Original Paper

Mother-daughter Relationship and Sex Education from Mother to Daughter

Hiroko SUIZU[*1], Rie IKEDA (NAKAMURA)[*2] and Kinuko SUGIURA[*3]

Abstract

The purpose of this study was to investigate the relationship between primigravidae and their mothers and to assess the present state of sex education that primigravidae receive from their mothers. Responses to an anonymous self-administered questionnaire were received from 133 primigravidae. Of these, 42.9% had conversations about sex other than menstruation before their pregnancy and 30.1% had these conversations after pregnancy. Mothers and daughters who had high intimacy between them usually had conversations about sex, but these conversations did not provide the daughters with accurate knowledge about sex. It is important to provide accurate sex education outside the home and to create opportunities to instruct mothers on how to provide their daughters with accurate sex education.

1. Introduction

Recently, attention has increasingly been paid to the polarization of sexual behaviors among young people in Japan. Although there has been a growth in the proportion of young people who hesitate to associate with the opposite sex, the average age of first sexual intercourse has been decreasing and the number of sexual partners has been increasing. In addition to the desire to prevent unwanted pregnancies and sexually transmitted diseases, sex education is needed to promote communication between partners and help young people to perceive sex positively[1]. Meanwhile, intimacy between mothers and daughters has been growing, with improved, stronger emotional connections meaning that daughters are more likely to discuss their relationships[2]. In this setting, it is assumed that mothers and daughters will have conversations about sex. Indeed, in earlier studies by Kubo and Sugiura[3] and Takahashi[4] that used measurement scales, the aspects of sex education in home settings were quantitatively clarified. However, there were differences between these two studies. The study by Kubo and Sugiura emphasized that the social aspects of education, such as "sex information" and "ethics and morals about sex" were the least frequently discussed at home[3], while Takahashi reported that the social and emotional aspects were most frequently discussed at home[4].

[*1] The 3rd Alumna, Midwifery Course, Graduate School, Kawasaki University of Medical Welfare
[*2] Department of Nursing Science, Faculty of Health and Welfare Science, Okayama Prefectural University
[*3] Midwifery Course, Graduate School, Kawasaki University of Medical Welfare, Kurashiki, 701-0193, Japan
  E-Mail: sugiura@mw.kawasaki-m.ac.jp

2. Purpose

We aimed to investigate the relationship between primigravidae and their mothers and to clarify the present state of sex education provided by mothers to primigravidae in this context.

3. Research Methods

3.1 Survey Method

A survey was conducted using an anonymous self-administered questionnaire at two institutions (one gynecological clinic and one gynecological hospital) in the Chugoku District, from June 2012 to August 2012. Primigravidae who attended for a pregnancy health checkup were invited to participate. Midwives verbally explained the purpose of the survey to the outpatients, and a questionnaire was handed to those who wished to participate. Once the questionnaire had been completed, participants were asked to return it in a pre-addressed envelope to the lead researcher.

3.2 Contents of the survey

The survey covered the following domains: 1) demographic information about age, gestation, and experience of pregnancy, 2) a scale for measuring the mother-daughter relationship, 3) a scale for assessing the state of conversations about sex between mother and daughter, 4) self-evaluation (by the primigravidae) regarding knowledge of sex, 5) a scale to identify the content of sex education, and 6) assessment of the state of conversations about sex between mother and daughter. The scales were as follows :

3.2.1 Scale for measuring the mother-daughter relationship

After a literature review[2, 5-7] we developed a 35-item questionnaire with three subscales, assessed by seven-point Likert scales from 1 (strongly disagree) to 7 (strongly agree); there were 14 items related to "bond," 10 items related to "dependence," and 11 items related to "excessive intimate mother-daughter relationship."

3.2.2 Scale for measuring the state of conversations about sex between mother and daughter

After a literature review[2-4, 8], we developed a 13-item scale with three subscales, using the same seven-point Likert scale. This comprised three items for "consultation on sex," eight items for "relationship between before and after pregnancy," and two items on "consultation with mother."

3.2.3 Scale for the contents of sex education

With the agreement of Kubo and Sugiura[3], we deleted two items concerning menstruation from their original scale ("mechanism of menstruation" and "method of treating menstruation") to make an 18-item scale with three subscales, again scored using a seven-point Likert scale. The items were rated from 1 (never) to 7 (always). The scale comprised seven items on "physical aspects," seven items on "aspects of sexual intercourse and reproduction," and four items on "social aspects."

3.3 Ethical consideration

This study was approved by the ethics committee of the Kawasaki University of Medical Welfare (approval number 318). An information leaflet provided with the questionnaire included the following information: the contents, purpose, and significance of the survey; the protection in place for privacy; an explanation that participation was voluntary, and could be discontinued at any time; and explanations that all responses were anonymous, and that the results would not be used for any other purpose.

3.4 Data analysis

To confirm the reliability and validity of the questionnaire scales, we verified the following: 1) item

analysis, 2) factor analysis, 3) Pearson's product-moment correlation coefficient (*r*), 4) Cronbach's *α* coefficient, and 5) the distinctiveness of scales. Descriptive statistics were used to examine the distribution of the scores on each item. Then, to investigate the relationship among scaled scores, a *t*-test was conducted and Pearson's product-moment correlation coefficient (*r*) was analyzed. The significance level was set at $p < 0.05$. We used IBM SPSS for Windows, Version 21.0 (IBM Corp., Armonk, NY, USA) for statistical analysis. Results are presented as means ± standard deviations or as a number (percentage), as appropriate.

4. Results

4.1 Response rate and participant characteristics

We provided 340 questionnaires, of which 166 were returned (collection rate: 48.8%) with 133 providing valid responses (valid response rate: 39.1%). Table 1 summarizes the participants' characteristics (Table 1).

Table 1　Participant characteristics

		(*n* = 133)
Variable	*n*	(%)
Age (*M* = 29.4, *SD* = 4.8)		
17–19	4	(3.0)
20–29	57	(42.9)
30–39	69	(51.9)
40–41	3	(2.3)
Gestational weeks		
<16 weeks	22	(16.5)
16–28	38	(28.6)
>28 weeks	73	(54.9)
Experience of pregnancy		
First time	106	(79.7)
Second time or more	27	(20.3)

n: numbers, *M*: Mean, *SD*: Standard Deviation

4.2 Structure, credibility, and validity of our new scales on mother-daughter communication

First, we assessed the structure, credibility, and validity of the scales for measuring the mother-daughter relationship (Table 2), and for measuring the state of conversations about sex between mother and daughter (Table 3). For the item analysis, we confirmed the ceiling/floor effect of each item and the correlation between item scores and total scores. After that, a factor analysis (maximum likelihood method with promax rotation) was conducted. An eigenvalue ≧ 1 was set as the standard, and the items showing improper solutions of communality < 0.3, factors with loading > 1, and items < 0.4 were deleted. A factor analysis was conducted by the maximum likelihood method with promax rotation using nine items. The Kaiser-Meyer-Olkin measure showed generally good scores of 0.839 and 0.750 for the validity of the sample. In G-P analysis, significant differences were recognized in the total scale score and any subscale score at the 1% level by *t*-test using the average values of the upper 25% and lower 25% groups.

4.3 Correlations between the new scales on mother-daughter communication

Next, we assessed the correlations between the scale measuring the mother-daughter relationship and that measuring the state of conversations about sex between mother and daughter. Pearson's product-moment correlation coefficient (*r*) was 0.444 ($p = 0.000$) between the whole scale for the mother-daughter relationship and the whole scale for the state of conversation about sex between mother and daughter;

in addition, it was 0.516 (p = 0.001) between the "intimacy" and "change" subscales, 0.203 (p = 0.019) between the "intimacy" and "consultation" subscales, and 0.178 (p = 0.040) between the "subordination" and "consultation" subscales.

4.4 Results for the revised scale to measure the contents of sex education

The average score per item of the three factors in the scale for measuring the content of sex education were high, in the following order: 20.00 ± 9.68 for physical aspects of sex, 14.88 ± 9.16 for the reproductive aspects of sex, and 7.75 ± 4.91 for the social aspects of sex (Table 4).

4.5 Conversations with mothers about sex-related topics other than menstruation, and the state of talking with others about sexual "hang-ups"

We found that 57 (42.9%) had conversations about sex other than menstruation, and that 34 (25.6%) had sexual hang-ups before this pregnancy. Among those who had sexual hang-ups, 21 (61.8%) talked with others about them, but only six (28.6%) did so with their mothers (Table 5).

4.6 Conversations with mothers about sex during the current pregnancy, resistance toward such conversations, and the reasons

We found that only 33 women (24.8%) felt that they could talk with their mother about sex during the current pregnancy, with 60 (45.1%) reporting that they felt resistance toward such a conversation (Table 6).

Table 2   Structure of the scale for measuring the mother–daughter relationship

(n = 133)

Pattern matrix (a = 0.705)	I Intimacy	II Subordination	Communality	$M \pm SD$	$M \pm SD$ per 1 item
The 1st factor "intimacy," 5 items : a = 0.888					
· I respect my mother's thoughts.	0.857	− 0.108	0.764	5.16 ± 1.42	
· I enjoy talking with my mother.	0.839	− 0.003	0.705	5.76 ± 1.23	
· I think my mother understands me best.	0.832	− 0.006	0.692	5.34 ± 1.58	5.11 ± 1.21
· I give priority to my mother over myself.	0.713	0.008	0.507	4.20 ± 1.51	
· I talk to my mother about my partner.	0.703	0.070	0.489	5.11 ± 1.53	
The 2nd factor "subordination," 4 items : a = 0.694					
· My mother always pokes her nose into what I am doing.	0.039	0.767	0.584	3.36 ± 1.58	
· I am often careful of my mother's mood.	− 0.054	0.677	0.468	2.73 ± 1.60	
· My mother interferes in my relationships with my friends.	− 0.194	0.530	0.338	2.48 ± 1.43	2.89 ± 1.09
· I can't help but give up if my mother disapproves.	0.329	0.472	0.300	2.71 ± 1.39	
Sum of square loading after rotation	3.660	2.127			

Factor extraction method: Maximum-likelihood method

Rotation: Promax method associated with Kaiser's normalization

The proportion explaining the total variance of nine items with two factors before rotation was 53.88%

n: numbers, M: Mean, SD: Standard Deviation, a : Cronbach's coefficient

4.7 Objective and self -evaluation of having correct knowledge about sex, and where the knowledge of sex was obtained

The average self-evaluation scores in the correct-answer group were higher than those in the wrong-answer group for the items "use of a condom has the lowest failure rate among the available contraceptives (reverse-point item)," "correct use of a condom can prevent pregnancy," and "the failure rate with the correct use of contraceptive pills is lower than that with the correct use of a condom." This indicated that those who answered incorrectly thought that they knew about contraception, but did not (Table 7). Concerning where women obtained their knowledge about sex, respondents answered as follows: "books and magazines" (n = 100; 75.2%), "school" (n = 84; 63.2%), "friend and acquaintance" (n = 82; 61.7%), "TV" (n = 68; 51.1%), and "home" or "other" (both: n = 17; 12.8%). The "other" category included the Internet and information provided at hospital.

4.8 Relationship between conversations about sex and the scores for the scale measuring the mother-daughter relationship

The average scores per "intimacy" item tended to be higher than those per "subordination" item. When comparing the groups who had and had not talked with their mothers about sex before this pregnancy, the average score for "intimacy" was significantly higher for the group who had talked about sex (t = 1.984, p = 0.049). In addition, when comparing the groups who had and had not talked with their mothers about sex during this pregnancy, the average score for "intimacy" was significantly higher for the group who had

Table 3 Structure of the scale for measuring the state of conversations between mother and daughter about sex

(n = 133)

Pattern matrix (a = 0.826)	I Consultation	II Change	Communality	$M \pm SD$	$M \pm SD$ per item
The first factor "consultation," 3 items :					
a = 0.907					
· I can consult my mother about the correct way of sexual intercourse during the period of pregnancy.	**0.990**	− 0.047	0.352	2.02 ± 1.35	
· I can consult my mother about the frequency of sex during the period of pregnancy.	**0.901**	0.026	0.777	2.02 ± 1.35	2.17 ± 1.33
· I can talk to my mother about my sex life during the period of pregnancy.	**0.771**	0.240	0.652	2.47 ± 1.62	
The second factor "change," 3 items :					
a = 0.748					
· I have been able to easily talk to my mother about sex since I became pregnant.	0.335	**0.816**	0.983	3.85 ± 1.48	
· I have been able to easily talk to my mother about my own sex life since I became pregnant.	0.503	**0.595**	0.813	2.86 ± 1.56	3.89 ± 1.20
· My feelings toward my mother have changed since my pregnancy.	0.013	**0.593**	0.607	4.95 ± 1.36	
Sum of square loading after rotation	2.597	1.587			

Factor extraction method: Maximum-likelihood method

Rotation: Promax method associated with Kaiser's normalization

The proportion explaining the total variance of nine items with two factors before rotation was 69.73%

n: numbers, M: Mean, SD: Standard Deviation, a : Cronbach's coefficient

Table 4   Results for the scale for the measurement of the content of sex education

(n = 133)

Pattern matrix (α = 0.963)	$M \pm SD$	$M \pm SD$ per item
The 1st factor "physical sex factor," 7 items :		
α = 0.929		
1. About conception, pregnancy, and childbirth	3.32 ± 1.83	
2. About the female body system	3.53 ± 1.70	
3. About the male body system	2.35 ± 1.37	2.86 ± 1.38
4. About the physical and psychological differences between males and females	2.64 ± 1.63	
5. How men and women mingle	2.95 ± 1.70	
6. About physical and mental changes at puberty (secondary sex characteristics)	2.94 ± 1.58	
7. What sex is	2.28 ± 1.52	
The 2nd factor "reproductive sex factor," 7 items :		
α = 0.954		
8. How to have sex	1.97 ± 1.34	
9. What is contraception?	2.40 ± 1.69	
10. About contraceptives and how to use contraceptives	2.11 ± 1.47	
11. About abortion	2.29 ± 1.69	2.13 ± 1.31
12. About sexually transmitted infections	2.14 ± 1.53	
13. About preventions of sexually transmitted infections	1.92 ± 1.41	
14. Various types of sex (homosexual, sexual orientation, and gender identity disorder)	2.06 ± 1.56	
The 3rd factor "social sex factor," 4 items :		
α = 0.872		
15. What is gender?	1.83 ± 1.34	
16. About ways of coping with sexual violence and abuse	1.83 ± 1.40	1.94 ± 1.23
17. How to perceive information concerning sex through media such as newspapers	1.93 ± 1.39	
18. About ethics and morals for sex	2.16 ± 1.54	

n: numbers, M: Mean, SD: Standard Deviation, α: Cronbach's coefficient

Table 5   Conversations with mothers about sex (other than menstruation) and the state of consulting with others about sexual hang-ups

Conversations and the state of consulting	Yes n (%)	No n (%)
・Had you had a conversation with your mother on sex other than that related to menstruation before pregnancy?	57 (42.9)	76 (57.1)
Contents of the conversation (multiple answers) (n = 57)		
・Procreation and family program	48 (84.2)	
・Contraception	21 (36.8)	
・Sexual intercourse	19 (33.3)	
・Sexual transmitted infection	9 (15.8)	
・Risk of dating with compensation	4 (7.0)	
・Other	2 (3.5)	
・Had you had sexual hang-ups before pregnancy?	34 (25.6)	99 (74.4)
・Had you consulted someone about sexual hang-ups before pregnancy?	21 (61.8)	13 (38.2)
Consulted with about sexual hang-ups before pregnancy (multiple answers) (n = 21)		
・Friend or acquaintance	15 (71.4)	
・Mother	6 (28.6)	
・Sibling	6 (28.6)	
・Doctor	6 (28.6)	
・School teacher	1 (4.8)	
・Other	3 (14.3)	
・Have you had a conversation with your mother on sex other than that related to menstruation during your current pregnancy?	17 (12.8)	116 (87.2)
・Have you consulted someone about sexual hang-ups during your current pregnancy?	9 (52.9)	8 (47.1)
Consulted with about sexual hang-ups during current pregnancy (multiple answers) (n = 9)		
・Friend or acquaintance	6 (66.7)	
・Mother	2 (22.2)	
・Sibling	1 (11.1)	
・Doctor	1 (11.1)	
・Other	2 (22.2)	

n: numbers

(n = 133)

Table 6   Conversations between primigravidae and their mothers about sex during the current pregnancy, resistance toward such a conversation, and the reasons

(*n* = 133)

Conversations	Yes *n* (%)	No *n* (%)
・Have you had a conversation with your mother about sex during your current pregnancy?	33 (24.8)	100 (75.2)
The reasons why they could have had the conversation (multiple answers) :		
・Becaue she has experienced pregnancy and childbirth	31 (93.9)	
・I have confidence in her	25 (75.8)	
・I want her to listen to my anxieties and worries	10 (30.3)	
・No special reason	4 (12.1)	
・My mother wanted to know	1 (3.0)	
・Other	1 (3.0)	
・Have you had a feeling of resistance toward the conversation with your mother about sex during your current pregnancy?	60 (45.1)	73 (54.9)
The reasons why they had a feeling of resistance (multiple answers) :		
・It is embarrassing	34 (56.7)	
・I have never talked about it	34 (56.7)	
・It is a matter of the relationship with me and my partner	31 (51.7)	
・It is not necessary to talk about it	19 (31.7)	
・Somehow, no special reason	11 (18.3)	
・My mother doesn't seem to like to talk about it	5 (8.3)	
・Others	6 (10)	

n: numbers, *M*: Mean, *SD*: Standard Deviation

Table 7   Relationship between the number of women with objectively correct and self-evaluated correct knowledge about sex and where they obtained that knowledge

(*n* = 133)

Item	Right answer *n* (%)	Self-evaluation *M* ± *SD*	Wrong answer *n* (%)	Self-evaluation *M* ± *SD*	Do not know *n* (%)	Self-evaluation *M* ± *SD*
・Use of a condom has the lowest failure rate among other methods of contraception (reverse-point item).	38 (28.6)	5.82 ± 0.98	64 (48.1)	6.08 ± 0.67	31 (23.3)	5.65 ± 0.95
・Correct use of a condom can prevent pregnancy.	70 (52.6)	5.82 ± 0.98	36 (27.1)	6.14 ± 0.72	27 (20.3)	5.93 ± 0.83
・The failure rate of the correct use of a low dose pill is lower than that of the correct use of a condom.	52 (39.1)	5.82 ± 0.98	25 (18.8)	6.04 ± 0.79	56 (42.1)	5.84 ± 0.91
・Even the correct use of a condom can lead to sexually transmitted infections.	98 (73.7)	5.16 ± 1.03	8 (6.0)	4.50 ± 0.76	27 (20.3)	4.52 ± 1.28
・There are vaccines for preventing some types of cervical cancers.	112 (84.2)	5.67 ± 1.53	3 (2.3)	5.67 ± 1.53	18 (13.5)	5.06 ± 1.11

Self-evaluation of having correct knowledge was scored from 1 "I do not know about it" to 7 "I know about it correctly."
n: numbers, *M*: Mean, *SD*: Standard Deviation

Table 8 Relationship between conversations about sex and the scale for measuring the mother–daughter relationship

(n = 133)

	Conversation before pregnancy				Conversation during current pregnancy				Feeling resistance			
	had	had not	t-value	P-value	had	had not	t-value	P-value	had	did not have	t-value	P-value
Subscale scores per item												
Intimacy	5.35 ± 1.10	4.93 ± 1.27	1.984	0.049	5.55 ± 0.92	4.92 ± 1.28	2.799	0.006	4.66 ± 1.35	5.49 ± 0.94	− 4.031	0.000
Subordination	2.94 ± 1.05	2.73 ± 1.11	1.096	0.275	3.11 ± 1.16	2.70 ± 1.04	2.021	0.045	2.81 ± 1.40	2.83 ± 1.13	− 0.108	0.914

n: numbers

Table 9 Relationship between conversations about sex and the scale for measuring the state of conversations about sex between mother and daughter

(n = 133)

	Conversation before pregnancy				Conversation during current pregnancy				Feeling resistance			
	had	had not	t-value	P-value	had	had not	t-value	P-value	had	did not have	t-value	P-value
Subscale scores per item												
Consultation	2.69 ± 1.53	1.79 ± 1.00	3.895	0.000	3.14 ± 1.62	1.85 ± 1.04	4.286	0.000	1.50 ± 0.84	2.73 ± 1.40	− 6.248	0.000
Change	4.17 ± 1.28	3.68 ± 1.07	2.375	0.019	4.70 ± 1.07	3.62 ± 1.12	4.829	0.000	3.28 ± 1.00	4.39 ± 1.13	− 5.943	0.000

n: numbers

talked about sex (t = 2.799, p = 0.006). Concerning the comparison between the groups with and without resistance to a conversation with their mothers about sex, the average "intimacy" score was significantly higher in the group without resistance (t = -4.031, p = 0.000) (Table 8).

4.9 Relationship between conversations about sex and the scale measuring the state of conversation about sex between mother and daughter

The average score per "change" item tended to be higher than that per "consultation" item. When comparing the groups who had and had not talked with their mothers about sex before pregnancy, the average scores on both subscales were significantly higher for the group who had talked ("consultation" t = 3.895, p = 0.000; "change" t = 2.375, p = 0.019). In addition, when comparing the groups who had and had not talked with their mothers about sex during the current pregnancy, the average scores on both subscales were significantly higher for the group who had talked ("consultation" t = 4.286, p = 0.000; "change" t = 4.829, p = 0.000). Concerning the comparison between the groups with and without resistance to a conversation with their mothers about sex, the average scores of the group with resistance were significantly higher on both subscales ("consultation" t = − 6.248, p = 0.000; "change" t = − 5.943, p = 0.000) (Table 9).

5. Discussion

5.1 The state of conversations about sex and the mother-daughter relationship

Correlations were recognized between the whole scale for measuring the mother-daughter relationship and the scale for measuring the state of conversations about sex between mother and daughter. Correlations were also seen between the "intimacy" and "changes" subscales and between the "intimacy" and "consultation" subscales. A weak correlation was observed between the "subordination" and "consultation" subscales. Based on these observations, we concluded that there is less resistance toward having conversations about sex if the mother-daughter relationship is intimate.

In previous research among high-school girls and their mothers, it was reported that, regardless of the mother-daughter relationship, girls tended not to talk about sex or the opposite sex with their mothers[8]. However, we have shown that, where intimacy between mother and daughter was very high, our participants had conversations about sex with their mothers before pregnancy. It has also been reported

that conversations between mothers and daughters were affected by whether the mother had a positive image of sex and whether she approved of her daughter's relationship[9]. It appears that intimate mother-daughter relationships are akin to those normally seen between women, making them more open to exchanging secrets of love[10], and, therefore, to have conversations about sex.

5.2 Objective versus self-evaluation of knowledge about sex

Far fewer women had correct knowledge about contraceptives than those who had correct knowledge about sexually transmitted diseases. Furthermore, most of those who answered incorrectly indicated that they "knew about contraceptives." As for knowledge about sexually transmitted infections, women who provided wrong answers for "even the correct use of condom for the prevention of sexually transmitted infections can lead to sexually transmitted infections" and "there are vaccines for preventing some types of cervical cancers" also stated that "I have knowledge on this subject." Therefore, even if the mother and daughter had conversations about sex, it is likely that the contents were not educational, but rather focused on a topic like love.

In this research, the modified scale for measuring the contents of sex education (originally by Kubo and Sugiura) was used to investigate and understand sex education at home. However, because the content of our research was slightly different (we excluded the items concerning menstruation), our average scores were a little lower in all subscales than those in the original report by Kubo and Sugiura[3]. However, consistent with their results, the subscale with the highest average score was "physical sex factor." This contained items on "the biology of the male and female body," "the physical and mental differences between men and women," "how to associate with the opposite sex," "physical and mental changes in puberty," and "what is sexual intercourse." These are targets for sex education among primary-, middle-, and high-school students[9].

Education about the physical and physiological aspects of sex can be effectively applied in school and at home. However, it was perceived that reproductive and social factors related to sex were difficult to discuss at home. In addition, there was no difference between those who did and did not have conversations about sex before or during the current pregnancy, consistent with existing results that there are no differences in knowledge about sex between those who do and do not talk often about sex[11]. It is possible that parents may have inadequate knowledge, or that when they do have knowledge, conversations about sex are considered a taboo topic in everyday life[12]. In sex education in Europe and America, it is argued that constructing better relationships and encouraging better lifestyle habits through sex education can help prevent sex-related problems and high-risk behaviors among young people; the underlying concept is that school-based education should complement education at home[9]. Unfortunately, the prevailing attitude in Japan is that sex education is the responsibility of schools, which needs to change if we are to break some of the barriers to healthy communication between parents and young people, specifically in the mother-daughter relationship.

6. Conclusion

Mothers and daughters who had high intimacy between them usually have conversations about sex; however, these conversations do not provide the daughters with accurate knowledge about sex. It is important to give mothers the opportunity to learn about sex themselves, but we must also ensure the availability of sex education in places other than the home to provide daughters with accurate sex education.

7. Limitations of This Research

We note a couple of limitations in this study. First, because the research participants were selected by convenience sampling from among primigravidae attending two medical institutions in a single region of Japan, the population was small and there is a limit to our ability to generalize conclusions from the

research. Second, we cannot exclude the possibility that the participants' relationship with mothers and conversations about sex with mothers were based on retrospective self-reports, and therefore, potentially subject to common method bias.

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