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Author(s)	Ocampo, Merissa B.; Moriya, Kyoshi
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# A Comparative Study of the Nutritional Beliefs and Practices of Mothers in Japan and the Philippines

Merissa B. OCAMPO \* and Kiyoshi MORIYA \*\*

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## Abstract

This study aimed to compare the degree of acceptance on nutritional beliefs and practices of mothers in selected villages in the Philippines to the combined villages, towns and cities in Hokkaido. In the Philippines, the research method such as questionnaire, interview, observation and some of the documents of mothers and children were used for data gathering. While in Japan inquiry form for the health personnels and questionnaire to mothers were util-

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\* Doctoral student of Graduate School of Education in Hokkaido University. She has been in Hokkaido University from April to September in 1992, as research collaborator of Dr. Moriya, with the recommendation of Wesleyan University-Philippines (WU-P) where she got her Master degree and worked as Assistant Professor.

\*\* Professor, Department of Health and Physical Education, Faculty of Education, Hokkaido University, Sapporo, Japan

ized. The nutritional beliefs and practices listed in the questionnaire were selected items from the gathered beliefs and practices of Filipino mothers living in villages. 225 Filipino mothers answered Tagalog (Philippine national language) questionnaire. Tagalog questionnaire was translated in English, then translated into Japanese for 359 Japanese mothers who served as respondents. Listed below are obtained as results.

1. Final educational attainment of mothers in both countries revealed a big difference. In Japan, 7.5% of mothers completed Junior high school, 56.1% finished Senior high school and the rest, 36.3%, was in higher educational attainment. While Filipino mothers (49.3%) finished elementary level and 8.4% graduated from college.

70.2% of Japanese mothers and 60.9% of Filipino mothers were housewives, other Japanese and Filipino mothers have a job. Distribution of the kind of occupation of mothers were significantly different in both countries.

Japanese family size mostly ranged between 1-3 children (70.8%), while in the Philippines 1-3 children obtained 52%, the rest of 48% being above three. The distribution of family size was significantly different between both countries.

Husband was the main breadwinner in the family in both countries, 82.2% in Japan and 64.0% in the Philippines. Japanese mothers (90.7%) and Filipino mothers (50.7%) were the main decision maker of family foods.

2. From the assessment of acceptance of the Japanese mothers on the Filipino nutritional beliefs and practices, it was indicated that they did not agree to all items of the questionnaire related from conception to weaning procedures, except for one belief "mother should not eat sweet foods during pregnancy". Filipino mothers moderately agree to beliefs and practices during conception and after delivery. It was a distinct difference in both countries. The weighted mean calculated for representing the degree of acceptance on 9 items during conception, 6 items after delivery and 7 items for weaning procedures differed significantly between both countries. In weighted mean of beliefs and practices during pregnancy, there was no significant difference between two countries.

In Japan 62.2% of mothers and 60.9% in the Philippines reared their newborn babies by breastfeeding. 39.1% of Filipino mothers weaned their babies at 13-18 months of age. While 45.6% Japanese mothers weaned them at 7-12 months of age. Therefore, Filipino mothers weaned their babies in later period of time than Japanese mothers.

3. Filipino mothers (62.2%) and Japanese mothers (7.0%) answered that they generally accepted nutritional beliefs and practices, and the rest of them were "no" and "doubt / maybe". The distribution of acceptance on beliefs and practices was significantly different between mothers in both countries. On the degree of its influence on baby's health, 38.2% of Japanese mothers and 46.7% of Filipino mothers answered "not serious" or "not a problem at all". The remaining mothers were "serious" or "moderately serious". Whereas on the degree of the influence on mother's health, 43.8% of Japanese and 44.5% of Filipino mothers considered "not serious" or "not a problem at all".

In order to minimize problems come from these beliefs and practices, a majority (66.7%)

of Filipino mothers preferred continuous lectures for obtaining information on correct nutrition and health care of children and themselves. While Japanese mothers chose several suggested solutions, ranking first was "self initiative to know the effect of beliefs and practices".

4. We gathered 28 Japanese beliefs and practices in the past and 23 at present through health personnels in Hokkaido. We found 10 similar items when Japanese beliefs and practices compared to Filipino beliefs and practices listed in the questionnaire. On the otherhand, 8 Japanese beliefs and practices in the past and 11 at present were found to be similar to Filipino ones both listed and not listed in the questionnaire.

5. Japanese mothers were divided into subgroups by location and their profile, i.e., age, occupation and final educational attainment, then the degree of acceptance of nutritional beliefs and practices was compared among these groups. Location, age and occupation did not affect the degree of acceptance. While the weighted mean for the degree of acceptance of beliefs and practices related to conception was significantly different among Japanese mothers divided by their educational attainment. The higher the educational attainment of mothers the lesser the possibility to follow the nutritional beliefs and practices.

## 和文要旨

この研究の主な目的は、フィリピンの村と北海道の市町村に住む母親が、「妊娠・出産・子育て中の食べ物に関する俗信と慣習」を承認（同意）する程度を比較することである。フィリピンのデータはアンケート、インタビュー、観察などの研究方法を使用して収集された。日本では、保健所と市町村役場を通じてその地方にある（過去にあった）俗信と慣習についての調査、および母親を対象とするアンケートによってデータを収集した（母親を対象とした際、札幌市S病院の協力も得た）。アンケートはフィリピンの村で収集された俗信と慣習の一部を用い、日本の母親には同じものを日本語に翻訳したものをを用いた。日本の母親359人、フィリピンの母親225人がアンケートに答えた。これらのデータから得られた結果を以下に記す。

1. 日本とフィリピンの母親の学歴の比較から、両国の間に大きな違いのあることがしめされた。日本の母親の最終学歴は、36.3%短大と大学、56.1%高等学校、7.5%中学校卒業であった。一方、フィリピンでは8.4%の母親は大学、49.3%は小学校だけを残りは中高等学校を卒業していた。

日本の母親の70.2%が専業主婦であるのに対し、フィリピンでは60.9%であった。母親がついている職業の種類は、両国で有意な違いをしめした。

日本の家族は主に1-3人の子ども（70.8%）、一方フィリピンでは52%が1-3人の子どもを育て、48%は3人以上の子どもを育てていた。このように両国の子どもの数は異なった。日本82.2%、フィリピン64.0%の家族で、父親は主な一家のかせぎ手であった。日本の90.7%の家族で母親が食事の献立をきめていた。フィリピンでは50.7%だけの母親であった。

2. データの分析から、妊娠から離乳までの食べ物に関する俗信と慣習について、日本の母親は全く同意しないことが分かった。ただ一つの例外は“妊婦は甘い物を食べない”に同意したことであった。フィリピンの母親は妊娠中及び出産後に関する俗信と慣習をほぼ同意した。「承認の程度」を表すために計算された「重み付け平均（WM）」で、妊娠初期、出産後と離乳に関する俗信と慣習に両国間で有意差が認められた。妊娠後期のそれには有意差がなかった。

日本の母親62.2%、フィリピンの母親60.9%は母乳で育児をしていた(するつもりであった)。フィリピンの母親(39.1%)は13-18ヵ月ぐらいで離乳したり、するつもりであった。一方日本では45.6%の母親は7-12ヵ月で離乳したり、するつもりであった。フィリピンでは、日本より長期間にわたって乳を与えることが明らかになった。

3. 日本の母親の7.0%、フィリピンの母親の62.2%はこれらの食べ物に関する俗信と慣習を、全体として“承認する”と答えている。他は“承認しない”、“疑わしい/分からない”と答えた。日本とフィリピンの間に、これらの食べ物に関する俗信と慣習を承認する程度にちがいが存在した。また小児の健康にたいするそれを信じる影響について、日本の母親の38.2%、フィリピンの母親の46.7%は“重大ではない”または“問題ない”と答えている。一方母親の健康への影響に関しては、日本の母親の43.8%、フィリピンの母親の44.5%が“重大ではない”または“問題ない”と答えている。

食べ物に関する俗信と慣習からおこる問題を減少させるために、フィリピンの母親の66.7%は正しい栄養と健康管理について情報を得られるような講義を選んだ。一方日本の母親の第一の選択は“自分で正しい知識を得る”ことであった。

4. 北海道の市町村役場と保健所などを通じて、過去にあった28と現在もある23の食べ物に関する俗信と慣習を集めた。日本とフィリピンのそれらを比較すると、10の両国共通の項目がアンケートに見い出された。他方、アンケートに使わなかったものもあわせて比較すると、共通の俗信と慣習は、過去のものに8と現在に11項目も見い出された。
5. 日本の母親を市町村、プロフィール(年齢、職業、学歴)によりグループに分けて、食べ物に関する俗信と慣習にたいする同意の程度を比較した。住んでいるところが市か町村か、年齢と職業はいずれも同意の程度に影響を及ぼさなかったが、学歴は重み付け平均(WM)の検討から、承認の程度に影響を及ぼすことが示唆された。最終学歴が高いと、食べ物に関する俗信と慣習を同意する程度は低下したのである。

## INTRODUCTION

Good nutrition, a healthy nation. This is true not only for mother and child, but for everyone. Child bearing and child rearing are the start of determining if an individual will be healthy or not. However there are some beliefs and practices among different communities of different countries throughout the world that affect directly, or indirectly, their residents' health.

The effect of the mother's health on the nutrition of unborn children is quite direct and obvious, as the intake and absorption of food are determine the physiological makeup of the child. A child requires food not only for maintenance of body tissues, but also for growth. Growth depends on an adequate intake of food which must not only be digested and absorbed but also utilized by the body. Several factors influence and interfere in the process of digestion, absorption and utilization. Food intake itself is influenced not only by the level of appetite but also by the availability of food, which in turn depends on socioeconomic factors and the level of food production that a society has achieved within a given environment. However, not all available and potential edible materials are recognized or preferred as foods. Each culture views food according to its cultural perspective. Today, as a result of population press-

ures and ecological problems, such food preferences often have a negative effect on nutrient intake and consequently upon growth itself (6). Such food preferences are based on the culture's view of what each food item means in relation to other aspects of the culture. In most cultures, one or two foods are elevated to cultural superfoods that thus acquire a semidivine status. In the rice-growing areas of Southeast Asia, rice is not only the staple food, but also appears at all major ceremonies concerned with vital events. Thus, among Malays, rice is ceremonially used at weddings to bless the bridal couple at traditional healing ceremonies, and is also fed to newborn infants soon after birth (3).

A preventive approach to malnutrition in children should begin before they are born, thus maternal nutrition deserves special attention. Information about the traditional beliefs and practices of a society are considered important inputs in planning and maintaining the good health of individuals (11). Nutritional beliefs and practices have always been a part of our culture. The relationship between old and modern ways of taking care children should also be recognized, and thereby enable us to know the techniques and strategies necessary to maintain good health of both mother and child.

We should consider the fact that members of a community with a relatively homogenous culture will share many of the same experiences. Such communities include traditional, relatively isolated rural communities which experience little or slow cultural change. Members of such communities will tend to rear their children in similar ways, thereby transmitting their culture as a homogenous social heritage to the next generation. Early life experiences of children make a foundation of their physical and personality development. Thus, even though there are individual differences, it may be expected that there will be a pattern of health in a relatively homogenous group which distinguishes it from other groups which have different cultures (7).

The reason for choosing Japan and the Philippines as the areas for this study is that because both countries are in Asia, their location is nearby and even though the modern history is quite different, researchers are interested if some similarities still exist. Besides the cultural aspects, improvement in social services on maternal and child health is also important. It is striking that pregnancy-related deaths in the Philippines dropped significantly to the point that it is no longer among the five leading causes of death among women aged 15 to 40. At the same time, statistics indicate that the maternal mortality rate has increased significantly among those aged below 15, and those over the age of 40 (14). Overall maternal mortality rates have remained virtually unchanged over the last decade, hovering around a figure of 1 per 1000 live births while Japanese one was 0.108 (1989). Leading causes of maternal death remain hemorrhages and hypertension, both preventable with proper prenatal care. Infant mortality rate in the Philippines as of 1988 was 45.1 which is a big difference comparing with Japan's infant mortality rate, 4.4 per 1000 live births (1). The leading causes of death for Filipino infants and children 1-5 years of age as of 1988 were pneumonia, measles, diarrhea, malnutrition and others (14). It is a fact that principal causes of mortality are those diseases which can be partially treated and prevented by the people themselves. These include such

diverse measures as improving the environmental sanitation and upgrading education (5). Further complicating the situation in the Philippines has been the armed conflict affecting the delivery of health services (12). Identifying this type of factors is one of the purposes of this study. Learning about other factors affecting the health and nutrition of mother and child in both countries, will help understanding how to maintain the good health of both mother and child, specifically during child bearing and rearing.

Overcoming the difficulties of understanding the effects and relationships of the different profiles of mothers, beliefs and practices during child bearing, child birth, and weaning, along with the problems encountered in following these beliefs and practices will surely help us to understand the cultural differences and similarities between the two countries. With this in mind, we designed a scheme to reach some of the pregnant and lactating mothers in Japan and the Philippines to gather the information necessary to make this research fruitful. The results of this study will provide basic information about the nutritional beliefs and feeding practices of mothers. Study is also designed to help the development of nutrition programs to meet nutritional needs and problems of mothers, and to bring enlightenment about the effects of present beliefs and practices on the health of mother and child.

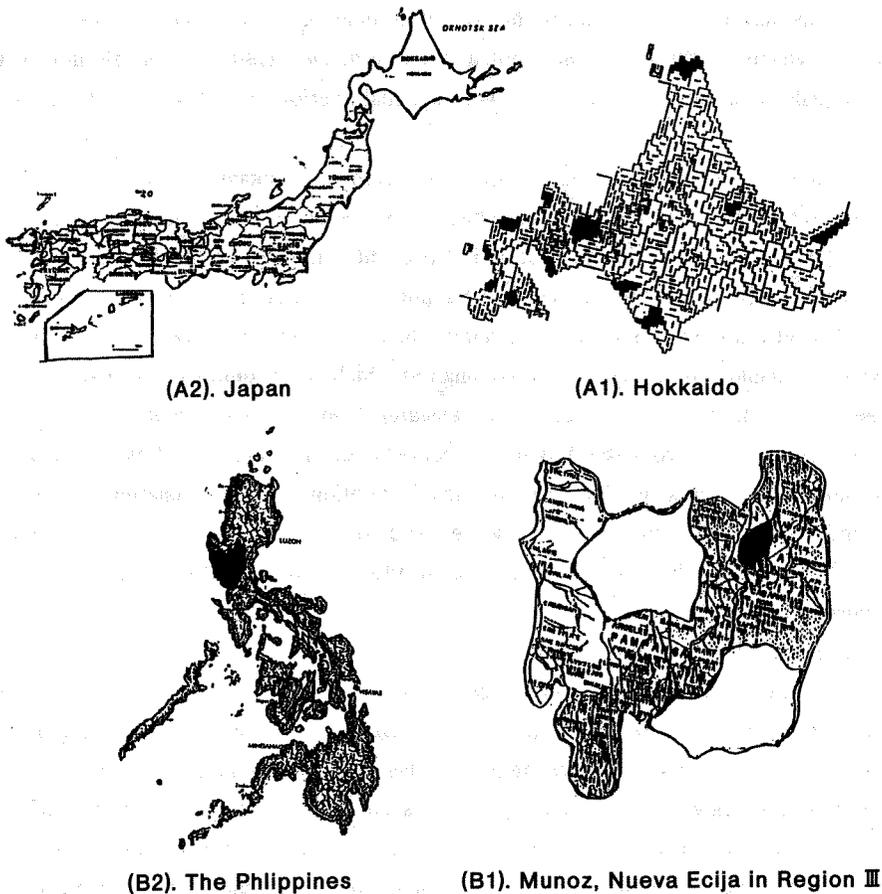
## METHODOLOGY

The first phase of research was conducted in the Philippines in 1990 (Table 1 and Figure 1). A positive method was used by distributing questionnaires, conducting interviews, observing real practices of mothers and using the health records of respondents from Munoz, Nueva Ecija, Philippines (8). For making questionnaire, the researcher gathered nutritional

Table 1. Location of the study in Japan and Philippines

Location	Japan		Location	Philippines	
	Freq.	Percent		Freq.	Percent
Shimamaki village	14	3.9	Villa Isla village	25	11.1
Kamoenai village	16	4.5	Linglingay village	25	11.1
Esasi town	3	.8	Gabalton village	25	11.1
Kamiiso town	16	4.5	Villa Isla village	25	11.1
Ikutawara town	5	1.4	Rang-ayan village	25	11.1
Monbetsu town	8	2.2	Catalanacan village	25	11.1
Rausu town	27	7.5	Matingkis village	25	11.1
Taisei town	12	3.3	San Anton village	25	11.1
Toyoura town	23	6.4	Calabalabaan village	25	11.1
Wakkanai city	55	15.3			
Muroran city	28	7.8			
Date city	52	14.5			
Sapporo city	100	27.9			
Total	359	100.0		225	100.0

Legend : Freq. - frequency



**Figure 1. Location of the study**

These maps indicate Hokkaido (A1) in Japan (A2) and Munoz, Nueva Ecija in Region III (B1) in the Philippines (B2). Shaded places show areas of distribution of the questionnaire.

beliefs and practices of Filipino mothers through interview and observation and those were adopted as a part of the questionnaire. The researcher distributed the questionnaires written in Tagalog (Philippine national language) to 225 mothers and after two weeks the answered questionnaires were collected. While collecting the questionnaires the researcher interviewed the mothers informally. Likewise observation was also done. The translated questionnaire from Tagalog to English is listed as Appendix 1.

Two categories were used on the questionnaires with a weighted mean calculated for each. For the first category, respondents selected the most appropriate answer from a scale of three numbers as follows : 1) agree, 2) moderately agree, 3) not agree. Weighted means were then compared to a standard where : 2.34–3.00 equals not agree ; 1.67–2.33 equals moderately agree ; and 1.00–1.66 equals agree. The second category was done in a similar manner where the responses were : 1) not a problem at all, 2) not serious, 3) moderately se-

rious, 4) serious and 5) very serious. The weighted mean of these responses were compared to a standard where : 1.00–1.79 equals not a problem at all ; 1.80–2.59 equals not serious ; 2.60–3.39 equals moderately serious ; 3.40–4.19 equals serious ; and 4.20–5.00 equals very serious.

The second phase of this research was conducted in Hokkaido, Japan in 1992. This phase incorporated the results of the first phase. A survey about the nutritional beliefs and practices of Japanese mothers in the past and at present was sent to 220 different health centers, out of which 22 cities, four districts in Sapporo, 95 towns and 12 villages for a total of 133 (60.1%) health centers responded. Further, health centers were requested to grant the researchers permission to distribute questionnaires which were identical to those used in the first phase of the study and which had been translated from English to Japanese as closely as possible (Appendix II). From the 133 health centers, the researchers chose 12 health centers and another S hospital in Sapporo for the distribution of the translated questionnaires (Table 1 and Figure 1). The responses were used to compare the acceptance of Japanese mothers to the Filipino's beliefs and practices, profile and so on. 359 mothers were given questionnaires, and all of them replied.

Comparing the data of both countries was done as followings : In Part 1, frequency and percentage for the location of the study, age, educational attainment, occupation, breadwinner, family size, food decision maker and person taking care of the baby were compared between both countries. In Part 2, the degree of assessment of Japanese mothers to Filipino beliefs and practices listed in the questionnaire was compared with the acceptance of Filipino mothers. 9 items related to conception, 6 items related to pregnancy, 5 items after delivery and 7 items in specific procedures in weaning babies were assessed by weighted mean. 4 items in the distribution of foods to newborn babies and 6 items in weaning age of babies were also compared. First solid foods introduced and common foods given to babies were compared in both countries. In Part 3, the acceptance and perceived effects of nutritional beliefs and practices on the health of mothers and children, perceived effects and problems in following beliefs and practices among mothers, and suggested solution were compared. In Part 4 the nutritional beliefs and practices of Japanese mothers collected through health personnels were compared to the Filipino beliefs and practices to know the existing similarities of the beliefs and practices of both countries. Among Japanese mothers, their profile and the acceptance of nutritional beliefs and practices were compared by location or their profile in Part 5.

The statistical computation and analysis were done based on frequency, percentage, weighted mean, chi-square test and Cochran t-test using Statistical Analysis System (SAS) in Hokkaido University Computing Center in Japan.

## RESULTS AND DISCUSSION

### 1) PROFILE OF RESPONDENTS IN JAPAN AND THE PHILIPPINES

Out of 359 Japanese respondents, 259 (72.1%) were lactating while 100 (27.9%) were pregnant. In the Philippines there were a total of 225 respondents, with 175 (77.8%) lactat-

ing and 50 (22.2%) were pregnant. The rate of pregnant and lactating mothers is not significantly different with a chi-square value of 0.865 in both countries.

Age distribution shows that both countries have young and older mothers (Table 2). Mothers from 36 years of age and above represented 12.3% of the sample in Japan and 19.7% in the Philippines. For the age bracket of 24–35 Japan had a higher percentage, while for mothers with ages below 25 years, the Philippines had a higher percentage. The bulk of the age respondents in Japan fell into the 24–29 age bracket compared with the Philippines in which the 21–25 age bracket dominated. This implies that mothers from the Philippines tend to be younger than Japanese mothers. It is therefore likely that they still lack the necessary managerial experiences of running family affairs, especially when it comes to nutritional practices which is essential information for mothers. Also, since they are young, their educational level is not sufficient to maintain their baby's health. This compares to Japan, where even if quite young, pregnant and lactating mothers are required to attend seminars given by local health centers 4–8 times. Whereas in the Philippines, lectures are given according to availability and only limited times.

Table 2. Age of the respondents in Japan and Philippines

Age	Japan		Age	Philippines	
	Freq.	Percent		Freq.	Percent
42 and above	9	2.5	36 - 40	44	19.5
36 - 41	35	9.8	31 - 35	24	10.7
30 - 35	128	35.8	26 - 30	47	20.9
24 - 29	147	41.1	21 - 25	77	34.2
18 - 23	39	10.9	15 - 20	33	14.7
12 - 17	0	0			
Total	358	100.1		255	100.0

Legend : Freq. - frequency

In Japan, 7.5% of all mothers finally completed Junior high school (9 school years). 56.1% finished Senior high school (3 further school years) and 36.3% were able to go to college. Conversely, the highest percentage, 49.3%, of Filipino mothers finally finished elementary school. Those who finished high school were 42.2 and 8.4% were able to go to college or vocational courses. As a whole, educational attainment of Japanese mothers was higher than Filipino mothers as viewed in Table 3. These results are partially due to differences in the educational system between these two countries. Japan's public education system is tax-funded (although many private schools exist) (4). Six years of elementary and 3 years of Junior high school are compulsory for all children (enrollment 100 percent); Senior high school is elective (enrollment over 95.4 in 1991), Junior college, Trade schools and University, which is 1 to 4 years and had enrollment of 39.2% as of 1991, Junior college and trade schools are also optional. Elementary to high school represents a total of 12 years. The Philippines's educational system is quite different. Though the government offers free

Table 3. Educational attainment of mothers

Educational attainment	School year	Japan		School year	Philippines	
		Freq.	Percent		Freq.	Percent
Elementary school	6	0	0	6	111	49.3
Junior high school	3	27	7.5			
Senior high school	3	201	56.1	4	95	42.2
Junior college	2	116	32.4			
Vocational/college				1-6	19	8.4
University	4	14	3.9			
Total		358	99.9		255	99.9

Legend : Freq. - frequency

elementary and high school education in public schools, attendance is not compulsory. Therefore, if a student wants to study, he / she can study, but if they do not want to study that is also their choice. As education is not compulsory, the literacy rate in the Philippines as of 1990 was 89.7% compared to the Japanese literacy rate of 99.1% from urban and rural areas. Total school years from elementary to high school in the Philippines is 10 years (1).

In Japan, as shown in Table 4, 70.2 % of the mothers were unemployed, staying in the house as housekeepers, while in the Philippines 60.9% of the respondents were housekeepers. This shows that most mothers were confined at home and devoting most of their time in doing or managing household chores and taking care of their children. Other Filipino mothers were seasonal workers engaged in planting and harvesting rice or onions, or working as either office workers or teachers. Non-housewife Japanese mothers were working as part-time workers, office workers, teachers, seasonal workers or as business owners. Japanese mothers prefer to stay in the house during pregnancy and child rearing, a trait which makes these stages good for the mother and child's health and the child's development. Distribution of mothers' occupations in the two countries is seen to be significantly different by the chi-square test. 98.7% of Japanese families ranges in size from 0-3 children. As has been often

Table 4. Occupation of mothers

Occupation	Japan		Philippines		Probability Chi-square test
	Freq.	Percent	Freq.	Percent	
Housekeeper	250	70.2	137	60.9	<0.01
Part-timer	23	6.5	0	0	
Office worker	44	12.4	22	9.8	
Owner of some business	8	2.2	0	0	
Agriculture, fishing	8	2.2	66	29.3	
Others	23	6.5	0	0	
Total	356	100.0	225	100.0	

Legend : Freq. - frequency

stated, Japanese families have experienced drastic changes both in structure and in the members function since World War II. A remarkable among these changes is the decrease of extended families and the increase of nuclear (17). Many came to lead a lonesome life as rural, isolated families shrank in size. Equally noteworthy is the rapid drop of the 'fertility rate'; it is reported to be 1.54 in 1990 versus 5.11 in 1926 (birth numbers per Japanese women from 15 to 49 years of age) in national census (2). In the Philippines a majority of 52% of the respondents have family sizes ranging from one to three children, with the remaining 48% being greater than 3. This finding indicates that the respondent families were generally small because they have employed techniques of family planning to cope with the impact of economic imbalance (Table 5). It also supported that the family size in Japan as of 1990 was 3 children, while Philippines was 5.6 children in 1980. This also relates to the birth rate of each country, where Japan's birth rate is 9.9 versus 33.9 babies per 1000 people in the Philippines as of 1991 (1). In Japan, 35.9% of the surveyed women had children of 12 months or younger, 34.5% had children 13 months to 36 months in age, and 2.2% of the mothers revealed they had children more than 3 years old. The remaining 27.3% were pregnant women. In the Philippines 66.2% had children of 12 months or younger and 33.8% were 13 months to 36 months of age. Distribution of family size in both countries is seen to be different by the chi-square test.

Table 5. Family size of the respondents

Size	Japan		Philippines		Probability Chi-square test
	Freq.	Percent	Freq.	Percent	
7 - 9	1	0.2	22	9.8	<0.01
4 - 6	4	1.1	86	38.2	
1 - 3	254	70.8	117	52.0	
0	100	27.9	0	0	
Total	359	100.0	225	100.0	

Legend : Freq. - frequency

The husband is the main breadwinner both Japan and the Philippines. In recent times Japanese fathers have come to lose their direction and status in the family, and mothers have been forced to execute roles that once belonged to fathers (14). This statement is important because it indicates the father's role when it comes to food decision making and taking care of the children. In both categories of the questionnaire Japanese fathers received a low percentage. This means that most of them were not really taking part in caring for their babies. This indicates that distinct gender roles still remain in Japanese society. In the Philippines, 64% of the families father were the breadwinner; this is collaborated by the occupational rate of 9.8% of the mothers employed as office workers or teachers, indicating they were probably the sole breadwinner of their family (Table 6). Distribution of bread winner in families of both countries appears significantly different using the chi-square test. Table 6 also shows

Table 6. Bread winner, food decision maker and person taking care of the baby during day time

	Japan		Philippines	
	Freq.	Percent	Freq.	Percent
<b>a. Bread winner</b>				
Husband	336	82.2	144	64.0
Mother	48	11.7	28	12.4
Relatives and other children	24	5.9	53	23.6
Others	1	0.2	0	0
Total	409	100.0	225	100.0
<b>b. Food decision maker</b>				
Mother	341	90.7	114	50.7
Father	16	4.3	73	32.4
Parents	18	4.8	38	16.9
Others (child, relatives, helper)	1	0.2	0	0
Total	376	100.0	225	100.0
<b>c. Person taking care of the baby during day time</b>				
Mother	310	79.5	129	57.3
Father	9	2.3	0	0
Parents	24	6.2	58	25.8
Day care center	42	10.8	0	0
Others (child, relatives, helper)	5	1.2	38	16.9
Total	390	100.0	225	100.0

Note : Japanese mothers have multiple responses in these items but Philippines has only one answer.

Legend : Freq. - frequency

that the mother is still the one who decides family food selections. In the Japanese families the mothers acted as the food decision maker, 90.7% of the time, fathers in 4.3%, and in 4.8% of the families grandparents primarily influenced food selections. In the Philippines, 50.7% of the respondents reported that the mother decided on food selection and preparation, 32.4% revealed that the mother and father collaborated and 16.9% of the time the grandparents were the decision maker. This shows that beliefs and practices of the grandparents were sometimes directly implemented on the mother and child.

Taking care of babies in Japan is directly related to the occupation of the mothers. In the Japan survey, care of the child broke down as follows : in 79.7% of the cases the mothers cared for the child, the father in 2.3% of the cases, grandparents in 6.2%, kindergarten represented 1.3% while others were cared for by other relatives or helpers. In the Philippines, 57.3% of the mothers cared for by others, such as an older child, relatives or helpers. The differences between these two countries are the following ; In the Philippines, those living in villages do not have access to a daycare center system where they can leave their child during daytime when the baby is only a few months of age. Cities and towns have day-care centers,

but most people prefer not to bring their child due to high costs. Further, they tend to let relatives, neighbors, elder children and grandparents to take care of their baby while they are in work. In Japan, some mothers believe that once they are pregnant and have a baby, they should stop working and take care of the baby (4).

## 2) ACCEPTANCE OF NUTRITIONAL BELIEFS AND PRACTICES OF MOTHERS IN BOTH COUNTRIES

The second specific area of this study referred to the nutritional beliefs and practices of pregnant and lactating mothers. Acceptance of beliefs and practices of mothers during conception is shown in Table 7. An average weighted mean of 1.05 in Japan shows that Japanese

Table 7. Nutritional beliefs and practices of mothers related to conception

Items of information	Japan		Philippines	
	WM	Acceptance	WM	Acceptance
1. Dark foods like black will affect the complexion of baby.	1.03	n. a.	2.01	M. A.
2. Iron supplement will hasten the growth of baby which will be difficult in delivery	1.09	n. a.	1.83	M. A.
3. Combination of squash and chicken will cause leprosy	1.04	n. a.	2.16	M. A.
4. Eggplant causes beri-beri	1.04	n. a.	2.22	M. A.
5. Sour foods cause hardness/difficulty in releasing all the blood in mother's womb	1.04	n. a.	1.76	M. A.
6. Slippery food will make the ovary slippery too	1.04	n. a.	2.20	M. A.
7. Fruits and juices taken before and after breakfast will cause stomach problem	1.04	n. a.	2.13	M. A.
8. Conceiving mother should not eat crabs or sausages because the finger of the baby will be look like of that crab	1.01	n. a.	2.14	M. A.
9. Eating plenty of peanuts will make the baby witty	1.08	n. a.	2.49	A.
Total average ±SD	1.04 ±0.024		2.10 ±0.205	* p<0.001

Descriptive equivalent :

1.00 - 1.66	Not agree
1.67 - 2.33	Moderately agree
2.34 - 3.00	Agree

Legend of abbreviations :

W. M.	- Weighted mean
n. a.	- Not agree
M. A.	- Moderately agree
A.	- Agree
*	- Probability by Cochran t-test
	- Japan versus Philippines
SD	- Standard deviation

mothers did not agree with beliefs and practices commonly accepted in the Philippines. The Filipino mother's average weighted mean of 2.10 showed that the respondents "moderately agreed" with the beliefs and practices. Acceptance of both countries is significantly different using the Cochran t-test. In the Philippines, ranked first, with a weighted mean of 2.49 was "eating plenty of peanuts will make the baby witty". Filipino mothers generally believe that the peanut, which is a fatty food, develops the power of the brain (8).

While in Table 8, ranked first in the Philippines with a weighted mean of 2.64 was "mother should eat less", while in Japan "eating sweet foods are prohibited" with weighted mean of 1.75, which means that they moderately agreed to these items (Figures 2 and 3). During pregnancy, Filipino mothers often restrict their diet in an attempt to have a small baby and then an easy delivery. As a consequence, the fetus receives inadequate nutrients from the mother. Japanese mothers moderately agreed to the item that "sweet foods are prohibited because the baby will become too big". Further, Filipino mothers moderately agreed with the following items "eating crabs must be avoided" so that malformation of the hands or feet will be avoided, "eating light colored foods will cause the baby to have a white complexion and others. The finding that respondents still moderately held on these beliefs and practices yield very important implications regarding nutritional education. It implies that the Filipino mothers are not yet aware of the fact that child malnutrition is an extension of maternal malnutrition. Thus Japanese mothers, with proper education and health support, have the advantage understanding that caring themselves and cares for the baby as well. Table 8 shows that both countries are not significantly different when compared with the Cochran t-test.

Table 8. Nutritional beliefs and practices of mothers related to pregnancy

Items of information	Japan		Philippines	
	WM	Acceptance	WM	Acceptance
1. The mothers should eat less	1.51	n. a.	2.64	A.
2. Sweet foods are prohibited because the baby will become too big	1.75	M. A.	1.89	M. A.
3. Eating twin banana will have twin babies too	1.03	n. a.	1.18	n. a.
4. Eating light colored food will make the complexion of the baby light also	1.06	n. a.	1.34	n. a.
5. Eating liver will cause birthmarks in the baby	1.00	n. a.	1.07	n. a.
6. Eating noodles will make the baby's body weak	1.01	n. a.	1.02	n. a.
Total average	1.23		1.52	
±SD	±0.294		±0.576	*NS

Descriptive equivalent and legend are same as those of Table 7.

NS - Not significant

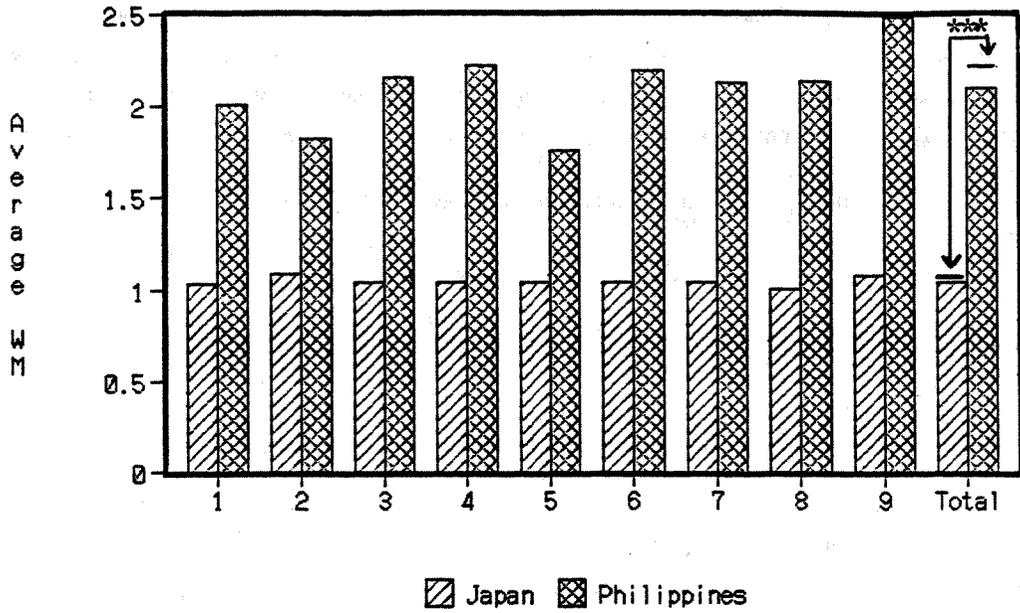


Figure 2. Average weighted mean (WM) of acceptance on each nutritional belief and practice related to conception in Japanese and Filipino mothers

Numbers written below the columns represent numbers identifying various nutritional beliefs and practices in Table 7. Bars on the top of columns represent SD of the mean. \*\*\*  $p < 0.001$

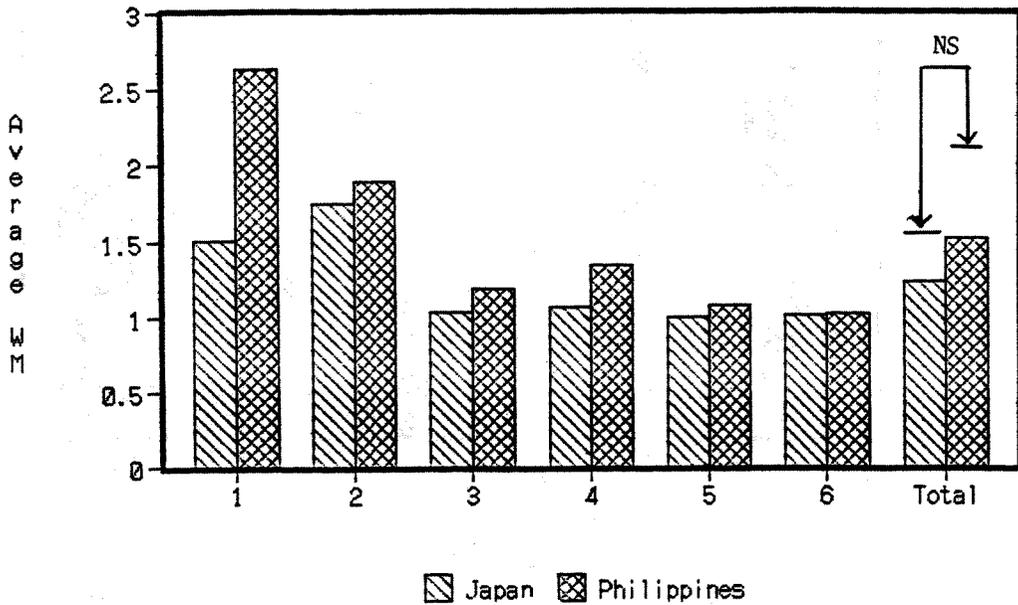


Figure 3. Average weighted mean (WM) of acceptance on each nutritional belief and practice related to pregnancy in Japanese and Filipino mothers

Numbers written below the columns represent numbers identifying various nutritional beliefs and practices in Table 8. Bars on the top of columns represent SD of the mean. NS : Not significant

After delivery, Filipino mothers agreed that “eating milkfish will make them feel weak”, “watermelon tends to interrupt the wound caused by childbirth from healing”, “and eating fatty foods is bad”. In general, Filipino mothers moderately agreed to the beliefs and practices listed in Table 9 and Figure 4, while Japanese mother did not agree at all. Both countries

Table 9. Nutritional beliefs and practices of mothers after delivery

Items of information	Japan		Philippines	
	WM	Acceptance	WM	Acceptance
1. Eating milkfish will make the mother not to feel good	1.16	n. a.	2.64	A
2. Eating watermelon makes the wound of the mother to become fresh again	1.08	n. a.	2.80	A
3. Eating mongo will cause bleeding	1.30	n. a.	1.25	n. a.
4. Eating foods with lots of fat is prohibited	1.03	n. a.	2.85	A
5. Eating ginger will stop the flow of breastmilk	1.13	n. a.	1.16	n. a.
Total average ±SD	1.14 ±0.102		2.14 ±0.858	*p<0.05

Descriptive equivalent and legend are same as those of Table 7.

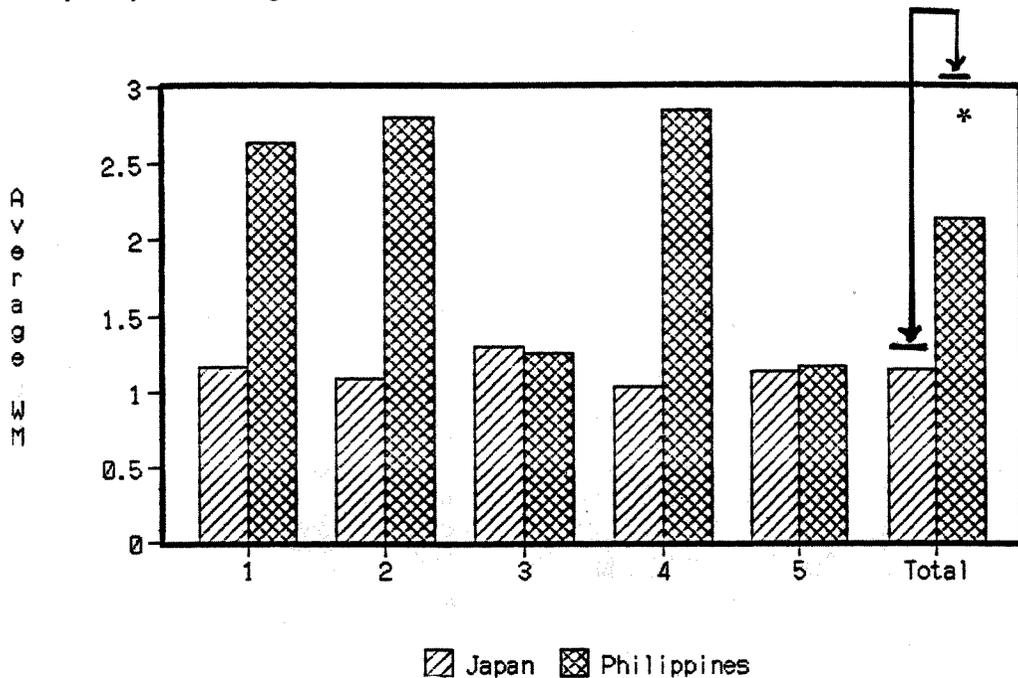


Figure 4. Average weighted mean (WM) of acceptance on each nutritional belief and practice after delivery of Japanese and Filipino mothers. Numbers written below the columns represent numbers identifying various nutritional beliefs and practices as in Table 9. Bars on the top of columns represent SD of the mean. \* p < 0.05

appear significantly different when compared with the Cockran t-test. Again, the above findings pertaining to Filipino mothers, yield important implications about education, specifically on nutrition and home economics. Lactating mothers need to know more important information regarding food nutrients and their values to mother and child (8).

Identified differences between Japan and the Philippines are the following : attending lectures for pregnant and lactating mothers in Japan is more regular as compared to the Philippines where it is irregular and dependent on availability of the mothers and the support of health personnel. Finally, Japanese mothers are used to deliver their babies in a hospital. In 1989, 99.9% of Japanese mothers delivered their babies in the hospital as compared to the data of year 1960, 50.1% of mothers preferred to deliver their babies in the hospital (10). While Filipino respondents prefer to deliver their babies at home with the assistance of midwives, or "traditional midwives", because they are cheaper than hospitals and doctors.

**FEEDING THE NEW BORN BABIES.** There were four feeding techniques used by Japanese mothers ; these are breastfeeding, mother's milk using a bottle, cow's milk using a bottle, and a combination of cow's milk and mother's milk. However, in the Philippines, there were three ways of feeding which had been adopted by mothers ; breastfeeding, bottlefeeding using cow's milk and a combination of breastfeeding and bottlefeeding (15). The researcher emphasizes the fact that Filipino mothers did not use the technique of giving mother's milk by bottle because most of the respondents were living in villages and did not have refrigerators to preserve their own milk. In Japan, however, this technique has recently become popular. Table 10 shows that breastfeeding remains the most preferred way to feed newborn babies in both countries, because the mothers knew that mother's milk provides superior nutriment, and as with all mammal milks, human milk is indeed unique for human babies. It has been noted that among several cultures which continue to breast-feed their infants, such as Malays, that colostrum, which is rich in immunoglobulins, is discarded (3) (16). This is related to the finding that some Filipino mothers believe colostrum is spoiled, and hence not suitable for babies. (8). Table 10 shows feeding ways used in both countries are not significantly different by using the chi-square test.

Table 10. Distribution of foods given to newborn babies

Items of information	Japan		Philippines		Probability Chi-square test
	Freq.	Percent	Freq.	Percent	
Breastfeeding	222	62.2	137	60.9	NS
Mother's milk using bottle	7	2.0	0	0	
Cows milk	38	10.6	23	10.2	
Combination of cow's milk and mother's milk	90	25.2	65	28.9	
Total	357	100.0	225	100.0	

Note : Japanese pregnant mothers who have no children yet answered their feeding plan.

Legend : Freq. - frequency

NS - Not significant

The first solid foods given to the babies are listed in Table 11. In Japan, the reasons for giving such foods are as follows ; Cooked rice is nutritious and babies need it. "Miso shiru", potatoes, and fish are easy to digest and promote strong teeth. Sweet bread is also given so that babies will become accustomed to adult foods. Noodles, like ramen, soba, etc., are easy to prepare. Apple juice, strawberry juice and "mugi tea" are given because they are believed to supply sufficient water content. "Tofu" or soybean curd is a nutritious, balanced food, and children enjoy eating it. Additionally, "tofu" is good practice using a spoon. Mothers in Japan were all knowledgeable about how to feed their babies, because during pregnancy they used to attend several lectures given by public nurses, nutritionist based on modern medical science and so on in their community. This does not mean that Filipino mothers are not sufficient knowledgeable, but in comparison Japanese mothers receive regular lectures, while in the Philippines it depends on the availability of the mother. If the Filipino mothers are busy, they receive no lectures composed of modern knowledge. In the Philippines, there were seven varieties of foods served to babies. Ranking first was the potato, for the same reason given in Japan in that it is easy to digest. Second was feeding "frog's meat," based on the belief it makes babies active in class. Next, sweet potato was given because it is always available locally and is cheap compared to other cereals. In Table 12, the first common solid

Table 11. First solid foods introduced to the baby

Foods	Japan		Foods	Philippines	
	Freq.	Percent		Freq.	Percent
Rice porridge	144	45.8	Potato	33	19.4
Fruit juice	98	31.2	Frog	30	17.6
Soup, "miso shiru"	30	9.6	Rice porridge	29	17.1
Vegetable juice	20	6.4	Squash or mungo	24	14.1
Sweet potato, potato	8	2.5	Eggs	20	11.8
Bread porridge	5	1.6	Cereals	19	11.2
Noodles like ramen, soba	4	1.3	Amargozo	15	8.8
Milk products	5	1.6			
Total	314	100.0	170	100.0	

## Main Reasons

Japan	Philippines
1. Heard from somebody	1. The baby will become active in class in the future
2. To be accustomed to the foods	2. The green mark in hips will be removed
3. Nutritious	3. Nutritious
4. Easy to eat and digest	4. Easy to digest
5. To be accustomed to other taste except breast-milk	5. Soft and delicious
6. Easy to cook and prepare	6. Easy to prepare

Legend : Freq. - frequency

Table 12. Common foods used to baby from 0-36 months of age

Foods	Japan		Foods	Philippines	
	Freq.	Percent		Freq.	Percent
Cooked rice, rice porridge	88	41.7	Delicious and nutritious foods	65	29.4
Vegetables	54	25.6	Rice Porridge	54	24.4
Dairy products	18	8.5	Potato, sweet potato	39	17.6
Soup, "miso shiru"	17	8.1	Vegetables and pork	33	14.9
Foods rich in protein such as fish and egg	16	7.6	Foods rich in protein such as eggs and fish	30	13.5
Bread, bread porridge	10	4.7			
Noodles	8	3.8			
Total	211	100.0		211	99.8

Legend : Freq. - frequency

foods, no longer supplementing milk, are reported. Respondents preferred foods that are delicious and nutritious, but which are not necessarily the most expensive ones. Foods rich in protein, such as eggs and fish were also preferred. Usually foods considered delicious were those foods that are tasty by adding seasonings like "Ajinomoto", "Chicken knorr" and "Maggi boullion". Rice porridge was cited by 22% of the respondents, as the most practical first solid food because preparation is very easy.

**BELIEFS AND PRACTICES IN WEANING BABIES.** Table 13 shows the respondents' beliefs and practices about weaning their babies.

In the Philippines a large group of 88 or 39.1% of the total respondents, reported they weaned their babies between the ages of 13 and 18 months. This is followed by a group composed of 64 or 28.4% of the respondents, who adopted the practice of weaning their babies between 7 and 12 months of age. The reason by Filipino mothers for weaning their babies at an early age were : not enough milk, injured nipples, poor health of the mother, disruption of

Table 13. Weaning age of babies

Months	Japan		Philippines		Probability Chi-square test
	Freq.	Percent	Freq.	Percent	
31 and above	0	0	6	2.7	<0.05
25 - 30	2	0.6	8	3.6	
19 - 24	20	5.7	37	16.4	
13 - 18	150	42.7	88	39.1	
7 - 12	160	45.6	64	28.4	
0 - 6	19	5.4	22	9.8	
Total	351	100.0	225	100.0	

Note : Weaning is the stage of baby that he/she is no longer dependent on breast-milk or any kind of milk.

Japanese mothers who don't have experience yet in weaning baby answered their weaning plan.

Legend : Freq. - frequency

sleep in the night and many more. In Japan, most commonly preferred ages for weaning babies 7 to 12 months. Out of the total respondents, 160 or 45.6% selected this choice. Overall, Japanese mothers preferred to wean their babies toward the end of the first year or, less frequently in the first half of the second year, Filipino mothers preferred to wean their babies after one year of age (Figure 5). Distribution of weaning ages for babies between the countries is significantly different using the chi-square test.

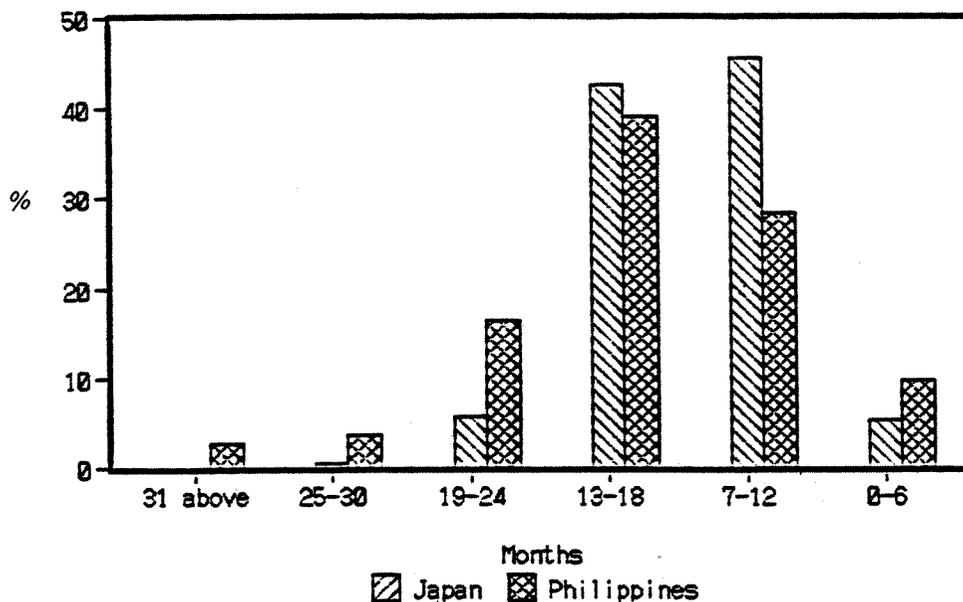


Figure 5. The percentage of weaning age in Japanese and Filipino babies

Table 14 shows the different steps and methods to wean babies. The most popular practice for weaning babies in the Philippines was to use Amargozo juice or sili so that the baby would stop sucking from the mother's breast or bottle. Wherein in Japan this item gained a weighted mean of 1.32, indicating an acceptance equivalent of "not agree."

Other items which the respondents did not agree were the following: "wean the baby early to allow the mother to get pregnant again", "do not allow two consecutive babies to suck mother's nipple at the same time", "if the baby is weaned early it will grow fast", "if the baby is separated from the mother's bed and weaned early the baby will become witty". Respondents from both Japan and the Philippines did not agree with these beliefs and practices (Figure 6). Distribution of weaning procedures for babies between the two countries are significantly different using the chi-square test.

Table 14. Specific procedures/steps in weaning babies

Description	Japan		Philippines	
	WM	Acceptance	WM	Acceptance
1. Rub "togarashi" (Japan) or "sili" (Philippines.) in mother's nipple	1.32	n. a.	2.49	A.
2. Give more delicious foods	1.07	n. a.	1.96	M. A.
3. Wean the baby early the earlier the mother to get pregnant	1.43	n. a.	1.36	n. a.
4. Do not allow two babies to reach each other in sucking from the mother's nipple	1.36	n. a.	1.56	n. a.
5. Wean early so that the baby will grow fast	1.21	n. a.	1.58	n. a.
6. Separate the baby from mother's bed with the minimum of 6 months	1.26	n. a.	1.17	n. a.
7. Wean the baby late and the baby will become witty	1.09	n. a.	1.33	n. a.
Total average ±SD	1.25 ±0.124		1.64 ±0.419	* p<0.05

Descriptive equivalent and legend are same as those of Table 7.

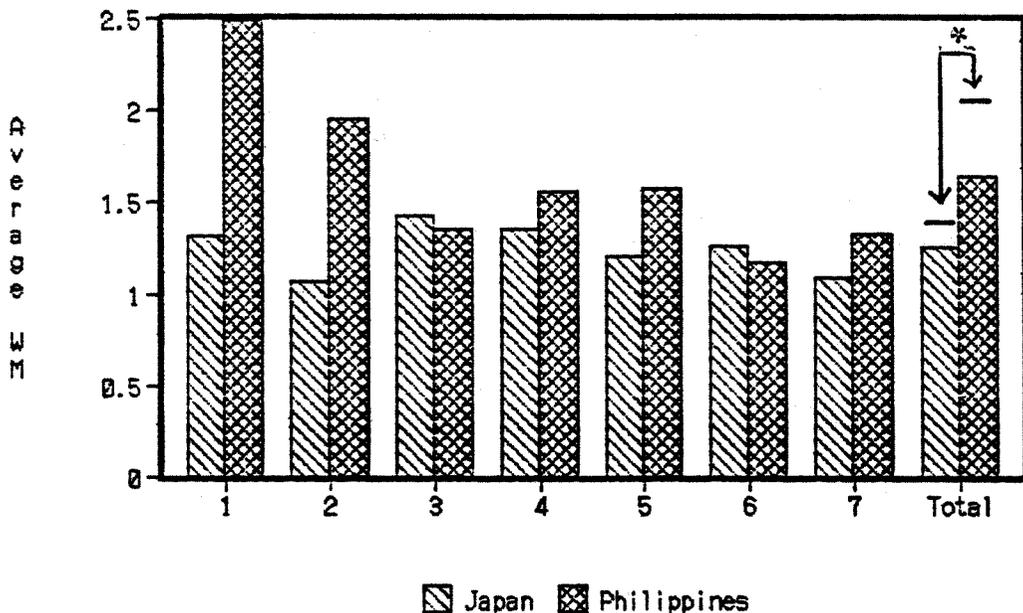


Figure 6. Average weighted mean (WM) of acceptance on each nutritional belief and practice related to procedures / steps in weaning babies in Japanese and Filipino mothers

Numbers written below the columns represent numbers identifying various nutritional beliefs and practices in Table 14. Bars on the top of columns represent SD of the mean. \* p < 0.05

### 3) PERCEIVED EFFECTS OF NUTRITIONAL BELIEFS AND PRACTICES AND SUGGESTED SOLUTIONS

As shown in Table 15, 62.2% of Filipino mothers and 7.0% of Japanese ones answered that they generally accepted nutritional beliefs and practices related to conception, pregnancy, specific procedures / steps in weaning babies and perceived effects and problems in following the beliefs and practices. The 93.0% of Japanese and 37.8% of Filipino mothers answered "no" or "in doubt / maybe". The answer distribution in both countries was significantly different by the chi-square test. 61.8% of Japanese mothers and 53.3% of Filipino ones chose the reply that effects of the beliefs and practices on babies' health were either "serious" or "mod-

Table 15. Acceptance and perceived effects of beliefs and practices on the health of mother and child

Items of information	Japan		Philippines		Probability Chi-square test
	Freq.	Percent	Freq.	Percent	
1. Do you accept the beliefs and practices of mothers during conception, pregnancy, specific procedures/steps in weaning beliefs, and perceived effects of beliefs and practices?					
Yes	25	7.0	140	62.2	<0.01
No	159	44.5	49	21.8	
In doubt/maybe	173	48.5	36	16.0	
Total	357	100.0	225	100.0	
2. To what degree do the beliefs and practices of mothers affect the health of the baby					
Serious	59	16.5	55	24.4	NS
Moderately serious	162	45.3	65	28.9	
Not serious	111	31.0	79	35.1	
Not a problem at all	26	7.3	26	11.6	
Total	358	100.1	225	100.0	
3. To what degree do the beliefs and practices of mothers affect their own health?					
Serious	49	13.8	59	26.2	NS
Moderately serious	151	42.4	66	29.3	
Not serious	129	36.2	80	35.6	
Not a problem at all	27	7.6	20	8.9	
Total	356	100.0	225	100.0	

Legend : Freq. - frequency

NS - Not significant

erately serious". Wherein, 56.2% of Japanese mothers and 55.5% of Filipino ones considered that the effects of the beliefs and practices on the health of mothers were to be either "serious" or "moderately serious" (Table 15). The distribution of answers in both countries did not differ.

There were 6 perceived effects and problems in following the beliefs and practices presented to the respondents (Table 16). Japanese mothers chose "the children start to be neglected" as "moderately serious", while Filipino mothers answered "not serious" on same item. Other items such as "cannot provide the children a balanced diet foods due to financial problems", "the children become susceptible to disease", and others were all viewed by Japanese mothers "serious". While Filipino mothers answered these items as either "moderately serious", "serious" or "very serious". Answer distribution of both countries did not differ by the Cochran t-test. The answers of Filipino mothers in this subject were compared to the nutritional status of their babies (8). It was found out in the study that Filipino mothers who viewed problems to be serious had malnourished babies. While mothers who viewed these as not serious did not have malnourished children. The study also revealed that almost Filipino mothers aware to the health condition of their babies but they could not maintain the health of their children due to low income and high price of various commodities.

Table 16. Perceived effects and problems in following beliefs and practices among mothers

Items of information	Japan		Philippines	
	WM	Acceptance	WM	Acceptance
1. The children start to be neglected	3.31	M. S.	2.41	N. S.
2. Difficulty in accepting the effects of the beliefs and practices	3.43	S.	2.67	M. S.
3. Cannot provide the children a balanced diet foods due to financial problems	3.69	S.	4.35	V. S.
4. Malnutrition on the part of the children	3.93	S.	3.80	S.
5. Lack of education/knowledge on health, nutrition and health practices	3.86	S.	3.30	M. S.
6. The children will become susceptible to disease	3.91	S.	3.47	S.
Total average	3.69		3.33	
±SD	±0.239		±0.654	*NS

Legends of abbreviated words :

W. M. - Weighted mean

N. S. - Not serious (WM scale : 1.80 - 2.59)

M. S. - Moderately serious (WM scale : 2.60 - 3.39)

S. - Serious (WM scale : 3.40 - 4.19)

V. S. - Very serious (WM scale : 4.20 - 5.00)

\*NS - Not significant

\* - Japan versus Philippines

The summary of results from Table 4 to Table 16 is listed in Table 17. The degree of acceptance was found to differ significantly in both countries on beliefs and practices related to conception, specific procedure or steps in weaning babies and after delivery. While the degree of acceptance on beliefs and practices related to pregnancy and perceived effects and problems by these beliefs and practices was not significantly different.

Table 18 presents suggested solutions to discourage unfounded beliefs and practices related to nutrition and health care among mothers and children chosen by Filipino and Japanese mothers. A big majority of 150 (66.7%) of the Filipino respondents suggested, in a single response, that continuous lectures must be undertaken for the benefit of mothers in local communities so that they would learn the importance of correct nutrition and proper health care.

Table 17. Summary of results showing the comparison of profile mothers between Japan and Philippines

Profile		Chi-square value	Probability	
Occupation	(Table 4)	39.48	<0.01	
Family size	(Table 5)	56.75	<0.01	
Breadwinner	(Table 6)	13.11	<0.05	
Food decision maker	(Table 6)	39.88	<0.01	
Person taking care of the baby during day time	(Table 6)	41.84	<0.01	
Distribution of foods given to newborn babies	(Table 10)	2.27	NS	
Weaning age of babies	(Table 13)	15.45	<0.05	
Acceptance and perceived effects of beliefs and practices	(Table 15)			
a. Do you accept the beliefs and practices		68.18	<0.01	
b. To what degree do the beliefs and practices affect the health of child		6.38	NS	
c. To what degree do the beliefs and practices affect their own health		6.34	NS	
Beliefs and practices				
	Japan	Philippines	t-value	Probability
Beliefs and practices related to conception	1.05	2.10		
(Table 7)	±0.024	±0.205	14.5	<0.001
Beliefs and practices related to pregnancy	1.23	1.52		
(Table 8)	±0.294	±0.576	1.03	NS
Beliefs and practices after delivery	1.14	2.14		
(Table 9)	±0.102	±0.858	2.59	<0.05
Specific procedures/steps in weaning babies	1.25	1.64		
(Table 14)	±0.124	±0.419	2.17	<0.05
Perceived effect and problem in beliefs and practices	3.69	3.33		
(Table 16)	±0.239	±0.654	1.15	NS

Mean value ± SD

Legends of abbreviated words are same as those in Tables 7 and 8.

Table 18. Suggested solutions to discourage beliefs and practices related to nutrition and health care of mother and child

Items of information	Japan		Philippines	
	Freq.	Percent	Freq.	Percent
1. Continuous/regular education through lectures	171	47.6	150	66.7
2. Conduct of case studies among mothers and their babies	158	44.0	26	11.6
3. Dissemination of information through leaflets	131	36.5	6	2.7
4. Holding meetings regularly	105	29.2	8	3.6
5. Non-observance of the beliefs and practices	60	16.7	3	1.3
6. Regular consultation with the community workers	163	45.4	27	12.0
7. Self-initiative to know the effects of the beliefs and practices to mother and child	192	53.5	5	2.2
Total			225	100.1

Note : Japan has multiple responses in items presented in this table but Philippines has only one answer per mother.

This suggestion was followed by "regular consultation with community workers" with 12.0% and the third got 11.6% where they should conduct case studies among mothers and their babies. Filipino mothers recognized the need of the comprehensive educational campaign among community residents. They looked upon the health authorities and educators to be very vital in the healthy life of the community. They stressed holding continuous lectures on various aspects of nutrition and health, specifically pertaining to conception, pregnancy and delivery. Though most of mothers interested to attend lectures, they prefer to work in the field and earn money especially during planting and harvesting seasons. Therefore, they wanted health personnel from both government and private health centers giving lectures after these seasons (8). While 53.5% of Japanese mothers suggested, in multiple responses, that self initiative to know the effects of the beliefs and practices to the health of mothers and babies, 47.6% answered continuous / regular education through lectures. Regular consultation with community health workers got 45.4%. Self initiative as first suggestion of the Japanese mothers, might come from the fact that pregnant mothers are supported by their doctors, health personnels in health centers and much knowledge through mass media.

#### 4) NUTRITIONAL BELIEFS AND PRACTICES OF JAPANESE MOTHERS

In this study, we gathered some of existing beliefs and practices among Japanese mothers in the past and at present from the health personnels of 133 areas in Hokkaido. Items presented in Tables 19 and 20 are nutritional beliefs and practices of Japanese mothers related to health condition of mothers and children in the past and at present. Japanese mothers believed in the past that "eating salmon roe, sujiko, would cause the baby to have

Table 19. Nutritional beliefs and practices of Japanese mothers in the past

- 
- O-1. Eating rabbit's meat during conception will cause the baby to have mouth like rabbit
  - O-2. Eating "konnyaku" by the mother during pregnancy will make the baby's boil remain
  - O-3. Pregnant mother should refrain from eating trout or raw fish
  - O-4. Light fruits and vegetable such as pears, if included in a mother's diet can help to create baby's complexion beautiful
  - O-5. Eating salmon roe "sujiko" will cause the baby to have white and reddish complexion
  - O-6. The consumption of sea weeds such as "wakame" by the mother during pregnancy will cause the baby to have more hair
  - O-7. Fatty foods or nuts consumed by the mother during pregnancy will cause the baby to have to have diarrhoea later on
  - O-8. Eating twin eggs, twin oranges or twin raddish during conception will cause the mother to give birth to twin babies
  - O-9. Eating flat fish "karei" by a pregnant mother will cause her baby to remain in one side of the uterus only
  - O-10. The ingestion of "ajinomoto" by a pregnant mother will increase the intelligence of her baby
  - O-11. Eating eggplant or buck wheat dough "soba" by a pregnant mother can cause her to miscarry
  - O-12. Eating octopus, squid or "namako" by a pregnant mother will cause her baby's body to become soft
  - O-13. Consumption of oranges or vinegar sour foods such a prohibited after delivery as it will stop the flow of milk
  - O-14. Mother's milk is beneficial to a baby's eye mucus
  - O-15. Eating black foods by a pregnant mother will cause her baby's complexion to become black
  - O-16. A baby's birthmark may be removed by rubbing it with mother's placenta
  - O-17. Eating salmon roe by a pregnant mother will cause her eyesight to become blurred/opaque
  - O-18. Eggplant or persimmon if consumed in the fall will cause the mother to miscarry
  - O-19. Rice cake, sea urchin "uni", "awabi", "koi" carp, "miso soup" with fish, corn, red rice, potatoes or beans if eaten will enable the mother to produce more milk
  - O-20. Eating baked gold fish is beneficial to babies with whooping cough
  - O-21. Mothers should not drink top water for 21 days after delivery
  - O-22. Left over breast milk should be throw in the river so that the flow of mother's breast will produce more milk
  - O-23. Turnips, Welsh onion, trout, octopus, squid, hot foods, oily foods, "saba", pumpkin, or "naganegi" if ingested after delivery will cause the mother to bleed or stomach ache
  - O-24. "Umeboshi", burned salt, burned miso and rice porridge "okayu" are good to eat after delivery as it low in protein
  - O-25. A mother who breastfeeds will find it difficult to become pregnant again during that time period
  - O-26. Eating meat of animals with four legs such as beef, or pork will cause the baby to walk like that animals
  - O-27. Do not allow two babies to reach in sucking from the mother's nipples at the same time
  - O-28. Spicy foods such as "wasabi" or "togarashi" are prohibited.
- 

Legend of abbreviation : O - has an equal meaning of "past".

Table 20. Nutritional beliefs and practices of Japanese mothers at present

- 
- N-1. Eating twin eggs, peanuts during conception will cause the mother to give birth to twin babies
- N-2. Eating persimmon, buck wheat "soba", water melon "suika", squid "ika", eggplant especially during autumn "akinasu", raddish "daikon", raw fish "nama sakana" or pear "nashi" by a pregnant mother may cause miscarriage
- N-3. The consumption of salmon roe "sujiko", or codfish roe "tarako" by a pregnant mother will cause her baby to become oily and baby head be covered with fat thus making the delivery difficult
- N-4. The consumption of "Awabi" by a pregnant woman will cause her baby's eyes to become beautiful
- N-5. The consumption of a large quantity of fruits and vegetables like raddish by pregnant woman will whiten her baby's complexion
- N-6. The consumption of sea weeds by a pregnant mother will cause her baby's hair to grow more
- N-7. The consumption of strong lyed food such as eggplant or burdock, will cause her baby's complexion black
- N-8. Pregnant mothers must always consume two shares when eating, one for the mother, and one for the child
- N-9. The favorite food of the mother during pregnancy will in turn be the favorite food of the child
- N-10. The consumption of cold foods such as ice cream or juice will make baby's temperature decrease
- N-11. The sooner that a mother ceases to breast feed, the sooner she will be able to become pregnant again
- N-12. The consumption of Welch onion "naganegi" during breastfeeding will cause the baby to have diarrhoea
- N-13. Taking decocted herbal medicine such as "dokudami" during pregnancy will cause baby's skin smooth and soft.
- N-14. Eating grinded onion will cause baby's stomach strong
- N-15. The consumption of deformed fruit and vegetables during pregnancy will affect the fingers or feet of baby
- N-16. Consumption of Saury "Sanma" or "Saba" are prohibited after delivery because breastmilk's quality decrease, or it will cause stomach ache
- N-17. Chicken's blood is beneficial to pregnant mother
- N-18. Pumpkin is held to be detrimental to pregnant women
- N-19. The consumption of rice cakes, corn, "miso soup" or carp "koi", "awabi" wil aid in increasing the quantity of mother's milk
- N-20. Spicy foods such a "wasabi" or "togarashi" are prohibited after delivery.
- N-21. The consumption of summer oranges, oranges, or foods with vinegar will lessen the flow of breast milk or breastmilk's taste will become sour
- N-22. Sweet foods are detrimental to a child's health, however salty foods are beneficial and recommended
- N-23. Rubbing "togarashi" in mother's nipple will able to wean the baby from sucking milk from it
- 

Legend of abbreviation : N - has an equal meaning of "at present".

white and reddish complexion", "consumption of sea weeds such as wakame during pregnancy would cause the baby to have more hair", "eating twin eggs, twin oranges or twin raddish during pregnancy would cause the mother to give birth of twin babies", "eating konnyaku during pregnancy would make the baby's boil remain" and so on. While at present some of Japanese mothers believe that "eating salmon roe, codfish roe during pregnancy will cause baby to become oily and baby's head to be covered with fat, thus making the delivery difficult", "taking decocted herbal medicine such as dokudami during pregnancy will cause baby's skin smooth and soft" and others which are listed in Tables 19 and 20. Similar studies by Kamata et.al.(9) and Shiga (13) were conducted in Honshu, main island of Japan, showing some similarities between beliefs and practices in Honshu and Hokkaido.

Beliefs and practices of Japanese mothers were compared to all beliefs and practices of Filipino mothers listed and unlisted in the questionnaire. Tables 21 and 22 show the summary of similarities of beliefs and practices between Japan and the Philippines, indicating 8 similar items in the past and 11 similar items at present. Japanese and Filipino mothers believed that "eating raddish would cause the baby to have white complexion", "eating twin foods during conception would cause the mother to give birth of twins", "rubbing togarashi (Japan) and sili (Philippines) on mother's nipples will able to wean babies" and so on.

Japanese beliefs and practices were also compared to the Filipino ones listed in the questionnaire. Although there were 10 items considered to be similar (Table 23), Japanese mothers did not agree to these 10 similar items, while Filipino mothers agreed to 3 items, moderately agreed to 2 items and did not agree to the rest. Examples of items listed in the questionnaire that similar to the Japanese beliefs are "dark food like black beans will make the complexion of the baby black", "eating watermelon makes the wound of the mother to become fresh again after delivery" (for both items Japanese mothers did not agree, Filipino mothers agreed) and others. Both countries appears significantly different when compared with the Cockran t-test.

**Table 21. Summary of similarities of past nutritional beliefs and practices between Japan and Philippines**

Japan	Philippines
O-4.	Eating raddish will cause the baby to have white complexion
O-7.	Fatty foods or nuts consumed by the mothers during pregnancy will cause the baby to have diarrhea later on
O-8.	Eating twin banana during conception will cause the mother to give birth to twins
O-13.	Consumption of sour foods such as foods cooked in vinegar "paksiw" is prohibited after delivery as will stop the flow of milk
O-14.	Mother's milk is beneficial to baby's eye mucus
O-15.	Consumption of black foods by a pregnant mother will cause her baby's complexion to become black
O-19.	The consumption of soup, "malunggay", or "tulya" after delivery will increase a mother's milk flow
O-25.	A mother who breastfeeds will find it difficulty to become pregnant again during that time period

Legend of abbreviated word is same in Table 19.

**Table 22. Summary of similarities of present nutritional beliefs and practices between Japan and Philippines**

Japan	Philippines
N-1.	Eating twin banana during conception will cause the mother to give birth to twins
N-2.	Eating water melon by a pregnant mother will make the wound of the mother to become fresh again
N-5.	The consumption of a large quantity of fruits and vegetables like raddish by a pregnant woman will whiten her baby's complexion
N-7.	The consumption of strong lyed foods such as eggplant, "duhat" will cause her baby 's complexion black
N-8.	Pregnant mothers must always consume two shares when eating, one for the mother, and one for the baby
N-10.	The consumption of cold foods such as ice cream or juice will cause the mother to have stomach upset
N-11.	The sooner that a mother ceases to breastfeed, the sooner she will be able to become pregnant again
N-15.	The consumption of crabs or sausages during pregnancy will affect the fingers or feet of the baby
N-16.	The consumption of milk fish in the after delivery will cause stomach ache
N-19.	The consumption of any kind of soups will aid in increasing the quantity of mother's milk
N-23.	Rubbing "sili" in mother's nipple will able to wean the baby from sucking milk from it

Legend of abbreviated word is same in Table 20.

Table 23. Comparing the summary of similarities and acceptance with the nutritional beliefs and practices listed in the questionnaire

Beliefs and practices in the Philippines listed in questionnaire	Similarities in Japan to the beliefs and practices listed in the questionnaire	Acceptance	
		Japan WM	Philippines WM
1. Dark foods like black beans will make the complexion of the baby black	O-15, N-6	1.03 n. a.	2.01 M. A.
2. Conceiving mother should not eat crabs or sausages because the finger of the baby will be look like the crab	N-14	1.01 n. a.	2.14 M. A.
3. Eating twin banana will cause the mother to give birth to twins	O-8, N-22	1.03 n. a.	1.18 n. a.
4. Eating light colored foods such as raddish will make the complexion of the baby white	O-4, N-4	1.06 n. a.	1.34 n. a.
5. Eating milkfish will make the mother not to feel good	N-15	1.16 n. a.	2.64 A.
6. Eating watermelon makes the wound of the mother to become fresh again	N-1	1.08 n. a.	2.80 A.
7. Eating ginger will stop the flow of breastmilk	N-19, O-30	1.13 n. a.	1.16 n. a.
8. Rubbing "sili" in mother's nipple will able to wean the baby from sucking milk from it	O-28, N-23	1.32 n. a.	2.49 A.
9. Weaning the baby at earliest time, the sooner she will able to become pregnant again	N-10	1.43 n. a.	1.36 n. a.
10. Do not allow two babies to reach each other in sucking from the mother's nipple	O-29	1.36 n. a.	1.56 n. a.
Total average ±SD		1.16 ±0.154	1.87 ±0.628 * p<0.01

Legends of abbreviated words are same in Tables 19 and 20.

Descriptive equivalents are same as those in Table 7.

### 5) COMPARISON OF PROFILE AND ACCEPTANCE OF NUTRITIONAL BELIEFS AND PRACTICES OF JAPANESE MOTHERS AMONG SUBGROUPS DIVIDED BY LOCATION AND PROFILE

Profile of the Japanese respondents were divided into certain categories. They were compared by location, age, educational attainment and occupation on the acceptance of beliefs and practices during conception and pregnancy, after delivery and in procedures in weaning babies.

Location of the study were divided into two : 7 towns and 2 villages as one and 4 cities as separate one. There were 124 mothers from towns and villages and 235 mothers from cities. These two subgroups were compared by age (chi-square value = 4.12) and educational attainment (chi-square value = 4.52) (Table 24). They did not differ significantly. Acceptance of

Table 24. Comparing the educational attainment of Japanese mothers by town and villages to city in Japan

Educational attainment	Town and Village		City		Chi-square value	Probability
	Frequency	Percent	Frequency	Percent		
Junior high school	9	7.3	18	7.7	4.52	NS
Senior high school	78	62.9	123	52.3		
Junior college	34	27.4	82	34.9		
Vocational/University	2	1.6	12	5.1		
Others	1	0.8				
Total	124	100.0	235	100.0		

beliefs and practices during conception (WM of town and villages = 1.05 and city = 1.05) (Table 25), during pregnancy (WM of town and villages = 1.22 and city = 1.23), after delivery (WM of town and villages = 1.16 and city = 1.13) and procedures in weaning the babies (town and villages = 1.26 and city = 1.21) was found to be not significantly different using the Cockran t-test.

Age of mothers were divided into two categories. 30 years of age and above as a separate one with 172 respondents and 29 years and below as another group with 186 respondents. These two groups were then compared by their educational attainment (chi-square value = 5.28) and occupation (chi-square value = 4.67) was found to be not significantly different using the chi-square test.

Groups by age were compared on the acceptance of beliefs and practices during conception (WM of 30 and above = 1.04 and 29 and below = 1.06), during pregnancy (30 and above = 1.20 and 29 and below = 1.25), after delivery (30 and above = 1.11 and 29 and below = 1.18) and procedures in weaning babies (30 and above = 1.21 and 29 and below = 1.24), indicating to be not significantly different in both groups.

Final educational attainment of mothers was divided into three categories. There were

Table 25. Comparing the acceptance of nutritional beliefs and practices during conception between the two divided groups by location of Japanese mothers

Items of information	Town and village		City	
	WM	Acceptance	WM	Acceptance
1. Dark foods like black will affect the complexion of baby.	1.03	n. a.	1.03	n. a.
2. Iron supplement will hasten the growth of baby which will be difficult in delivery	1.08	n. a.	1.10	n. a.
3. Combination of squash and chicken will cause leprosy	1.04	n. a.	1.04	n. a.
4. Eggplant causes beri-beri	1.02	n. a.	1.05	n. a.
5. Sour foods cause hardness/difficulty in releasing all the blood in mother's womb	1.05	n. a.	1.04	n. a.
6. Slippery food will make the ovary slippery too	1.03	n. a.	1.03	n. a.
7. Fruits and juices taken before and after breakfast will cause stomach problem	1.02	n. a.	1.05	n. a.
8. Conceiving mother should not eat crabs or sausages because the finger of the baby will be look like of that crab	1.01	n. a.	1.01	n. a.
9. Eating plenty of peanuts will make the baby witty	1.12	n. a.	1.13	A.
Total average	1.05		1.05	
±SD	±0.302		±0.333	*NS

Descriptive equivalents are the same as those in Table 8.

27 respondents finished Junior high school, Senior high school with 201 mothers, and Junior college and university as one with 130 mothers. These three groups were then compared by their age. There were 25.9% of Japanese mothers finished Junior high school whose ages ranging from 18–23 years of age, while Senior high school got 13% and Junior college and University with 4.6%, showing that the percentage gradually decreased as educational attainment of Japanese mothers increased (chi-square value = 37.58) (Table 26) indicating significant difference by the chi-square test. While by occupation, 77.7% of mothers finished Junior high school stayed in the house as housekeeper, 82.1% finished Senior high school and 48.9% finished Junior college or University, showing that the higher the educational attainment of mother, the lesser the percentage of being a housekeeper. It is also shown in Table 27 that mothers worked as office workers had higher educational attainment (chi-square value = 60.25). The distribution of occupation by educational attainment was found to be significantly different using the chi-square test. The degree of acceptance of nutritional beliefs and practices, i.e. weighted mean during conception were compared, both between Junior high school and Senior high school, and Junior high school and Junior college and University. They were significantly different using Cockran t-test. (WM of Junior high school = 1.16, Senior high

**Table 26. Comparing the age of the Japanese mothers by the divided educational attainment**

Items of information	Junior high school Percent	Senior high school Percent	Junior college and university Percent	Chi-square value	Probability
42 and above	7.4	1.0	3.8	37.58	<0.01
36 - 41	18.5	7.0	12.2		
30 - 35	22.2	33.5	41.9		
24 - 29	25.9	45.5	37.4		
18 - 23	25.9	13.0	4.6		
Total	99.0	100.0	99.9		

**Table 27. Comparing the occupation of the Japanese mothers by the divided educational attainment**

Items of information	Junior high school Percent	Senior high school Percent	Junior college and university Percent	Chi-square value	Probability
Housekeeper	77.7	82.1	48.9	60.25	<0.01
Part-timer	11.1	5.0	7.6		
Office worker	11.1	6.9	20.6		
Owner of some business	0	3.5	0.8		
Agriculture, fishing	0	0.9	4.6		
Others	0	1.5	17.5		
Total	99.9	99.9	100.0		

school = 1.05, Junior college and University = 1.02) (Table 28). It means that educational attainment has a big implications in terms of accepting these beliefs and practices. Comparing between Senior high school and Junior college and University, both has no difference. From the result, the higher the educational attainment of mothers the lesser they believe to the nutritional beliefs and practices.

Comparing the acceptance of nutritional beliefs and practices among three groups divided by educational attainment, the degree of acceptance during pregnancy (WM of Junior high school = 1.27, Senior high school = 1.24, Junior college and university = 1.20), after delivery (WM of Junior high school = 1.22, Senior high school = 1.17 and Junior college and University = 1.09) and procedures in weaning the babies (WM of Junior high school = 1.38, Senior high school = 1.24 and Junior college and University = 1.18) did not differ. As written above, weighted mean values gradually decreased as educational attainment increased.

Occupation of mothers were also divided into two categories. Housekeepers with 250 mothers and remaining occupation with 106 mothers express two groups. Occupations of mothers were then compared by age (chi-square value = 5.205), being not significantly different. Acceptance of nutritional beliefs and practices during conception (WM of housekeeper

Table 28. Comparing the acceptance of nutritional beliefs and practices of mothers related to conception among three divided groups of Japanese by educational attainment

Items of information	Junior high school		Senior high school		Junior college and university	
	WM	Acceptance	WM	Acceptance	WM	Acceptance
1. Dark foods like black beans will affect the complexion of baby	1.07	n. a.	1.05	n. a.	1.00	n. a.
2. Iron supplement will hasten the growth of baby which will be difficult in delivery	1.19	n. a.	1.09	n. a.	1.08	n. a.
3. Combination of squash and chicken will cause leprosy	1.19	n. a.	1.04	n. a.	1.02	n. a.
4. Eggplant causes beri-beri	1.07	n. a.	1.07	n. a.	1.02	n. a.
5. Sour foods cause hardness/difficulty in releasing all the blood in mother's womb	1.30	n. a.	1.03	n. a.	1.01	n. a.
6. Slippery food will make the ovary slippery too	1.15	n. a.	1.02	n. a.	1.02	n. a.
7. Fruits and juices taken before and after breakfast will cause stomach problem	1.22	n. a.	1.05	n. a.	1.00	n. a.
8. Conceiving mother should not eat crabs or sausages because the finger of the baby will be look like of that crab	1.00	n. a.	1.02	n. a.	1.00	n. a.
9. Eating plenty of peanuts will make the baby witty	1.30	n. a.	1.15	n. a.	1.07	n. a.
Total average	1.16		1.05		1.02	
±SD	±0.239		±0.654		±0.031	*NS
P vs JHS			<0.05		<0.01	
P vs SHS					NS	

Legend :

JHS - Junior high school

SHS - Senior high school

Other descriptive and legends are same as those of Tables 7 and 8.

= 1.06 and part-timer, etc., = 1.03), after delivery (WM of housekeeper = 1.17 and part-timer, etc., = 1.11), in procedures in weaning the babies (WM of housekeepers = 1.25 and part-timer, etc. = 1.19) was found not to be significantly different between two groups using Cockran t-test.

From the above results, Japanese mothers of villages, towns and cities did not significantly differ on the acceptance of nutritional beliefs and practices. Therefore we can directly compare the answers in questionnaires by respondents in both countries. The acceptance differed in educational attainment of Japanese mothers, which suggested the importance of education.

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## APPENDIX I

## INTERVIEW GUIDE

Please give your honest and sincere response to the following questions.

**PART I. Profile of mothers**

Age (Please check where you belong)

- |                                       |                                  |
|---------------------------------------|----------------------------------|
| <input type="checkbox"/> 42 and above | <input type="checkbox"/> 24 – 29 |
| <input type="checkbox"/> 36 – 41      | <input type="checkbox"/> 18 – 23 |
| <input type="checkbox"/> 30 – 35      | <input type="checkbox"/> 12 – 17 |

Level of educational attainment

- Elementary school  
 High-school  
 College  
 Vocational

Occupation

- |   |   |
|---|---|
| <input type="checkbox"/> Housekeeper                            | <input type="checkbox"/> Owner of some business |
| <input type="checkbox"/> Seasonal worker (Agriculture, Fishing) |   |
| <input type="checkbox"/> Office worker                          | <input type="checkbox"/> Others                 |

Family size

- 7 and above  
 4 – 6 children  
 1 – 3 children

Breadwinner in the family

- |                                  |   |
|----------------------------------|---|
| <input type="checkbox"/> Husband | <input type="checkbox"/> Relatives and other children |
| <input type="checkbox"/> Wife    | <input type="checkbox"/> Others                       |

Decision maker in food selection

- Mother and father  
 Grandparents  
 Others (relatives, child, helper)

Person talking care of the baby during day time

- |                                  |  |
|----------------------------------|--|
| <input type="checkbox"/> Husband | <input type="checkbox"/> Others (relatives, child, helper) |
| <input type="checkbox"/> Wife    | <input type="checkbox"/> Grandparents                      |

**PART II. Listed below the different beliefs and practices of Filipino mothers during conception. Kindly choose and encircle your degree of acceptance.**

- 3 – Agree  
 2 – Moderately agree  
 1 – Disagree

- |   |           |
|---|-----------|
| 1. Dark foods like black beans will affect the complexion of baby   | 1 - 2 - 3 |
| 2. Iron supplement will hasten the growth of baby which will be difficult in delivery                               | 1 - 2 - 3 |
| 3. "Gabi" causes itchiness in mother's vagina   | 1 - 2 - 3 |
| 4. Combination of squash and chicken will cause leprosy   | 1 - 2 - 3 |
| 5. Eggplant causes beri-beri  | 1 - 2 - 3 |
| 6. Sour foods cause hardness / difficulty in releasing all the blood in mother's womb                               | 1 - 2 - 3 |
| 7. Slippery food will make the ovary slippery too   | 1 - 2 - 3 |
| 8. Fruits and juices taken before and after breakfast will cause stomach ache                                       | 1 - 2 - 3 |
| 9. Conceiving mother should not eat crabs or sausages because the finger of the baby will be look like of that crab | 1 - 2 - 3 |
| 10. Eating plenty of peanuts will make the baby witty   | 1 - 2 - 3 |

Listed below the different beliefs and practices of Filipino mothers during pregnancy. Kindly choose and encircle your degree of acceptance.

3 - Agree

2 - Moderately agree

1 - Disagree

- |  |           |
|--|-----------|
| 1. The mother should eat less  | 1 - 2 - 3 |
| 2. Sweet foods are prohibited because the baby will become too big           | 1 - 2 - 3 |
| 3. Eating twin banana will have twin babies too                              | 1 - 2 - 3 |
| 4. Eating light colored foods will make the complexion of the baby light too | 1 - 2 - 3 |
| 5. Eating crabs is prohibited  | 1 - 2 - 3 |
| 6. Eating "katuray" is prohibited  | 1 - 2 - 3 |
| 7. Eating liver will cause birthmarks in the baby                            | 1 - 2 - 3 |
| 8. Eating noodles will make the baby's body weak                             | 1 - 2 - 3 |

Listed below the different beliefs and practices of Filipino mothers after delivery. Kindly choose and encircle your degree of acceptance.

3 - Agree

2 - Moderately agree

1 - Disagree

- |   |           |
|---|-----------|
| 1. Eating milkfish will make the mother not to feel good                  | 1 - 2 - 3 |
| 2. Eating water melon makes the wound of the mother to become fresh again | 1 - 2 - 3 |

- 3 . Eating mungo will cause bleeding 1 - 2 - 3  
 4 . Eating foods with lots of fats is prohibited 1 - 2 - 3  
 5 . Eating ginger will stop the flow of breastmilk 1 - 2 - 3  
 6 . Eating foods with coconut milk will cause colds 1 - 2 - 3

**PART III . Distribution of foods given to babies from birth up to weaning period. Kindly answer the following questions.**

- 1 . How do you feed your newborn baby ?

(        ) Breastfeeding

(        ) Bottlefeeding

(        ) Combination of cow's milk and mother's milk

- 2 . What are the first solid foods you feed to your baby and why ?

Foods

Reasons

_____	_____
_____	_____
_____	_____

- 3 . What are the common solid foods you give to your baby from 0 - 36 months of age and why ?

Foods

Reasons

_____	_____
_____	_____
_____	_____

- 4 . What age do you wean your baby ?

(        ) 31 months and above (        ) 13 - 18 mos.

(        ) 25 - 30 mos. (        ) 7 - 12 mos.

(        ) 19 - 24 mos. (        ) 0 - 6 mos.

Listed below the different beliefs and practices of Filipino mothers about the procedures in weaning the baby. Kindly choose and encircle your degree of acceptance.

3 - Agree

2 - Moderately agree

1 - Disagree

- 1 . Rub amargozo juice, chicken manure or sili in mother or bottle's nipple 1 - 2 - 3  
 2 . Give more delicious foods to baby 1 - 2 - 3  
 3 . Wean the baby early the earlier the mother to get pregnant again 1 - 2 - 3  
 4 . Do not allow two consecutive babies to reach each other in sucking the mothers's nipple 1 - 2 - 3  
 5 . Wean early so that the baby will grow fast 1 - 2 - 3  
 6 . Wean the baby early will make the baby dull 1 - 2 - 3

7. Separate the baby from mother's bed with minimum of 6 months 1 - 2 - 3  
 8. Wean the baby late and the baby will become witty 1 - 2 - 3

**PART IV. Acceptance and perceived effects of the beliefs and practices on the health of mother and child. Kindly check your answer on the space provided.**

1. Do you accept the beliefs and practices of mothers during conception, pregnancy, specific procedures / steps in weaning babies, and perceived effects of beliefs and practices ?

( ) Yes  
 ( ) No  
 ( ) In doubt / maybe

2. To what degree do the beliefs and practices of mothers affect the health of the baby ?

( ) Serious  
 ( ) Moderately serious  
 ( ) Not serious  
 ( ) Not a problem at all

3. To what degree do the beliefs and practices of mothers affect their own health ?

( ) Serious  
 ( ) Moderately serious  
 ( ) Not serious  
 ( ) Not a problem at all

4. Listed below the perceived effects and problems in following beliefs and practices among mothers. Kindly choose and encircle your answer.

5 - Very serious  
 4 - Serious  
 3 - Moderately serious  
 2 - Not serious  
 1 - Not a problem at all

- |  |                   |
|--|-------------------|
| 1. The children start to be neglected  | 1 - 2 - 3 - 4 - 5 |
| 2. Difficulty in accepting the effects of the beliefs and practices            | 1 - 2 - 3 - 4 - 5 |
| 3. Cannot provide the children a balanced diet foods due to financial problems | 1 - 2 - 3 - 4 - 5 |
| 4. Malnutrition on the part of the children                                    | 1 - 2 - 3 - 4 - 5 |
| 5. Lack of education / knowledge on health, nutrition and health practices     | 1 - 2 - 3 - 4 - 5 |
| 6. The children become susceptible to disease                                  | 1 - 2 - 3 - 4 - 5 |

**PART V. Listed below the suggested solutions to discourage beliefs and practices related to nutrition and health care among mothers and child. Kindly choose and encircle your answer.**

- 3 – Agree  
2 – Moderately agree  
1 – Disagree

- |   |           |
|---|-----------|
| 1. Continuous / regular education through lectures                                      | 1 – 2 – 3 |
| 2. Conduct of case studies among mothers and their babies                               | 1 – 2 – 3 |
| 3. Dissemination of information through leaflets  | 1 – 2 – 3 |
| 4. Holding meetings regularly   | 1 – 2 – 3 |
| 5. Non-observance of the beliefs and practices  | 1 – 2 – 3 |
| 6. Regular consultation with the community workers                                      | 1 – 2 – 3 |
| 7. Self-initiative to know the effects of the beliefs and practices to mother and child | 1 – 2 – 3 |

Kindly write your suggestion if you have any, on the blank provided.

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THANKS YOU VERY MUCH

## APPENDIX II

## 妊娠，授乳，離乳期の女性の方へのアンケート

このアンケートはフィリッピン・ウィスリアン大学の Ocampo 先生がフィリッピンで行った調査を日本でも行うために、日本語に翻訳したものです。文化の違いなどから戸惑うことがあるかもしれませんが、両国の比較を行いたいという趣旨をくんでご協力をお願い致します。以下の質問にありのままを答えて下さるようお願い致します。

北海道大学 教育学部 健康体育科学講座  
 助教授 森谷 繁  
 客員研究員 Merrisa B. Ocampo  
 ( Tel 011-716-2111 内線 5322)

## 1. あなたとあなたのご家族についておたずねします。

- ①
- ② 年齢 (該当するものに○をつけて下さい)
- |                                |                                |
|--------------------------------|--------------------------------|
| <input type="checkbox"/> 42歳以上 | <input type="checkbox"/> 24-29 |
| <input type="checkbox"/> 36-41 | <input type="checkbox"/> 18-23 |
| <input type="checkbox"/> 30-35 | <input type="checkbox"/> 12-17 |
- ③ あなた自身の学歴 (該当するものに○をつけて下さい)
- |                                  |   |
|----------------------------------|---|
| <input type="checkbox"/> 中学校     | <input type="checkbox"/> 大学               |
| <input type="checkbox"/> 高校      | <input type="checkbox"/> その他 (具体的にお願いします) |
| <input type="checkbox"/> 専門学校・短大 |   |
- ④ あなたの夫の学歴 (該当するものに○をつけて下さい)
- |                                  |                                     |
|----------------------------------|-------------------------------------|
| <input type="checkbox"/> 中学校     | <input type="checkbox"/> 大学         |
| <input type="checkbox"/> 高校      | <input type="checkbox"/> その他 (具体的に) |
| <input type="checkbox"/> 専門学校・短大 |                                     |
- ⑤ あなた自身の職業 (該当するものに○をつけて下さい)
- |                                  |                                     |
|----------------------------------|-------------------------------------|
| <input type="checkbox"/> 家事専業    | <input type="checkbox"/> 自営         |
| <input type="checkbox"/> パート     | <input type="checkbox"/> 農業，林業，漁業   |
| <input type="checkbox"/> 会社その他勤務 | <input type="checkbox"/> その他 (具体的に) |
| <input type="checkbox"/> 学生      |                                     |
- ⑥ あなたの夫の職業 (該当するものに○をつけて下さい)
- |                                   |                                     |
|-----------------------------------|-------------------------------------|
| <input type="checkbox"/> 会社その他勤務  | <input type="checkbox"/> 学生         |
| <input type="checkbox"/> 自営       | <input type="checkbox"/> パート        |
| <input type="checkbox"/> 農業，林業，漁業 | <input type="checkbox"/> その他 (具体的に) |
- ⑦ 家族構成 (現在、いっしょに住んでいる人すべてに○をつけ、人数を書いてください)
- |                                  |                                  |
|----------------------------------|----------------------------------|
| <input type="checkbox"/> 夫       | <input type="checkbox"/> 子供 ( 人) |
| <input type="checkbox"/> 父親 ( 人) | <input type="checkbox"/> 母親 ( 人) |

- ( ) その他 ( 人) 全員で \_\_\_\_\_ 人
- ⑧ 3歳以下の子供の人数(該当するものに○をつけ、人数を書いてください)
- ( ) 12カ月以下 ( 人)
- ( ) 13カ月以上36カ月以下 ( 人)
- ⑨ 主に家計を支えているのは誰ですか(該当するものすべてに○をつけて下さい)
- ( ) 夫 ( ) ほかの子供
- ( ) あなた自身 ( ) その他
- ( ) 親戚または両親
- ⑩ 家庭内で食事のメニューを主に誰が決めますか(該当するものすべてに○をつけて下さい)
- ( ) あなた自身 ( ) 両親
- ( ) 夫 ( ) その他(子供、お手伝いさん、親戚など)
- ⑪ 日中、主に誰が子供の保育をしますか(するつもりですか)
- ( ) あなた自身 ( ) 保育園
- ( ) 夫 ( ) その他(子供、お手伝いさん、親戚など)
- ( ) 両親

2. 以下に妊娠中(妊娠前期と後期)の様々な言い伝えや慣習を示しました。あなたはそれをどの程度正しいと思いますか。あてはまる番号に○をつけて下さい。

- |               |
|---------------|
| 3 - 正しいと思う    |
| 2 - 少しは正しいと思う |
| 1 - 正しいと思わない  |

☆妊娠前期

- ① 黒豆のような色の黒い食べ物を食べると赤ちゃんの肌が黒くなる。 3-2-1
- ② 鉄剤をとると赤ちゃんが成長しすぎて出産が困難になる。 3-2-1
- ③ かぼちゃと鳥肉と一緒に食べるとハンセン病(らい病)になる。 3-2-1
- ④ 茄子(なすび)を食べると脚気になる。 3-2-1
- ⑤ 酸っぱい食物を食べると、後産が困難になる。 3-2-1
- ⑥ こんにゃくのようにつるつるした食物を食べると流産しやすくなる。 3-2-1
- ⑦ 朝食前後にフルーツやフルーツジュースをとると食あたりする。 3-2-1
- ⑧ 蟹(かに)やタコやソーセージを食べると、生まれてくる赤ちゃんの指や手が蟹やタコやソーセージのような奇形になる。 3-2-1
- ⑨ ピーナツをたくさん食べると頭のいい赤ちゃんが生まれる。 3-2-1

☆妊娠後期

- ① 食事を減らさないと胎児が大きくなりすぎて出産が困難になる。 3-2-1
- ② 甘い物を食べると胎児が大きくなりすぎて出産が困難になる。 3-2-1
- ③ 房が二つに分かれたバナナやミカンを食べると双子が生まれる。 3-2-1
- ④ 白色や明るい色の食物を食べると赤ちゃんの肌の色が白くなる。 3-2-1
- ⑤ レバーを食べるとあざのある赤ちゃんが生まれる。 3-2-1
- ⑥ ゆでた麺類を食べると赤ちゃんの身体が柔らかくなる。 3-2-1



5. 以下に離乳時の様々な言い伝えや慣習を示しました。あなたはどの程度正しいと思いますか。  
あてはまる番号に○をつけて下さい。

- |               |
|---------------|
| 3 - 正しいと思う    |
| 2 - 少しは正しいと思う |
| 1 - 正しいと思わない  |

- |                                 |           |
|---------------------------------|-----------|
| ① トウガラシを乳首またはほ乳びんにつけて断乳する方がよい。  | 3 - 2 - 1 |
| ② 赤ちゃんにはあじつけの濃い美味しい食べ物を与えるのがよい。 | 3 - 2 - 1 |
| ③ 離乳を早くするとまた妊娠しやすい。             | 3 - 2 - 1 |
| ④ 同時に2人の赤ちゃんを授乳させてはいけない。        | 3 - 2 - 1 |
| ⑤ 早く離乳させると赤ちゃんは大きく成長する。         | 3 - 2 - 1 |
| ⑥ 生後6カ月を過ぎた赤ちゃんは母親と離れて寝るのがよい。   | 3 - 2 - 1 |
| ⑦ 早く離乳させると赤ちゃんは賢くならない。          | 3 - 2 - 1 |

6. 授乳期における、母親と赤ちゃんの健康に関する言い伝えや慣習の影響、並びにあなたが信じる程度をお聞きします。あてはまるものに○をつけて下さい。

① 上記の質問のような、妊娠中や授乳中の母親についての言い伝えや慣習を正しいと思いますか。

- ( ) はい  
( ) いいえ  
( ) 疑わしい

② 母親に関する上記の言い伝えや慣習が実施された場合、どの程度赤ちゃんの健康に影響すると思いますか。

- ( ) 強く影響すると思う  
( ) 少しは影響すると思う  
( ) ほとんど影響しないと思う  
( ) 全く問題はないと思う

③ 母親に関する上記の言い伝えや慣習が実施された場合、どの程度母親自身の健康に影響すると思いますか。

- ( ) 強く影響すると思う  
( ) 少しは影響すると思う  
( ) ほとんど影響しないと思う  
( ) 全く問題はないと思う

7. 以下に言い伝えや慣習に従うことによって起こり得る問題点を示します。あなたの考えに近い番号を選んで○をつけてください。

- 5 - 大変重大な問題だと思う
- 4 - 重大な問題だと思う
- 3 - 少しは問題だと思う
- 2 - あまり問題だとは思わない
- 1 - 全く問題はないと思う

- ① 子供を自分の考えで育てないことになる。 5 - 4 - 3 - 2 - 1
- ② 正しい知識を受け入れることに対して抵抗をもつ。またはその正しい知識の重要性を疑わしく思う。 5 - 4 - 3 - 2 - 1
- ③ 経済的事情によって子供にバランスの取れた食事を与えることができない。 5 - 4 - 3 - 2 - 1
- ④ 子供達の一部が栄養不足になっている。 5 - 4 - 3 - 2 - 1
- ⑤ 適切な栄養や健康習慣に対する教育や知識が不足している。 5 - 4 - 3 - 2 - 1
- ⑥ 子供達が病気にかかりやすくなる。 5 - 4 - 3 - 2 - 1

8. この質問以外にも母親とその子供の栄養や健康に関する言い伝えや慣習がある場合に、それらを無くすための解決法として、あなたがよいと思うもの全てに○をつけて下さい。

- ( ) 継続的で定期的な教育が行われる。
- ( ) 母親と赤ちゃんの相互関係についての研究が行われる。
- ( ) パンフレットなどを通じて宣伝活動が行われる。
- ( ) 定期的に会合をもって話し合う。
- ( ) 一人一人が言い伝えや慣習を信じないようにする。
- ( ) 保健婦などが、個別に相談に応じるため定期的訪問活動をする。
- ( ) 母親と赤ちゃんに対する言い伝えや慣習の影響を自分から知るよう  
に努力する。

ご協力有り難うございました。