pregnant women who have good spousal support, self-confidence in their ability to care for their infants, and a high level of perception of Taegyo have a high level of practicing Taegyo. The hypothesized model is shown in Figure 1.

## METHODS

### A. Sample and setting

This was a cross-sectional, descriptive survey study among 228 pregnant women in South Korea using written questionnaires. The pregnant women were recruited at a health center using a convenience sampling method. This health center is the biggest of ten health centers in the southeast province and has worked for health programs for mothers and children. The monthly mean participant number of each program was 34 pregnant women during January 1 to July 31, 2005. The eligibility for the study was pregnant

women with normal progress who were literate in Korean. Based on an alpha of .05, a medium effect size of .15, and 12 independent variables with the power of .95, the number of participants for multiple regression was 161 (Cohen, 1988).

### B. Measurements

Sociodemographic questions included age, religion, education, family income, and marital satisfaction. Obstetric- and Taegyo-related characteristics, such as the desired gender of baby (1 if male; 2 if female; and 3 if one of male or female), planned pregnancy (1 if yes; 2 if no), the source of Taegyo information (1 if by herself; 2 if others), and having family members who practiced Taegyo (1 if pregnant woman only; 2 if pregnant woman with spouse; 3 if pregnant woman with spouse and family). Four instruments were used in this study. The spouse's support scale by Ahn (2001), 10-item, ordinal spouse's support scale measured the level of support from the spouse, with items such as, "I tell household problems at ease with my husband." Item responses were summed with higher scores indicating greater spousal support. Cronbach's alpha was .92 in this study, compared to .91 in previous study (Ahn, 2001). The self-confidence for infant care scale by Park (1991), 38-item, ordinal-scale instrument includes questions about the mother's confidence in her abilities of feeding, bathing, checking safety and health statuses, maintaining hygiene, and knowing in-

fants' cues, with items such as, "I can change baby's diapers excellently." Higher scores indicated more confidence for infant care. Cronbach's alpha was .95 in this study, compared to .96 in previous study (Park, 1991). The perception of Taegyo scale by Shin (2000), included 17 ordinal-scale items, such as, "I think pregnant woman's emotional or health status has an influence on the fetus." The higher scores indicate a higher level of knowledge of Taegyo. Cronbach's alpha was .89 in this study, compared to .88 in previous study (Shin and Ko, 2000). The practice of Taegyo scale by Ahn (2001), a 50-item, ordinal-scale instrument, obtains five sub-dimensions of fetal personality development, for example, "I tried to think happy things", fetal physical health promotion, such as, "I tried to eat meats and vegetables good for the fetus", fetal psychological stability, such as, "I tried not to hate or find fault with someone", fetal intellectual development, such as, "I tried to see good paintings", and maternal-fetal interaction, such as, "I prayed for a healthy baby to be born." Higher scores indicated more practice of Taegyo for the baby's growth and development. Cronbach's alpha was .93 in this study, compared to .93 in previous study (Ahn, 2001).

### C. Data collection procedure

In this study, all women attending specific antenatal classes provided by a health center were approached and asked if they would participate in the study just before starting the antenatal classes. Before contacting the participants, researchers obtained permission from the director and the manager of the health center. Participants were given information on the purpose and process of data collection, possible benefits and risks, how confidentiality and anonymity was guaranteed, and the option to withdraw from the study at any time. Of the 250 participants who consented to participate in the study and received a questionnaire, 228 (91.2% of all eligible) completed the questionnaire fully. Their participation was voluntary, and there was no physical risk to the participants. The participants took approximately 10~15 minutes to fill out the questionnaire. One of the researchers distributed and collected the self-administered questionnaires. As soon as the questionnaires were collected, any personal information linked to the identity of the participants was removed and a serial code number was given to each questionnaire. The study procedure was approved by the Internal Review Board (IRB) of the University of

Texas at Austin.

### D. Data analysis process

For the data analysis, descriptive and inferential statistical analyses were performed using the SPSS/WIN 15.0 program. The sociodemographic data were analyzed using descriptive statistics including the mean, standard deviation and frequency, percentage, and range to provide a profile of the women. Pearson product-moment correlation analysis was employed to examine Hypotheses (1) and (2). Multiple regression analysis was used to examine Hypothesis (3). All calculations used actual values, and adjustments were not made for missing data. For all tests, a *p*-value of less than .05 (two-tailed) was considered statistically significant.

## RESULTS

### A. Characteristics of participants

The average age of participants was  $29.18 \pm 3.46$  years and 76.3% were college or university graduates. The marriage was rated as satisfactory by 76.3%. The average monthly income of family was  $1,994 \pm 0.925$  million Korean won, 71.9% were planned pregnancies, 71.9% had themselves sought information about Taegyo, 53.1% practiced Taegyo with their spouses, 2.6% practiced with their spouses and family, but 40.4% practiced by themselves. Table 1 summarizes the sociodemographic, obstetric, and Taegyo-related characteristics of the participants.

### B. Factors influencing the practice of Taegyo

The average spouse's support score was  $4.26 \pm 0.63$ , indicating that women often felt support from their spouses during pregnancy. The average self-confidence for infant care score was  $3.09 \pm 0.57$ , indicating that women were confident of an average ability to care for infants before childbirths. The average perception score of Taegyo was  $4.45 \pm 0.41$ , showing that women had a high level of recognition for practicing Taegyo. Among the participants, 94.7% practiced Taegyo to some degree. The average practice of Taegyo score was  $3.54 \pm 0.46$ , indicating that women commonly performed Taegyo for babies, and the order of highest score of sub-dimensions was maternal-fetal interaction ( $3.90 \pm 0.60$ ), fetal physical health promotion ( $3.82 \pm 0.49$ ), fetal personality development ( $3.54 \pm$

**Table 1.** Sociodemographic, Obstetric, and Taegyo-related Characteristics of the Pregnant Women (n=228)

Characteristics	Categories	n (%)	M±SD	Range
Age (year)			29.2±3.46	21~43
Religion	Christian	33 (14.5)		
	Catholic	20 (8.8)		
	Buddhism	75 (32.9)		
	Others	5 (2.2)		
	No religion	87 (38.2)		
	Missing	8 (3.5)		
Education	Middle school graduated	1 (0.4)		
	High school graduated	48 (21.1)		
	College graduated	174 (76.3)		
	Missing	5 (2.2)		
Family income (10,000 won)			199.4±92.51	
Marital satisfaction	Satisfied	174 (76.3)		
	Neutral	46 (20.2)		
	Dissatisfied	1 (0.4)		
	Missing	7 (3.1)		
Desired gender of baby	Male	42 (18.4)		
	Female	25 (11.0)		
	One of male or female	156 (68.4)		
	Missing	5 (2.2)		
Planned pregnancy	Yes	164 (71.9)		
	No	51 (22.4)		
	Missing	13 (5.7)		
Source of Taegyo information	By herself	164 (71.9)		
	Others	56 (24.4)		
	Missing	8 (3.5)		
Having family members who practiced Taegyo	Pregnant woman only	92 (40.4)		
	Pregnant woman with spouse	121 (53.1)		
	Pregnant woman with spouse and family	6 (2.6)		
	Others	1 (0.4)		
	Missing	8 (3.5)		

0.57), fetal psychological stability (3.39 ± 0.59), and fetal intellectual development (2.91 ± 0.60) (Table 2).

In relation to hypotheses (1) and (2), spouse's support ( $r=.36$ ,  $p<.001$ ), family income ( $r=.34$ ,  $p<.001$ ) showed significant relationship with the perception of Taegyo. The practice of Taegyo was positively correlated with family income ( $r=.43$ ,  $p<.001$ ), perception of Taegyo ( $r=.41$ ,  $p<.001$ ), spouse's support ( $r=.33$ ,  $p<.001$ ), and self-confidence for infant care ( $r=.20$ ,  $p<.05$ ) (Table 3).

For hypothesis (3), I entered the spousal support,

self-confidence for infant care, family income, and the perception of Taegyo variables into the equation. The result of stepwise multiple regression analysis showed that the following subsets of predictor of the practice of Taegyo accounted for 26.5% of the variance in the practice of Taegyo: family income, the perception of Taegyo (Table 4). The family income ( $\beta=.33$ ,  $p=.00$ ) explained 18.6%, the perception of Taegyo ( $\beta=.30$ ,  $p=.01$ ) explained 7.9% of the variation in the practice of Taegyo.

**Table 2.** Mean Scores and SD for 5-point Measure Scales and Subscales

Measure	Minimum	Maximum	Range	M±SD
Spouse's support	1.70	5.00	3.30	4.26±0.63
Self-confidence for infant care	1.16	4.63	3.47	3.09±0.57
Perception of Taegyo	2.71	5.00	2.29	4.45±0.41
Practice of Taegyo	1.74	4.82	3.08	3.54±0.46
Fetal personality development	1.22	4.78	3.56	3.54±0.57
Fetal physical health promotion	2.00	4.83	2.83	3.82±0.49
Maternal-fetal interaction	1.28	5.00	3.72	3.90±0.60
Fetal psychological stability	1.80	5.00	3.20	3.39±0.59
Fetal intellectual development	0.50	4.75	4.25	2.91±0.60

Note. Mean scores were calculated from the following 5-point scale: 1=never, 2=seldom, 3=sometimes, 4=often, 5= always.

**Table 3.** Correlations between Sociodemographic, Obstetric, and Taegyo-related Characteristics, Perception of Taegyo, and Practice of Taegyo

Variables	1	2	3	4	5
1. Practice of Taegyo	1				
2. Perception of Taegyo	.41**	1			
3. Self-confidence for infant care	.20*	.14	1		
4. Spouse's support	.33**	.36**	.07	1	
5. Family income	.43**	.34**	.20*	.41**	1

\* $p < .05$ ; \*\* $p < .001$ .

**Table 4.** Stepwise Multiple Regression Statistical Model Predicting Practice of Taegyo

Variables	B	SE	$\beta$	t	$p$	Cum. $R^2$	F ( $p$ )
(Constant)	1.60	.57		2.80	.01		
Family income	0.00	.00	.33	3.12	.00	.186	17.36 (.00)
Perception of Taegyo	0.38	.13	.30	2.83	.01	.265	8.02 (.01)

Cum.  $R^2$ =Cumulative  $R^2$ .

## DISCUSSION

Although Pearson product-moment correlation analysis indicated that family income, perception of Taegyo, spouse's support, and self-confidence for infant care were associated with the practice of Taegyo, the results of multiple regression analysis indicated that only two variables, such as family income and perception of Taegyo accounted for a significant amount of the variance in the practice of Taegyo among pregnant

Korean women.

Of sociodemographic characteristics, family income was a predictor of the practice of Taegyo, indicating that pregnant women considered the costs associated with the ongoing practice of Taegyo, because they recognized Taegyo as being the beginning of private education (Yonhop News, 2005). This finding gave us new insight into how Korean parents exert an effort into their children's education. As the total fertility rate of Korea has declined to 1.08 in 2005, parents with on-

ly one child are becoming more common (Korea National Statistical Office, 2006). Thus, they try to pay for good Taegyo and health care due to their desire to ensure high quality for their baby's growth and development (Kuki News, 2006).

In addition to family income, self-confidence for infant care was associated with the practice of Taegyo, and a significant correlation was revealed with spouse's support. This finding was consistent with the notion that as pregnant women felt more competent to take care of their infants under careful consideration of spouses, they formed a relationship with their babies more easily and they practiced Taegyo better (Lee, 1998; Ahn, 2001).

Although I could not demonstrate the correlation between having family members who practiced Taegyo as a significant variance and the practice of Taegyo, 55.7% of the pregnant women already have practiced Taegyo with their spouses or family members. This suggested that when the spouses and family members together helped and shared with the pregnant women in practicing Taegyo, it would be more effective than if the woman alone, or even with her spouse, practiced. This finding stresses the need for health care professionals to encourage family-centered care for the pregnant family. The relationship between having family members who practiced Taegyo and the practice of Taegyo was explored from the previous studies (Choi, Kim, 1995; Ahn, 2001), which reported a significant relationship between them using Pearson product-moment correlation analysis.

Finally, the finding that the perception of Taegyo was predictive of practicing Taegyo was not surprising, because the perception of Taegyo was related to the way that pregnant women thought about it, for which they showed a high average score of 4.450 (five-point scale). Of the previous studies, only one (Shin, Ko, 2000) reported that the predictors of the practice of Taegyo totally explained 24% of the variation, which comprised recognition of Taegyo ( $R^2=.16$ ), time of starting Taegyo ( $R^2=.03$ ), health condition ( $R^2=.02$ ), intended pregnancy ( $R^2=.01$ ), marital satisfaction ( $R^2=.01$ ), and religion ( $R^2=.01$ ). Of the predictors of the practice of Taegyo in this study, the perception of Taegyo was compatible with the findings of Shin & Ko (2000), and might be explained by the fact that knowledge about Taegyo could help to encourage self-care and the practice of Taegyo for the baby. With respect to spouse's support, among sociodemographic, obstetric, and Taegyo-related characteristics, this

characteristic revealed a significant correlation factor over all of family income, perception of Taegyo, and practice of Taegyo. This suggested that pregnant women needed and were affected by spouses' help, from which they were convinced and gained knowledge, which led to the practice of Taegyo. That is, the level of perception of Taegyo could determine the level of the practice of Taegyo and in itself could empower pregnant women in their daily lives to participate in Taegyo with the assistance of their spouses. Especially, with the frequency among the five sub-dimensions of practicing Taegyo in this study, pregnant women showed a strong relationship in the decreasing order of interaction between mother and baby, and physical, personality, psychological, and intellectual development for baby.

Consequently, this result showed that the pregnant women were influenced by family income, spouses' support as requisite factors, and also they developed the level of self-confidence for infant care and the perception of Taegyo as self-care agency for the practice of Taegyo.

Although little research has focused on Taegyo, the findings from this study will add to the knowledge of health care professionals about the determinants of the cultural practice of Taegyo among pregnant Korean women.

## CONCLUSION

Based on the study findings, the following implications are suggested. First, health care professionals need to understand traditional cultural beliefs and culture specific health promoting behaviors of ethnic minority pregnant women to provide culturally competent care for them. Second, the planning of prenatal classes for Korean women has to be based on needs assessment of the pregnant women with Taegyo-focused contents that confirm the importance of cultural relevance. Third, because the participation of the spouses and other family members in Taegyo was identified as a very important factor in the practice of Taegyo, health care professionals have to encourage them and focus on developing their supporting role programs. Fourth, Taegyo-focused education programs targeted at pregnant women from disadvantaged families should be conducted in all health centers.

The study had some limitations, which necessitate caution in interpreting the results.

First, although a systemic data collection procedure

was applied, participant selection bias may have arisen due to the use of a convenience sampling method. The pregnant women who participated in this study were all active members of the health center's programs, suggesting a higher level of self-motivation for improving their pregnancy and consequently an increased likelihood of practicing Taegyo than the general population of Korean pregnant women.

Second, as the pregnant women who participated in this study were not fully representative of all pregnant women in South Korea, caution should be taken in generalizing the study results.

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