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Maternal Health Status and Behaviours of Immigrant Women

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Abstract

Background/Objectives: The purposes of this study were to explore the type and frequency of material health status and behaviors in immigrant women and to examine factors affecting maternal health outcomes. **Methods/Statistical analysis:** This cross-sectional study was conducted with a sample of 106 female marriage immigrants. A well-developed questionnaire was used to measure health-related needs and behaviors and socio-demographic data. The data collection was conducted by face-to-face interview and translators were used when needed. **Results:** The main findings showed that 33% of participants used birth control methods, 54% performed exclusive breastfeeding for six months, 78% received prenatal care, 67% received postpartum care, 19% had at least one health problem associated with pregnancy, and 21% experienced natural or induced abortion. These indicate that the immigrant participants tend to have somewhat different health problems and behaviors as compared with the general Korean female population. Furthermore, determining factors associated with maternal health outcomes were age, original nationality, employment status, communication experiences with husband and parents-in-law, knowledge about public health center services, and needs for childrearing services in public health centers. **Conclusion/Application:** Developing culture-specific strategies to improve maternal health outcomes and to communicate effectively with their families is necessary to increase the accessibility of public health services in female marriage immigrants.

Keywords: Health Services Needs and Demand, Health Status, Immigrants, Maternal Welfare.

1. Introduction

International marriages made up 10.5% of all marriages. Interestingly, about 89% of international marriages were conducted between Korean men and foreign women and it was estimated that the number of foreign wives got up to 127,540 in 2013[1]. The economic condition of multicultural families may vary depending on employment status of the Korean spouse because Korean man still has a primary responsibility as a breadwinner for his family. According to the national report about household survey in 2012, an average monthly income is less than 2,000,000 won in 17.7% of the total Korean families. However, 41.9% of multicultural families made the equivalent income in the above-mentioned groups of families in spite of a gradual decrease in the degree of their poverty[2,3]. Although there was an increase in employment rates of immigrant women between 2009 and 2012, the overall increase in employment might not make a significant effect on the improvement of their socioeconomic status[2]. Not surprisingly, socioeconomic status was known to be closely linked with health status and behaviors[4,5]. From a

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health equity perspective, women in multicultural families should be recognized as a national minority group in Korea and we need to put effort into the development of promising new strategies for improving health among possible health disparity population groups.

Women's roles that have been traditionally given to married women tend to converge into a primary family caregiver and, in many cases, women are often forced to sacrifice their personal achievements such as career development for their families as a wife, mother, and daughter-in-law[5,6]. Maternal health for everyday functioning is critical in maintaining the optimal level of family health outcomes. In the light of cultural climate of maternal roles, it is obvious that health habits and values of immigrant women may enormously influence not only themselves but also their newly formed family members in terms of health promotion and diseases prevention[7]. However, maternal health of marriage-based immigrant women were lower than that of the average married Korean women. It was suggested that foreign wives did not provide sufficient health services to manage their health status and behaviors related to pregnancy, childbirth, and even childrearing, due to troubles adjusting to living in new culture after their marriage and lack of health literacy program for immigrant women who did not use Korean language as their mother tongue[7,8].

Since South Korea has been becoming a multicultural society for past twenty years, various studies have been performed to explore health status and behaviors and associated factors in women who immigrated from adjacent countries such as China, Vietnam, Philippine, Russia and Japan. Newly published research provided evidence with regard to noticeable associations between health behaviors and quality of life, causative factors affecting health status, the degree of using healthcare services, and differences in health status and general health behaviors (smoking, alcohol drinking, dietary management, and oral health) by original nationalities[9-16]. However, there was a paucity of information obtained through a comprehensive approach to specific maternal health outcomes and behaviors among immigrant women. As a first step to grasp predictors of maternal health and develop a new culturally relevant program for women in multicultural families, this study was conducted to explore maternal health status and behaviors among immigrant women. Specifically, the purpose of this study was three-fold: 1) to identify the extent to which immigrant women performed maternal health-related behaviors such as prenatal and postpartum care, birth control, and breastfeeding; 2) to investigate the rate of abortion and health problems during pregnancy; 3) to determine factors associated with maternal health status and behaviors.

2. Methodology

2.1 Study Design and Sample

The descriptive cross-sectional study was conducted to understand maternal health status and behaviors of immigrant women. Participants were 106 immigrant women and they were included according to the following selection criteria: 1) who got married with Korean men, 2) aged 18 and older, and 3) could communicate in Korean language.

2.2 Study Procedures

Data were collected from 2011 to 2012. All procedures for research involving participant recruitment and data collection were performed by the principle investigator (PI) and research assistants trained by the PI before starting this study. In order to recruit immigrant women, the PI visited four multicultural family support centers located in D city and three health care centers in C province. A brief explanation about research purpose, confidentiality, potential risks and benefits, and other ethical considerations was provided to all immigrant women. Detailed information was provided to women who were interested in participating in this study. After confirming their participation in the study, they signed consent forms prior to starting any procedure of data collection.

2.3 Measures

This measure used in this study was the part of maternal health status and behavior in the questionnaires which had been developed to examine health-related needs and behaviors of immigrant women in Korea[17]. Specifically, the maternal health questionnaires included 1) communicating with significant family members such as woman's spouse and parents-in-law, 2) previous knowledge about existing programs currently offered by public health centers, 3) demands for services associated with maternal and child health, and 4) maternal health outcomes including birth control, breastfeeding, prenatal care, postpartum care, health problems during pregnancy, and abortion.

2.4 Data Analysis

Statistical analyses were performed by using SPSS Windows version 21.0. Demographic characteristics, women's communication with their significant family members, previous knowledge about public health programs currently offered by public health centers, individuals' needs for health services toward a better maternal and child health, and their health and behaviors related to key outcomes (birth control, breastfeeding, prenatal care, postpartum care, health problems during pregnancy, and abortion) were analysed with descriptive statistics. The Chi-square analyses were performed to compare these outcomes related to maternal health by demographic and other personal characteristics.

3. Findings

3.1 Sample Characteristics

Table 1. Sample characteristics

Variable		N (%)
Age	20-24	33 (31)
	25-29	46 (43)
	30 and older	27 (26)
Education	Elementary school	23 (22)
	Middle school	23 (22)
	High school	46 (43)
	College and higher	14 (13)
Marital state	Married	104 (98)
	Currently single	2 (2)
Nationality	Vietnam	57 (54)
	Others	49 (46)
Having religion	Yes	50 (47)
	No	56 (53)
Employment	Employed	15 (14)
	Unemployed	91 (86)
Economic status	Low	10 (10)
	Middle	67 (63)
	High	29 (27)
Health insurance	Company	55 (52)
	Local	38 (36)
	Others	13 (12)
Good communication with husband	Yes	91 (86)
	No	15 (14)
Good communication with parents-in-law	Yes	62 (59)
	No	44 (41)
Woman's demand for services regarding pregnancy and childbirth	Yes	28 (26)
	No	78 (74)
Woman's demand for services regarding childrearing	Yes	34 (32)
	No	72 (68)
Knowing prenatal programs provided in public health center	Yes	66 (62)
	No	40 (38)
Knowing infant vaccination programs provided in public health center	Yes	47 (44)
	No	59 (56)

The sample was comprised of 106 immigrant women as presented in Table 1. About three quarters of all participants were under 30 years old and most of them were currently married without experiencing bereavement or divorce. More than 40% of women reported elementary or middle school as their highest level of education and only 13% were college graduates. More than a half of them had Vietnamese nationality before they got married with Korean men. Other women were from Philippine, China, Cambodia, Japan, Mongol, and Uzbekistan. Of them 86% did not have any job at the time point of assessment and 63% reported that the level of self-perceived economic status was medium. About 88% of all women were covered by national health insurance and 2% were covered by Medicaid. However, 10% reported that they did not know the type of health insurance they have had. A majority of immigrant women (86%) communicated well with their husband and less than half of them (41%) had communication problems with their parents-in-law. More than a quarter of women had a need for public services regarding pregnancy and childbirth (26%) and childrearing (32%), respectively. More than 60% of participants already knew prenatal care programs provided in public health centers while less than 50% knew that public health center provided infant vaccination programs.

3.2 Maternal Health Status and Behaviours of Immigrant Women

Maternal health status and behaviours were measured as main outcome variables including women's experiences about birth control, breastfeeding, prenatal care, postpartum care, health problems during pregnancy,

Table 2. Health outcomes among immigrant women

Variable		N (%)
Contraceptive experience	Yes	35 (33)
	No	71 (67)
Breastfeeding	Yes	57 (54)
	No	29 (27)
	Not having children	20 (19)
Prenatal care	Yes	83 (78)
	No	23 (22)
Postpartum care	Yes	71 (67)
	No	35 (33)
Health problems during pregnancy	Yes	20 (19)
	No	82 (77)
	Having no pregnancy experience	4 (4)
Abortion	Yes	22 (21)
	No	84 (79)

and abortion (Table 2). Thirty-five women (33%) used any method of contraception, regardless of types of birth control. Specifically, more than half of these women used a condom or an intrauterine device as their preferred method of birth control (33% and 31%, respectively). The most frequently mentioned reason for not practicing contraception was that they wanted to have a baby. Only three women (3%) reported that they did not know how to use contraceptive devices. Of all 86 women who gave birth to a healthy baby, more than a half of them exclusively breastfed at least for six months. On average, 83 women (78%) received prenatal care nine times during their pregnancy. Similarly, 71 participants (67%) received postpartum care. Of 102 women who had birth experiences or were pregnant at the time of assessment, 20 women (19%) had health problems during pregnancy and the most common problem was anemia. Other pregnancy-related health problems were gestational diabetes mellitus, toxemia of pregnancy, and dental problems. Less than a quarter of them experienced abortions, natural (64%) and artificial abortion (36%), respectively.

3.3 Factors Affecting Maternal Health Status and Behaviors

Effects of demographic and other personal variables on key outcomes related to maternal health status and behaviors were shown in Table 3. Of demographic variables, age, nationality (Vietnamese versus non-Vietnamese), and employment status were found to be important factors. Specifically, women aged between 25 and 29 years showed a significantly higher rate of health problems during pregnancy than the other age groups of participants ($X^2 = 7.361$, $p = .025$). However, there were no significant age effects on other outcomes such as birth control, breastfeeding, prenatal care, postnatal care, and abortion. Women who had Vietnamese citizenship as their original nationality showed significantly higher rate of breastfeeding than those having other citizenships before marriage ($X^2 = 5.05$, $p = .025$). Also, a relatively high rate of abortion experiences was found in women who were employed outside the home at the time of assessment, as compared with women who had no job ($X^2 = 3.94$, $p = .047$). However, educational background, marital status, religion, perceived economic status, and type of health insurance were not significantly associated with any differences in maternal health outcomes.

Contrary to our expectations about the beneficial effects of communication with significant family members on health behaviors, a good communication with husband did not work positively in receiving postpartum care. Women who well communicated with their husband showed significantly lower rate of postpartum care than others who did not report a good communication with their spouse ($X^2 = 5.49$, $p = .019$). Also, having a good communication with parents-in-law did not positively influence the occurrence of health problems during pregnancy. Only three women (7%) having a communication problem with their parents-in-law reported health problems during pregnancy while 17 women (28%) with good communication with parents-in-law had health problems during pregnancy ($X^2 = 7.04$, $p = .010$). Furthermore, there were no significant differences in other maternal health outcomes depending on how well immigrant women communicate with their spouses or parents-in-law.

Interestingly, women who had a need for childrearing services offered by public health center showed high rates of prenatal and postpartum care as compared with those who did not have a need for childrearing services ($X^2 = 7.37$, $p = .007$; $X^2 = 10.22$, $p = .001$). However, there were no significant differences in other maternal health status and behaviors between two groups of women who were classified based on their need for health services regarding pregnancy and childbirth provided by public health centers. Knowledge about existing public health programs

positively influenced women's care-seeking behaviours for prenatal and post-partum care. Specifically, a higher rates of prenatal and postpartum care were found in women who knew public programs for pregnant women (X^2 = 6.69, p = .010; X^2 = 11.02, p = .001) or infant vaccination service (X^2 = 11.66, p = .001; X^2 = 7.35, p = .007) than in the other subgroup of women. Similar to the effect of women's need for childrearing service on maternal health status and behaviours, their previous knowledge about public health services did not influence other outcomes such as birth control, breastfeeding, pregnancy-associated health problems, and abortion.

4. Discussion

The overall level of maternal health of immigrant women in Korea has been lower than that of women in other OECD countries[18]. This difference suggests that Korean healthcare professionals need to determine who are at risk of developing maternal health problems and which factors are associated with maternal health disparities. This study was designed to describe the current state of women' health and behaviors related to birth control and pregnancy, prenatal and postpartum care, and breastfeeding, and to examine the significant factors of these maternal health outcomes among immigrant women in Korea. The results indicated that the overall health status and behaviors in immigrant women were relatively poor as compared with those in Korean women[19] and were significantly associated with women's age, original nationality, their current employment status, how well communicating with their significant family members, women's needs for public health programs and services, and their previous knowledge about services currently offered by public health centers.

One third of all participants in this study used birth control methods, which was lower than the finding in a previous study with 50.2% of immigrant women using at least one method of birth control in 2009[7]. According to another national survey, the rates of birth control in Korean women were 77.1% in 2012[19]. These suggest that further investigation is needed to identify the necessity of education regarding appropriate birth control to support better decision making for family planning among married immigrant women.

Breastfeeding is referred to as exclusive breastfeeding that is a way of providing ideal food for the healthy growth and development of infants[20]. Exclusive breastfeeding for six months has been recommended by the World Health Organization (WHO)[21]. In this study more than half of participants were breastfeeding mothers. This is higher than the average rate that is32.2% in Korean women including both immigrants and non-immigrants[19]. Furthermore, the international report about the rates of breastfeeding in 33 countries indicated that Asian countries, which were homelands of our study participants, showed a high rate of exclusive breastfeeding, ranging from 51.5% (Philippine) to 65.5% (China) in 2010[22]. Based on this finding, it can be interpreted that previous knowledge and attitude that these married immigrant women obtained in their home countries seem to positively influence breastfeeding decision for their babies. When considering a relatively high rate of exclusive breastfeeding in immigrant women as compared with that in non-immigrant Korean women, health educations and programs to help breastfeeding decisions need to be applied with differentiated strategies by applying previous knowledge and attitude that a target group of women obtained before marriage.

The important indicator of maternal and child health is the rate of prenatal care. A regular check-up and physical examination from an early stage of pregnancy can lead to various health benefits through early detection of abnormal pregnancy and health problems during pregnancy. Furthermore, prenatal care contributes to the increased rate of safe delivery and offers sufficient educations about pregnancy, delivery, and postpartum care[7].The reported rate of prenatal care in Korea was 100% from a national fertility survey with married women in 2012[19]. Similarly, Kim[7] reported that 91.7% of married immigrant women provided regular prenatal care. However, the rate of prenatal care in this study was 78% with clinic visits nine times for the entire period of pregnancy. Although the rate is a little lower than that in other reports, this is still higher than the number of regular prenatal visits recommended by WHO[23].

In contrast with prenatal care, the rate of postpartum care was low with 67% in this study. This rate was much lower than 91.4% in other study by Kim et al [19]. This finding demonstrates that immigrant women may be in the blind spot of health security system and healthcare providers need to develop integrated postpartum programs toward health literacy, disparities reduction, and quality improvement of programs for immigrant women after birth.

Table 3. Factors affecting maternal health outcomes

Variable	Contraceptive Experience		Breast feeding		Prenatal Care		Postpartum Care		Health Problems During Pregnancy		Abortion	
	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Age												
20-24	6(18)	27(82)	17(65)	9(35)	28(85)	5(15)	22(67)	11(33)	3(9)*	29(91)	6(18)	27(82)
25-29	20(44)	26(56)	27(68)	13(32)	37(80)	9(20)	33(72)	13(28)	14(32)	30(68)	11(24)	35(76)
30 and older	9(33)	18(67)	13(65)	7(35)	18(67)	9(33)	16(59)	11(41)	3(12)	23(88)	5(19)	22(81)
Education												
Elementary school	7(30)	16(70)	14(67)	7(33)	20(87)	3(13)	16(70)	7(30)	1(5)	21(95)	4(17)	19(83)
Middle school	10(43)	13(57)	15(79)	4(21)	18(78)	5(22)	18(78)	5(22)	4(18)	18(82)	7(30)	16(70)
High school	13(28)	33(72)	21(58)	15(42)	37(80)	9(20)	29(63)	17(37)	12(27)	33(73)	9(20)	37(80)
College and higher	5(36)	9(64)	7(70)	3(30)	8(57)	6(43)	8(57)	6 (43)	3 (23)	10(77)	2 (14)	12 (86)
Marital state												
Married	35(34)	69(66)	56(66)	29(34)	82(79)	22(21)	70(67)	34(33)	20(20)	80(80)	22(21)	82(79)
Currently single	0(0)	2(100)	1(100)	0(0)	1(50)	1(50)	1(50)	1 (50)	0(0)	2(100)	0(0)	0(100)
Nationality												
Vietnam	19(33)	38(67)	38(76)*	12(24)	48(58)	9(39)	42(74)	15(26)	11(20)	44(80)	13(23)	44(77)
Others	16(33)	33(67)	19(53)	17(47)	35(71)	14(29)	29(59)	20(41)	9(19)	38(81)	9(18)	40(82)
Religion												
Yes	16(32)	34(68)	28(67)	14(33)	41(82)	9(18)	34(68)	16(32)	10(20)	39(80)	8(16)	42(84)
No	19(34)	37(66)	29(66)	15(34)	42(75)	14(25)	37(66)	19(34)	10(19)	43(81)	14(25)	42(75)
Employment												
Employed	5(33)	10(67)	4(44)	5(56)	9(60)	6(40)	9(60)	6(40)	2(15)	11(85)	6(40)*	9(60)
Unemployed	30(33)	61(67)	53(69)	24(31)	74(81)	17(19)	62(68)	29(32)	18(20)	71(80)	16(18)	75(82)
Economic status												
Low	11(38)	18(62)	14(56)	11(44)	23(79)	6(21)	22(76)	7(24)	25(86)	4(14)	7(24)	22(76)
Middle	22(33)	45(67)	35(69)	16(31)	52(78)	15(22)	42(63)	25(37)	48(76)	15(24)	11(16)	56(84)
High	2(20)	8(80)	8(80)	2(20)	8(80)	2(20)	7(70)	3(30)	9(90)	1(10)	4(40)	6(60)
Health insurance												
Company	20(57)	35(49)	34(60)	14(48)	47(57)	8(35)	37(52)	18(51)	11(55)	42(51)	11(50)	44(52)
Local	12(34)	26(37)	17(30)	11(38)	26(31)	12(52)	25(35)	13(37)	5(25)	31(38)	8(36)	30(36)
Others	3(9)	10(14)	6(10)	4(14)	10(12)	3(13)	9(13)	4(11)	4(20)	9(11)	3(14)	10(12)
Communication1[b]												
Yes	28(31)	63(69)	47(66)	24(34)	70(77)	21(23)	57(63)*	34(37)	18(21)	69(79)	18(20)	73(80)
No	7(47)	8(53)	10(67)	5(33)	13(87)	2(13)	14(93)	1(7)	2(13)	13(87)	4(27)	11(73)
Communication2[c]												
Yes	19(31)	43(69)	29(60)	19(40)	45(73)	17(27)	39(63)	23(37)	17(28)*	43(72)	14(23)	48(77)
No	16(36)	28(64)	28(74)	10(26)	38(86)	6(14)	32(73)	12(27)	3(7)	39(93)	8(18)	36(82)
Woman's demand1[d]												
Yes	11(39)	17(61)	13(59)	9(41)	20(71)	8(29)	18(64)	10(36)	4(15)	22(85)	7(25)	21(75)
No	24(31)	54(69)	44(69)	20(31)	63(81)	15(19)	53(68)	25(32)	16(21)	60(79)	15(19)	63(81)

Woman's demand2[e]												
Yes	10(29)	24(71)	21(62)	13(38)	32(94)**	2(6)	30(88)**	4(12)	7 (21)	27(79)	7(21)	27(79)
No	25(35)	47(65)	36(69)	16(31)	51(71)	21(29)	41(57)	31(43)	13(19)	55(81)	15(21)	57(79)
Knowing program1[f]												
Yes	26(39)	40(61)	40(66)	21(34)	57(86)**	9(14)	52(79)***	14(21)	14(21)	52(79)	15(23)	51(77)
No	9(23)	31(77)	17(68)	8(32)	26(65)	14(35)	19(48)	21(52)	6(17)	30(83)	7(18)	33(82)
Knowing program2[g]												
Yes	18(38)	29(62)	32(71)	13(29)	44(94)***	3(6)	38(81)**	9(19)	9(19)	38(81)	8(17)	39(83)
No	17(29)	42(71)	25(61)	16(39)	39(66)	20(34)	33(56)	26(44)	11(20)	44(80)	14(24)	45(76)

Note. [a] the total of subjects excluding women who did not have children; [b] good communication with husband; [c] good communication with parents-in law; [d] woman's demand for services regarding pregnancy and childbirth; [e] woman's demand for services regarding childrearing; [f]prenatal programs provided in public health centers; [g] infant vaccination programs provided in public health centers.
*p< .05, **p< .01, ***p< .001.

The most common health problem was reported as anemia in this study. This finding is consistent with the other report showing that anemia is the most frequent health problem among immigrant women[7]. By this time it is unclear how many immigrant women have known and received maternal and child health programs offered from public health centers. A recently published study reported that about 65% of 151 immigrant women took iron supplements during pregnancy[24]. This rate was lower than about 84% in 428 Korean pregnant women[25], suggesting that immigrant women might not intake enough iron during pregnancy. It should be treated as a serious issue that cannot be ignored, considering the increasing pattern of immigrant residents in Korea with 2.8% of the total population in 2013[26]. As expected, the increasing number of multicultural marriage may lead to the increase in the proportion of immigrants with estimation of 30% of all Korean people in 2030 [27]. Therefore, it is possible to mention that an active campaign is needed to inform immigrant women and their family members about the central and local government-led programs such as the nutrition plus project or supply of iron supplement for better maternal and child health.

The abortion rate in this study was 21% with a slightly low rate as compared with 22.4% reported in another study conducted with immigrant women in Korea[7]. However, it was still higher than 17.1% by Han[28] and 16.9 by Kim[19]. Further assessment is needed to clarify factors affecting immigrant women's decision on abortion.

Age, nationality, and employment status were found to be important factors of maternal health and behaviors. Women aged 20 to 24 years or 30 and over, non-Vietnamese, or women employed outside home showed poor maternal health outcomes with a high rate of health problems during pregnancy, low rates of breastfeeding, prenatal care, and postpartum care, and a high rate of abortion as compared with those aged 25 to 29 years, Vietnamese, or women who did not have any job at the time of assessment, respectively. Due to the absence of previous studies to examine predictors of maternal health outcomes among immigrant women, the mechanism of these above-mentioned demographic variables on maternal health and behaviors is unclear. Nevertheless, the findings provide important new information that can be utilized to identify characteristics of immigrant women who are in a high-risk group.

Building good relationships with significant family members such as spouse and parents-in-law seems to be important in receiving a sufficient family support and adapting a new life after foreign women got married with Korean men. However, due to language gaps and cultural differences between these women and other family members, married immigrant wives suffered from communication issues, family conflicts, and poor satisfaction with their new lives in Korea, and also might be vulnerable to physical and mental health problems[29]. This study showed a quiet different finding in the association between family communication and maternal health and behaviors, which was an opposite direction to what we expected. One possible explanation is that family members may not be fully ready to work as a supportive source for foreign wives and thus immigrant women may seek alternative routes to deal with changes in physical, mental, and social wellbeing after marriages [30]. Accordingly, healthcare professionals and policy makers should consider that multicultural families

need to provide sufficient public support regarding information about how to cope with new family members and skills to deal with family conflicts associated with cultural differences. Furthermore, our findings suggest that currently existing programs to facilitate more rapid acculturation of immigrant women need to be changed from an individual-focused to a family-centered approach.

Women who had knowledge and needs regarding maternal and child wellbeing showed good maternal health behaviors, with relatively high rate of prenatal and postpartum care as compared with those without knowledge and demands. Along with other variables, women's knowledge and demand on public services for maternal and child health can be used as indicators conveniently applied to immigrant women when there is a need to identify a group of women at risk of maternal health problems.

There are two limitations of this study. First, findings in this study should be interpreted with caution because study participants were recruited in a limited regional area of Korea. Further studies with a large sample size are needed to generalize study findings to all immigrant women resided in Korea. Second, this study was conducted with a retrospective method with a usual possibility of inaccurate recall of past events and contamination by current events. Therefore, further prospective studies are needed with women who are just married or arrange the marriage of Korean men.

5. Conclusion

We investigated maternal health status and behaviors among immigrant women and identified factors of maternal health outcomes associated with birth control, prenatal and postpartum care, breastfeeding, health problems during pregnancy, and abortion. Immigrant women showed poor health outcomes with relatively high rates of maternal health problems and low rates of positive health behaviors than Korean women who had Korean nationality from birth[9]. Surprisingly, there were no noticeable changes in self-management for maternal health among immigrant women in this study as compared with those about immigrant women reported in 2009[10]. Significant factors of maternal health outcomes can be used to develop a comprehensive health education program to enhance self-management for maternal wellbeing at an individual level as well as a community level. Further, it is suggested that current policies about central and local health care systems need to be modified with consideration of strategies to improve cultural competencies and health equalities for immigrant women.

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