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International Child Care Practices: data from four Asian samples

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ABSTRACT

Background: The International Child Care Practices Study collected descriptive data from 21 centres in 17 countries.

Methods: This reports details child care practices associated with risk for sudden infant death syndrome (SIDS) for four centres in Asia (Beijing, Chongqing, Hong Kong and Japan). These centres had low, or presumed low, rates of SIDS and, with the exception of Japan, participants in the study were not given prior information on SIDS risk factors.

Results: Front (prone) sleep position is the most well recognised SIDS risk factor and was uncommon in all samples (6% or less). Side sleep position is also a risk factor for SIDS and was used for about one fifth of these infants. Smoking, especially by the mother antenatally, is the next most important SIDS risk factor. Very low rates of maternal smoking were noted in these samples (<10%) but disturbingly up to two-thirds of fathers smoked. Sharing a room with the infant has been shown to protect against SIDS, and this was common practice in these four centres (>85%). Bedsharing on the other hand increases the risk of SIDS, especially if the mother smokes. Bedsharing was a common practice in these four samples (37% - 88%). Pillow use has also been implicated with SIDS and yet most infants in these samples used pillows (56% - 95%). Both pacifiers and breastfeeding have protective associations with SIDS. Pacifiers were infrequently used in these Asian populations (13%-42%) and rates of predominant breastfeeding ranged from 4% (Hong Kong) to 47% (Japan).

Conclusions: The key SIDS risk factors, prone sleep position and maternal smoking, were uncommon practices in these four samples. Patterns of other SIDS risk factors and protective factors were more variable. Bedsharing was common and it is speculated that methods of bedsharing in these Asian cultures may differ to those practised in western cultures where association with SIDS is noted. Alternatively a low rate of maternal smoking may play a protective role in relation to bedsharing. Likewise types of pillows implicated with SIDS and the types of pillows used for these infants may differ. A relatively low rate of pacifier use was noted in these populations and this may be beneficial from the perspective of breastfeeding. These data highlight interesting trends and patterns in child care practices in these four populations, and provide insights into this complex subject.

A. Aim

Certain child care practices have been strongly associated with the sudden infant death syndrome (SIDS) or cot (crib) death. Initiatives in various countries, focusing on campaigns to modify child care practices, have been associated with dramatic reductions in SIDS rates of 50% or more [1;2]. The main child care practice to be modified following these campaigns has been infant sleep position. However other child care practices are also associated with SIDS and include bedsharing, use of pillows, not breastfeeding and not sucking a pacifier (dummy or soother). Bedsharing and SIDS risk appears to be particularly significant if the mother is a smoker [3]. These findings highlight the importance of better understanding the scope and variability of child care practices.

Following the 2nd International Conference on SIDS in Sydney Australia (February 1992) a Global Strategy Task Force on SIDS was set up with four working groups (epidemiology, pathology, physiology, and education). The epidemiology group made recommendations for the collection of population-based data on child care practices in as many countries and regions of the world as possible using standardised methods. Although this ecological information was not expected to provide definitive answers to SIDS, it was hoped that, in addition to providing baseline data on child care, it might stimulate new hypotheses to explain persisting differences SIDS rates between countries. The International Child Care Practices Study (ICCPS) protocol was finalised and distributed on computer diskette to 80 potential collaborators in 1995. The study methodology was based on child care studies undertaken in southern New Zealand in the 1980s, [4] and a pilot study coordinated by Barry Taylor during 1992 in southern New Zealand, Japan, and Minnesota. The questionnaires were further piloted and modified in Hong Kong in 1994.[5]

The ICCPS received data from 21 centres in 17 countries which has provided comparative information on child care practices. Information came from some countries with low rates of SIDS such as Hong Kong and Japan, as well as that from other countries, which previously had higher rates of SIDS such as New Zealand and Scotland. The level of SIDS awareness in countries also differed with some countries having very active reducing the risks of SIDS campaigns e.g. New Zealand, whereas other countries had low levels of SIDS awareness e.g. China. The three Chinese samples from Beijing, Chongqing and Hong Kong did not perceive SIDS as problem, but only in the case of Hong Kong had a low rate of SIDS been documented [6].

This paper mainly focuses on those child care practices identified as key SIDS risk factors (sleep position, smoking) and on other practices where association with SIDS risk is more debatable (not room sharing, bedsharing, use of a pillow, not breast feeding and not using a pacifier). This information is presented for the four centres in Asia (Japan, Hong Kong, Chongqing and Beijing) and some summary data for the other centres is also presented.

B. METHODS

Details of the study protocol and data collection methods have been previously reported [7].

The study was designed to recruit 250 families in each centre so that the infants would be three months old during the coldest two months of the year. Invitation to participate was made during the week after birth. A birth questionnaire was completed at the time of recruitment by interview and collected mainly socio-demographic data. A home questionnaire was posted to participating families when the baby was 12 weeks old. Telephone reminders were given if questionnaires were not returned and a second questionnaire posted if required. Some centres administered the home questionnaire by face-to-face interview. The home questionnaire was designed so that it should be completed on the day that it was received, with many questions referring to last night.

The Japanese data consisted of a sample of 289 families who were recruited from four hospitals: Tokyo

Women's Medical College (n=41, H. Nishida); Seibo Hospital in Tokyo (n=86, M. Ino); St. Marianna Medical University Hospital in Yokohama (n=96, T. Horiuchi); Kitasato University Hospital in Kanagawa Prefecture, Yokohama (n=66, K. Oguchi). The birth questionnaire was administered in the hospital at the time of birth (November 1996 to January 1997) and the home questionnaire was mailed when the baby turned three months old (January to March 1997). Data collection for Hong Kong SAR, China was coordinated by EAS Nelson. 30% of the sample was recruited from two private fee-paying hospitals, and 70% from three Government Hospitals. The total sample was 251 families. The response rate for the home questionnaire was 79% (198/251). The birth questionnaires were completed from October to December 1995, and the home questionnaires from January to March 1996. Data collection for the Beijing sample was coordinated by Xiaocheng Ji. In this sample the birth questionnaires were completed from October 1995 to February 1996, and the home questionnaires from January to March 1996. Recruitment of subjects was from four hospitals: Changqiao (21), PUMC Hospital (59), Dongsi Women Hospital (80) and Beijing Women Hospital (140). Workers from the community health section completed both birth and home questionnaires by interview. In most instances a home visit was undertaken to complete the home questionnaires with a few questionnaires being completed by telephone interview. All participants completed both questionnaires. The Chongqing data collection was coordinated by Haiqi Li. The methodology of data collection for this sample was modified. Both the home and birth questionnaires were completed at the same time when the baby was three months old. This was done when the infants visited one of five Maternal and Child Health clinics. Items such as does mother intend to breastfeed or smoking habits at the time of the infants' birth are therefore not considered for this sample. An estimated 70-80% of all births in the Chongqing area attend the Maternal and Child Health clinics for routine checks, and more than 90% of infants attend for immunisations.

Centres coded and entered their data using the Epiinfo data entry and analysis programmes provided (Epiinfo statistical software version 6.0, Center for Diseases Control, Atlanta).

C. RESULTS

Table 1 shows information on the key SIDS risk factors (sleep position and smoking). Low rates of prone sleeping were noted in all samples (6% for Japan and Beijing, 2% for Chongqing and 1% for Hong Kong). More recent studies have also shown that side sleep position is a risk for SIDS [1], and approximately one fifth of the infants in the Chinese Hong Kong and Chinese Mainland samples slept their infants on the side, whereas only 5% in the Japanese sample did so. Interesting variations in the rates of maternal and paternal smoking in these four samples were noted. No mothers smoked in the two Chinese mainland samples and less than 10% of mothers in the Chinese Hong Kong and Japanese samples did so when the infants were 3 months old. These rates were generally substantially lower than rates of maternal smoking in the other samples (up to 34%). However in contrast to these low rates of maternal smoking were particularly high rates of paternal smoking. Almost two thirds of fathers in the Chongqing sample smoked, as did 55% of Beijing fathers and 50% of Japanese fathers. These rates were generally higher than those in the other samples although there was considerable variation (10%-64%).

Table 2 details the main caregiver of the infant during the day and at night. During the day 42%, and at night 22%, of Hong Kong infants were looked after by someone other than the parents. The corresponding figures for Chongqing were 31% and 18%, for Beijing 9% and 2% and Japan 3.5% and 0.4% respectively. Also shown are details of some socio-demographic variables, highlighting that the vast majority of mothers in these samples were married.

Table 3 looks at details of infant's sleeping environment. Studies have shown that infants who sleep in the same

room as an adult (but not the same bed) have a lower risk of SIDS [8]. Almost all the infants in the Chinese mainland samples, and 93% of the Japanese and 83% of the Hong Kong sample had one or more adults in the room with the infant. These rates were generally higher than those in the other centres although there was considerable variation. Bedsharing was also common practice in these samples with 88% of the Chongqing infants sharing a bed (in most cases this was with both parents). Approximately one third of the Hong Kong and Japanese sample bedshared, and in most cases this was with the mother only. Information on pillow use, which was common in all four samples, is also shown in the table. Pillows were least popular in the Japanese sample (56%) and most popular in the two Chinese mainland samples (95%). Details of the materials used to make the pillows were sought but the details on the exact size and shape of pillows were not obtained (with the exception of the Japanese sample where additional details were collected as shown in Table 3).

Table 4 shows information on breastfeeding and pacifier use and emphasises the low rate of breastfeeding in the Hong Kong population and the high rate in the Japanese sample. Only 12% of the Chinese Hong Kong infants were receiving any breast milk at three months of age, compared to 79% of the Japanese infants and 77% of the Beijing infants. Of those infants not receiving breast milk at three months of age, only 31% of the Hong Kong infants had ever received any breast milk, compared to 100% of the Japanese infants. Pacifiers were most commonly used in the Hong Kong sample although most respondents noted that they were only used for a short time.

D. DISCUSSION

This report presents data on established SIDS risk factors (infant sleep position and parental smoking) as well as some more debatable SIDS risk factors (not room sharing, sharing a bed with the baby, use of a pillow, not breastfeeding and not using a pacifier) in samples from four Asian populations. Most studies on SIDS risk factors have been undertaken in western countries where rates of SIDS have been high, especially during the 1980s. These previous studies identified prone (front) infant sleep position as the most important modifiable risk factor for SIDS, and following public health campaigns to advise parents not to sleep infants prone, the rates of SIDS have fallen significantly in these countries. The four samples reported here are from countries were rates of SIDS have been lower than those in western countries such as New Zealand, Australia, United Kingdom, Norway, United States. A one-year study undertaken in 1987 highlighted a particularly low rate of SIDS in Hong Kong [6]. Likewise Japan has had a low rate of SIDS compared to western countries but during the 1980s increases in SIDS rates were observed [9]. These increases may have been genuine and related to an increased use of the prone sleep position for infants, or they may have been artefactual and related to diagnostic transfer.

Placing a baby to sleep in the supine position had been the traditional child care practice in Japan and even before results of SIDS risk factor research were known, the prone position was considered by many mothers to be dangerous. However because of influence from Western countries, some Japanese parents started to sleep their babies prone. Data for this present study was collected at a time when there may have been some awareness of the risks of prone sleep position in Japan as local campaigns to teach about risk factors were launched in mid 1996. The low rate of prone sleeping identified in the Japanese sample in this study (6%) may reflect a combination of this advice and traditional practices. In contrast the Hong Kong data were collected before any specific advice was available to parents about SIDS risk factors. The data from the two Chinese mainland samples (Beijing and Chongqing) were collected in populations where there was little awareness of SIDS as a problem and no advice was routinely available to parents on SIDS risk factors. These centres also had low rates of prone sleeping

suggesting that traditional practices were the main factors influencing sleep position.

The other consistent and important risk factor for SIDS identified in many studies has been smoking, particularly antenatal smoking by the mother [10]. However although it has been relatively easy to persuade parents not to sleep their infants prone, it has been much more difficult to persuade them not to smoke. In the western countries the rates of maternal and paternal smoking tended to be more similar, whereas in these four Asian samples smoking is predominantly a male behaviour. A 1997 study carried out by the Japanese Ministry of Health and Welfare showed that the rate of smoking amongst fathers in a control group was actually higher than for those fathers in a SIDS group.[11] It is speculated that father's smoking in Japan may not have a great effect on the baby's environment because full-time employment rate for Japanese fathers in this survey was 90%, and the average salary man works until fairly late in the evening making the time spent at home limited. Also, since houses in Japan are small, fathers often smoke out on the balcony when at home. However even if these assumptions are correct, the many other negative effects of smoking should make these high rates of smoking in fathers in Japan and Chinese mainland a public health concern.

Relatively high percentages in Hong Kong infants were cared for people other than the mother or father during both the day and night. This may reflect the fact that a significant number of mothers work outside the home during the day. However it may also be the result of the phenomenon of separated families in Hong Kong i.e. father, grandparents and child live in Chinese Hong Kong and mother lives in Chinese mainland due to immigration restrictions. However the infants in the Chongqing sample were also frequently cared for by people other than the parents. In both the Hong Kong and the Chongqing samples about one fifth of infants were also cared for by people other than the parents during the night, and grandparents were the most frequent alternative caregiver.

The majority of infants in these Asian samples had one or more adults sleeping in the room with them. This appears to be different to western culture where parents appear to place value on infants becoming independent [12] and where infants often sleep separately in rooms by themselves. These high rates of room sharing may be a factor that could help to explain low rates of SIDS in these Asian populations. Sleeping in the same room allows parents to check frequently on the baby at night. For example, in the Japanese sample 91% of parents checked their infants after than had gone to bed an average of 2.3 times per night. For accidents as well as SIDS, having an adult in the same sleeping room would create a safer environment for baby. If the baby were to struggle because bedclothes cover the head, if the baby were to become wedged in an unsafe position, if the baby were to turn over to the prone position or if the baby were to become too hot and sweaty, then there is a greater chance that a parent would identify these problems if they are in close proximity to the baby.

In New Zealand bedsharing was identified as a risk factor for SIDS when the mother was also a smoker [1]. The mechanism by which bedsharing and smoking interact to increase the risk of SIDS is not known. However if it is assumed that this interaction is in some way causal, it might be assumed that high rates bedsharing in these Asian samples do not increase the risk of SIDS because relatively few mothers smoke. It is also likely that the exact method of bedsharing may differ significantly between these different cultures and it may be speculated that high rates of bedsharing in populations with apparent low rates of SIDS might indicate significant differences in the methods of bedsharing. For example, the traditional bedsharing environment in Japan differs significantly from some western countries and this might be speculated to provide a low SIDS risk environment. Our study showed that 46% of babies slept on a futon in Japan. Futons are relatively firm, free-floating mattresses

made of cotton (only 6% rated sleeping area as soft of very soft). Futons might be safer than adult beds or baby beds that include frames made of steel or wood where wedging or hanging accidents might occur. The sleep environment was relatively cool as 44% of participants turned heaters off completely at night despite average temperatures of below 5°C and less than 10% of respondents heated the bed in some way. Almost all (97%) mattresses and futons were covered in cotton cloth and less than 10% of infants were put to bed wearing bonnets, mittens or socks. Pillows were small and firm (see below) and most infants were not wrapped (<6%). This sleeping environment, combined with low rates of smoking by Japanese mothers (9%) and high rates of supine sleeping of infants (89%), might result in bedsharing conferring more benefit (e.g. promotion of breastfeeding) than harm (increase SIDS risk). In both the Hong Kong and Japanese samples, the predominant bedsharing arrangement appeared to be the mother and baby only, whereas in the two Chinese mainland samples it was more common for both parents to share the bed with the infant. Using diagrams, data were sought on the position of the infant in relation to the bedsharing adult(s). This suggested that in less than a quarter of cases the infant was placed between two people.

It has been noted in Hong Kong and Japan, that small circular doughnut pillows are commonly used [5]. Folded towels or cloths may also be used as pillows. The data presented in Table 3 indicates that the majority of infants in these four samples used pillows. However in some of the western samples, where SIDS has been associated with pillow use, the majority of infants did not use pillows. This apparent paradox of frequent use of pillows in countries with low SIDS rates, might be explained by differences in the types of pillows used i.e. it might be speculated that the types of pillows used for infants in these four populations are not dangerous. In one study where pillows were implicated with SIDS, the types of pillows were very different large adult V-shaped pillows [13]. It is likely that placing an infant on top of a large soft adult pillow, will result in a very different level of risk to that of placing an infant's head onto a small firm pillow. No definite conclusions can be drawn from this data, but it would seem reasonable not to attempt to change the status quo i.e. advice against the use of pillows should not be given in these populations unless evidence of harm can be demonstrated.

In all samples, except Hong Kong, rates of breastfeeding were fairly high. In Japan, predominantly breastfed infants (47%) plus partially breastfed infants added up to 81%, leaving only 19% of infants being fed with formula only. Breastfeeding is facilitated in Japan where infants often sleep with mother and where mothers often stay home to be caretaker (96%) instead of returning to work. Pacifiers have been shown in four different studies to protect against SIDS [14]. The first study reporting this effect was from New Zealand [15] and subsequently similar results were reported from the Netherlands and Norway. Pacifiers were not particularly popular in any of these four Asian samples with the possible exception of Hong Kong where 42% of infants used a pacifier for a short time.

Socioeconomic deprivation and teenage mothers have also been shown to be risk factors for SIDS. Levels of these risk factors were low for these Asian samples. Mothers were married in the vast majority of cases and in the two Chinese mainland samples no mothers were unmarried. Unemployment rates for fathers were low in all samples. The Japanese culture's attitude against divorce is very strong as is the attitude that girls should live at home until they are at an age that is considered proper for marriage (from 21 years old).

E. CONCLUSIONS

These results provide descriptive data on child care practices that have been associated with SIDS. All four samples were drawn from populations where SIDS rates are low or thought to be low. Front sleep position, the most recognised modifiable SIDS risk factor, was

uncommon in all samples. However side sleep position is also a risk factor for SIDS and was used for a significant percentage of infants in these samples. Bedsharing was common in these samples and the majority of infants shared a room with one or more adults. SIDS risk from bedsharing may be mitigated by the fact that very few mothers in these samples smoked. Pillows were commonly used but it is possible that the types of pillow used may differ from those implicated with SIDS. Rates of breastfeeding were high in the Japanese and Chinese mainland samples but particularly low in the Hong Kong sample. Pacifiers were not particularly popular in any of the samples. These data should not be used to implicate any particular child care practices with SIDS, but instead to better understand the complexity and variability of child care within these different cultures.

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F. RESEARCH PRESENTATION

1) Presentation by publishments

ORIGINAL ARTICLES

ARTICLES IN REFEREED JOURNALS

1. Nelson EAS, Taylor BJ, and members of the ICCPS Study Group. International Child Care Practices Study: methodology and study population. Early Human Development. 1999; 5: 149-168.
2. Curtin TRC, Nelson EAS. Economic and health efficiency of education funding policy. Social Science & Medicine. 1999:48:1599-1611.
3. Senok AC, Li K, Nelson EAS, Chung KW. In vitro sensitivity of artemeter in Plasmodium falciparum infected beta-thalassaemic trait erythrocytes. Parasitology 1999; 118:145-149.

LETTERS AND REPORTS IN REFEREED JOURNALS

1. Nelson EAS. Commonwealth commits to HIV/AIDS problem. Lancet 1999; 354 (9192).
2. Nelson EAS, Sullivan PB. Commonwealth Association of Paediatric Gastroenterology. Journal of Pediatric Gastroenterology and Nutrition1999; 29: 113-114.

ARTICLES IN OTHER BOOKS AND JOURNALS

1. Nelson EAS. Oral rehydration practices: Hong Kong (State of Hong Kong Children). Hong Kong Journal of Paediatrics 1999; 4(2): 130-131.
2. Nelson EAS, Fukui S, Sawaguchi T, Nishida H. International Child Care Practices: Japan and Hong Kong Report of Japanese Study. In: The Report of Studies supported by Ministry of Health and Welfare in 1998, edited by A. Sawaguchi. Ministry of Health and Welfare 1999: 325-332.
3. Nelson EAS. Dietary guidelines and childhood obesity. The Hong Kong Medical Diary 1999; 4(2):3-5.

2) Presentation in academic meeting

INVITED LECTURES

1. Nelson EAS, Tam JS, Fok TF, Chan PKS.

Rotavirus surveillance in Asia. Hong Kong College of Physicians and Hong Kong College of Paediatricians Joint Scientific Meeting. Hong Kong, October 1999.
2. Nelson EAS. Protective infant care practices and education in the community. The VIIIth ESPID Conference. Jerusalem Israel, May 1999.

ABSTRACTS

1. Nelson EAS, Taylor BJ, Ceriani Cernadas JM, Jenik A. Estudio sobre las costumbres en la crianza de bebes nacidos en la maternidad del Hospital Italiano de Buenos Aires, Argentina y su comparacion con diferentes paises en relacion al sindrome de muerte subita del lactante (SMSL). Simposio Latinoamericano de muerte subita del lactante. Buenos Aires, Argentina, October 1999.
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4. Nelson EAS, Wong Yin, Li K, Fok TF. Muramyl Dipeptide influences mortality and cytokines in hyperthermic neonatal rat. SCBA 1999.
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7. **Taylor BJ, Nelson EAS, ICCPS Study Group. Sleep position, smoking and breast feeding: results of the International Child Care Practices Study. Paediatric Research 1999; 45(5) Suppl 2:7A.**

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Table 1: International Child Care Practices Study: key SIDS risk factors in infants aged three months for four Asian samples

	Beijing	Chongqing	Hong Kong	Japan	ICCPS range
Infant sleep position	n=306	n=250	n=198	n=286	
- Back	220 (72%)	189 (76%)	162 (82%)	254 (89%)	14-89%
- Side	67 (22%)	57 (23%)	35 (18%)	14 (5%)	9%-65%
- Prone (Front)	19 (6%)	4 (<2%)	1 (<1%)	18 (6%)	<1%-33%
Smoking habits of mother					
At recruitment (birth)	n=306	-	n=251	n=280	
- Smokes	0	-	6 (2%)	15 (5%)	0%-43%
- Amount (mean, SD)		-	16 (10)	12 (5)	4-16
At three months	n=306	n=250	n=197	n=289	
- Smokes	0	0	11 (6%)	27 (9%)	0%-34%
- Amount (mean, SD)			10 (5)	11 (5)	4-14
Smoking habits of father					
At recruitment	n=306	-	n=251	n=272	
- Smokes	175 (57%)	-	89 (36%)	135 (50%)	14%-74%
- Amount (mean, SD)	11 (7)	-	15 (11)	19 (10)	9-19
At three months	n=306	n=250	n=196	n=289	
- Smokes	168 (55%)	161 (64%)	64 (33%)	144 (50%)	10%-64%
- Amount (mean, SD)	10 (7)	14 (7)	12 (6)	19 (8)	7-19

Table 2: International Child Care Practices Study: Socioemographic variables and caregivers of baby at three months of age for four Asian samples

	Beijing	Chongqing	Hong Kong	Japan	ICCPS range
Socio-demographic variables	n=306	n=250	n=251	n=286	
Mother's age (mean±SD, years)	28.9±3.5	26.9±3.3	30.4±4.9	31.2±4.4	25.0-32.8
Father's age (mean±SD, years)	31.5±3.9	29.9±4.3	33.7±5.3	33.6±5.5	27.1-35.8
Mother married	306 (100%)	250 (100%)	244 (97%)	281 (98%)	45%-100%
Mother in full-time employment	276 (90%)	184 (74%)	118 (47%)	50 (18%)	16%-90%
Father in full-time employment	283 (93%)	220 (88%)	248 (99%)	258 (90%)	71%-99%
Father unemployed	5 (2%)	10 (4%)	2 (1%)	0	0%-13%
Caregiver during day	n=306	n=250	n=197	n=289	
Mother	276 (90%)	169 (67%)	111 (56%)	242 (84%)	
Father	3 (1%)	4 (2%)	1 (<1%)	0	
Both parents	0	0	3 (2%)	8 (3%)	
Parent and grandparents *	0	0	0	27 (9%)	
- *(Mother, father or both)*	*279 (91%)*	*173 (69%)*	*115 (58%)*	*277 (96%)*	*58%-100%*
Grandparent	27 (9%)	45 (18%)	39 (20%)	4 (1%)	
Paid Child minder	0	16 (6%)	22 (11%)	6 (2%)	

Other Relative	0	7 (3%)	13 (7%)	0	
Other	0	9 (4%)	8 (4%)	2 (1%)	
Caregiver at night	n=306	n=250	n=194	n=284	
Mother	294 (96%)	198 (79%)	145 (75%)	200 (70%)	
Father	6 (2%)	8 (3%)	1 (<1%)	7 (3%)	
Both parents	0	0	6 (3%)	73 (26%)	
Parent and grandparents *	0	0	0	3 (1%)	
- *(Mother, father or both)*	*300 (98%)*	*206 (82%)*	*152 (78%)*	*283 (100%)*	*78%-100%*
Grandparent	5 (2%)	27 (11%)	15 (8%)	0	
Paid Child minder	1 (<1%)	10 (4%)	11 (6%)	0	
Other Relative	0	3 (1%)	9 (5%)	0	
Other	0	4 (2%)	7 (4%)	1 (<1%)	

* code only used for the Japanese sample

Table 3: International Child Care Practices Study: infant sleeping environment at three months of age for four Asian samples

	Beijing n=306	Chongqing n=250	Hong Kong n=198	Japan n=288	ICCPS range
Infant's sleeping room					
- Infant slept in parent's room	299 (98%)	208 (83%)	141 (71%)	222 (77%)	46%-98%
- His/her own room	1 (<1%)	10 (4%)	33 (17%)	31 (11%)	
- Other room	6 (2%)	32 (13%)	24 (12%)	35 (12%)	
One or more adult in room	306 (100%)	249 (100%)	165(83%)	269(93%)	58%-100%
- *one adult*	*39 (13%)*	*57(23%)*	*51(31%)*	*72 (27%)*	
- *two adults*	*265 (87%)*	*181 (73%)*	*109(66%)*	*192 (71%)*	
- *three or more adults*	*2(1%)*	*11(4%)*	*5(3%) 5(2%)*		
Other child in room	1 (<1%)	1 (<1%)	53 (27%)	94 (32%)	
Infant checked after parents have gone to bed	290 (95%)	240(96%)	180(91%)	261(91%)	
If checked, median times (IQ)	2.0 (2-3)	3.0 (2-3)	3.0 (2-3)	2.0 (2-3)	
Infant shared a bed	164 (54%)	221 (88%)	73 (37%)	107 (37%)	2%-88%
- *with mother*	*51 (31%)*	*51 (23%)*	*43 (59%)*	*84(79%)*	
- *with both parents*	*110 (67%)*	*126 (57%)*	*19 (26%)*	*16 (15%)*	
- *with other person/combination*	*3 (2%)*	*44 (20%)*	*11 (15%)*	*7 (7%)*	
If YES, shared with whom?					
- Mother	51 (31%)	51 (23%)	43 (59%)	84(79%)	
- Both parents	110 (67%)	126 (57%)	19 (26%)	16 (15%)	
- Other	3 (2%)	44 (20%)	11 (15%)	7 (7%)	
If YES, for shared for how long?					
- <2 hours	4 (2%)	0	5(7%)	6(6%)	
- 2-5 hours	4(2%)	0	7(10%)	18(17%)	
- >5 hours	156(95%)	221(100%)	58(83%)	83(78%)	
If YES, shared how close?					
- Direct contact	67(41%)	-	-	32(31%)	
- Close not touching	73(44%)	-	-	62(59%)	
- Arms length	24(15%)	-	-	11(11%)	
If YES, shared in what position?					
- Mother + Baby ONLY	50(31%)	62(28%)	25(39%)	-	
- Baby + Both Parents	69(42%)	77(35%)	22(34%)	-	
- Baby BETWEEN parents	45(27%)	49(22%)	13(20%)	-	
- Other combination	0	31(14%)	5(8%) -		

Pillow used	289 (95%)	237(95%)	156(80%)	161(56%)	4%-95%
Whole body placed on pillow	*0*	*7*	*3*	*2*	
Type of pillow					
- Cotton	*53*	*156*	*100*	*48*	
- Foam	*6*	*1*	*21*	*4*	
- Other	*231*	*75*	*15*	*5*	
*- Bean Chips **	*0*	*0*	*0*	*16*	
*- Doughnut shaped pillow **	*0*	*0*	*0*	*28*	
*- Folded towel **	*0*	*0*	*0*	*52*	

* codes only used for the Japanese sample

Table 4: International Child Care Practices Study: infant feeding method at three months of age for four Asian samples

	Beijing	Chongqing	Hong Kong	Japan	ICCPS range
Infant Feeding Method					
- Breast ONLY	130 (43%)	85 (34%)	8 (4%)	137 (47%)	4%-80%
- Mainly breast + some Formula	54 (18%)	48 (19%)	9 (5%)	61 (21%)	
- Mainly formula + some breast	53 (17%)	28 (11%)	7 (4%)	36 (13%)	
(Any breast	*237 (77%)*	*161 (64%)*	*24 (12%)*	*234(81%))*	
- Formula ONLY	68 (23%)	71 (28%)	172 (87%)	55 (19%)	6%-88%
- Other	1 (<1%)	18 (7%)	1 (<1%)	0 ?7 (2%)	
Intention to Breast feed *	99%	-	40%	99%	
Ever Breast Fed	95%	86%	39%	99%	39%-99%
Breast fed but stopped	58/73 (80%)	47/79(60%)	52/166(31%)	56/56(100%)	
Mean age stopped (SD)	3.8 (2.5)	4.3 (2.8)	3.5 (2.2)	7.7 (4.7)	
Pacifier used:	70 (23%)	40 (16%)	82 (42%)	36(13%)	13%-71%
- Most of the time	21(7%)	1(<1%)	1(<1%)	2(<1%)	
- Short time	49 (16%)	39 (16%)	81 (42%)	34 (12%)	

*At recruitment interview