

## Infant Feeding Practices in Mus, Turkey and Yiwu, China

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**Abstract:** The purpose of this study to determine and then to compare the baby feeding practices of the mothers who live in rapidly developing Yiwu city in China and in Mus a province in Turkey that shows steady development rate. The 120 Turkish and 120 Chinese mothers in the study were selected among those who are rural originated but had moved out to both cities in the last 5 years. A 8 items questionnaire has been prepared from the literature reviewed for this study. Data were collected by face-to-face interviews. Chi-Square test, mean, frequency and percentage were used for compare the two groups results. There weren't any statistical significant differences between Turkish and Chinese mothers in terms of nourishment during the pregnancy, early feeding practices and duration of breastfeeding data. About 842% of Turkish and 61 7% of Chinese mother had give breast milk their children as first nutrients. 788% of Turkish and 42% of Chinese mothers had continued to exclusive breastfeeding in the next six months after birth. Chinese mothers (875%) usually stop the nursing between 6-12 months and Turkish mothers (592%) stop nursing mainly between 10-24 months of baby life. These findings support the claim that because of Mus mothers are less sensitive to external influences and that stick on their practices affects positively their practices of baby feedings. Contrary to this, it's thought that the new trends which are brought by rapid industrialization and needs rapid and a new life style affects the baby feeding practices negatively.

**Key words:** Turkey, China, breastfeeding, prelacteal feeds, nursing, exclusive breastfeeding

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### INTRODUCTION

It's a known fact that feeding the baby by only breastfeed in the first 6 months is very beneficial for both the baby and the mother. Health Ministries of both countries Turkey and China and health organizations who operate on both country such as WHO and UNICEF have underlined the importance of breastfeeding in the first 6 months period (Tunçel *et al.*, 2006; Qiu *et al.*, 2008). On the other hand it's been suggested to proceed the breastfeeding alongside other nutrition after first 6 months up to 1, 5-2 year-old.

Prelacteal feeds are defined as any feeds given before the onset of lactogenesis II, which is the onset of copious lactation that occurs within 4 days of birth. Because prelacteal nourishment can lead to serious problems at the onset of breastfeeding, they're not recommended. Where such nourishment is taken, exclusive breastfeeding of such infants will be removed (Qiu *et al.*, 2007). Therefore, it's considered risky to give sweet water or honey etc. as first nutrients. In order to raise the awareness of the mother about breastfeeding, China and Turkey have started a project named baby-friendly hospital by World Health Organization. In this context many activities have been held in many provinces in both China and Turkey (including Zhejiang

and Mus, respectively). When we look at the results however, it can be seen that neither in Turkey nor in China projected results have been achieved (Qiu *et al.*, 2007; Xu *et al.*, 2009).

The purpose of this study to determine and then to compare the baby feeding practices of the mother who live in rapidly developing Yiwu (China) and in Mus a province in Turkey that shows steady development rate.

### MATERIALS AND METHODS

**Study area and study population:** This study was held in Yiwu, in Zhejiang China and in Mus province in Turkey. Zhejiang province is located in south of Shanghai. In 2006, population of this province was 49 million. With economic reforms that made by China this province has begun to show rapid developments in the fields of economy, education and health and achieve national and international successes. Yiwu is a place that can be called a county which also show development in the industry sector in recent years. In 2007, its population consisted of 700.000 permanent residents and 1 million temporary residents. Mus province is located in the middle-east region. While the local citizens make their living from agriculture and stockbreeding, the industry didn't develop.

Province of Mus is in middle of most disadvantaged provinces of Turkey in the terms of children number to per woman.

According to the data of United Nations, while the expected children number for per woman in Turkey between 2005-2010 was 2.14, this rate has been averagely 431 for Eastward region, which includes Mus province. This study has been conducted in March, April and May 2007 in Mus, Turkey and in Yiwu, China. The mothers in the study were selected among those who are rural originated but had moved out to Mus in the last 5 years.

Similarly, the mothers in China were selected by same method. One of conditions of this study related to mother selection is that each of those mothers had to have at least one child 2-4 years old. Thus, 120 Turkish women and 120 Chinese women, who met these criteria had been participated in the study.

**Instrument:** A questionnaire which contained 8 questions has been prepared from the literature reviewed for this study (Aydin and Olgun, 2000; Zhao *et al.*, 2003). This questionnaire was translated to Chinese and then tested in the city and rural areas of China which showed that the questionnaire should be modified to Zhejiang language and culture.

This questionnaire was given to the two groups of 10 mothers, one group in Turkey and the other in China, as a pretest. Results of this pretest application showed that neither Turkish mothers nor the Chinese mother had a problem with the questions in terms of understanding what they mean. Data about nutritional practices during the pregnancy period, the first nutrients that is given to the newborn, baby feeding during the 6 month, continuity of the mother milk and information which indicates the general demographic situation

were collected by face-to-face interviews, though the interviews with Chinese mothers were conducted via a translator. Each interview took 5 min for the mothers in Turkey and 7 min for the Chinese mothers.

**Data analyses:** All data analyses were carried out using the Statistical Package for the Social Sciences, release 13.0 (SPSS Inc.). Descriptive statistics and cross-tabulations were generated for demographic factors and feeding practices. Chi-Square test, mean, frequency and percentage were used for compare the two groups results.

## RESULTS

**Characteristics of the study population:** As it can be seen at Table 1, there wasn't any significant difference between Turkish mothers and Chinese mother in terms of their age and education level when we considered demographic features of two groups but there was a significant difference between two groups in terms of annual income ( $\chi^2 = 33.041$ ,  $p < 0.001$ ). Mean annual income of Mus mothers families was found as; mean = 8.75 thousand US\$ (SD 4.74) and mean annual income of Yiwu mothers families was found as; mean = 4.078 thousand US\$ (SD = 2.72).

Mean age of Turkish mothers was 25.93 (SD = 4.00) and of Chinese mothers was 27.17 (SD 3.69). Mean of education level was calculated by taking 1 for 9 education length ( $\leq 9$ ), 2 for between 10 and 12 and 3 for  $> 12$  years education.

According to this point system mean education level of Turkish mothers was come out as 1.541 (SD = 0.71) and of Chinese mothers was 1.617 (SD = 0.66). All participant Chinese have reported that they have only one child. In Mus however, the rate was 2.45 (SD = 0.88) children to per woman.

Table 1: Demographic data about the mothers of Mus (Turkey) and Yiwu (China) (n = 240)

	Mus (Turkey)			Yiwu (China)			Chi square	df	p-value
	n	%	Mean $\pm$ SD	n	%	Mean $\pm$ SD			
Age of the mother									
20-24	49	40.8	25.93 $\pm$ 4.00	32	26.7	27.217 $\pm$ 3.69	8.414	4	0.078
25-29	51	42.5		51	42.5				
30-35	20	16.7		37	30.8				
Maternal education (years)									
$\leq 9$ (1)	70	58.3	1.541 $\pm$ 0.71	58	48.3	1.617 $\pm$ 0.66	0.782	4	0.941
10-12 (2)	35	29.2		50	41.7				
$> 12$ (3)	15	12.5		12	10.0				
Annual income									
0-4000 USD	29	24.2	8.375 $\pm$ 4.74	62	51.7	4.708 $\pm$ 2.72	33.041	4	0.000
5000-9000 USD	69	57.5		49	40.8				
$\geq 10.000$ USD	22	18.3		9	7.5				
Children number of the mother*									
1 child	11	9.2	2.45 $\pm$ 0.88	120	100.0	1			
2 children	60	50.0		-	-				
$\geq 3$ children	49	40.8		-	-				

\*Statistics of  $\chi^2$  were insignificant, therefore it's not included

**Nourishment during pregnancy:** There wasn't any significant differences between Turkish and Chinese mothers in terms of nourishment during the pregnancy ( $\chi^2 = 3.117$ ,  $p > 0.05$ ). However, it was found that Chinese mothers give more attention (64.2%) to do nourishment during their pregnancies in comparing with Turkish mothers (40.8%).

**Early feeding practices:** There have a similarity between Turkish and Chinese mothers in terms of what they first gave to the newborn as nutrient and in the first 6 months after birth ( $\chi^2 = 2.635$ ;  $p > 0.05$ ;  $\chi^2 = 2.398$ ;  $p > 0.05$  respectively). About 84.2% of Turkish mother and 61.7% of Chinese mother had give breast milk their children as first nutrients.

Interestingly enough however that some of those mothers from the both groups had given sweet water or honey as first nutrients to their children. While 78.8% of Turkish mothers and 42% of Chinese mothers had continued to exclusive breastfeeding in the next 6 months after birth, 50% of Chinese mothers and 13.3% of Turkish mothers had gave spoon meat alongside breastfeeding to their children (Table 2).

**Duration of breastfeeding:** Seven Turkish mothers and 6 Chinese mothers had reported that they've never give breast milk their babies. While 4 of 7 Turkish mothers informed that they didn't give breast milk their children because of insufficient milk level and 3 of these 7 mothers because of risk of contagious disease. On the other hand, 4-6 Chinese mothers because of insufficient milk level, 1-6

because of risk of contagious disease and 1-6 because of intense research, they've never give breast milk their children. When someone take a look at the Table 3 can shown that Chinese mothers (87.5%) usually stop the breastfeeding between 6 and 12 months of baby life and Turkish mothers (59.2%) stop breastfeeding mainly between 10 and 24 months of baby life. Of Turkish mothers 30% had stopped breastfeeding their babies between 13-24 months after birth. This rate was 25% among Chinese mothers. Also there were 5 Turkish mothers who had feed their children with breast milk for 3 years after birth.

## DISCUSSION

At the end of this study, it's understood that there is no statistically significant difference between Turkish and Chinese mothers in terms of nursing and feeding their infants but it's seen that there are considerable differences in terms of proportion of these practices. In this study, baby feeding practices of two group mothers had been compared. One group of women lives in Yiwu which shows growth and development with rapid industrialization and commerce and the other group lives in Mus in Turkey which shows relatively slow development. When demographic data has been processed, there haven't been found a significant difference between man annual incomes of these two groups. It's seen that Turkish mothers families have higher mean in terms of annual income.

Table 2: Early feeding practices in Yiwu and Mus Cities (n = 240)

Practices	Mus (Turkey)		Yiwu (China)		Chi square	df	p-value
	n	%	n	%			
<b>Did you pay attention what you eat during the pregnancy?</b>							
Yes	49	40.8	77	64.2	3.117	1	0.057
No	71	59.2	43	35.8			
<b>How did you feed your baby on the first day?</b>							
Breast milk	101	84.2	74	61.7	2.635	4	0.621
Spoon meat	10	8.3	20	16.7			
Cultural food	9	7.5	26	21.7			
<b>How did you feed your baby during first 6 months?</b>							
Only breast milk	91	75.8	51	42.5	2.398	4	0.663
Breast milk and spoon meat	16	13.3	60	50.0			
Spoon meat and other food	13	10.8	9	7.4			

Table 3: Duration of Breastfeeding (n = 240)

	Mus (Turkey)		Yiwu (China)	
	n	%	n	%
How long did you feed your baby with breast milk?				
Never	7	5.8	6	5.0
3-5 months	11	9.2	6	5.0
6-9 months	26	21.7	25	20.8
10-12 months	35	29.2	80	66.7
13 months-2years	36	30.0	3	2.5
3 years	5	4.2	-	-

In fact, if we consider the number of children they have and their prosperity level, economic indicators would not be so different. Child number to per woman with 25.93 mean age is 2.45. When we consider the mean of Turkey is 2.14, it can be said that it's a high rate (Ozgur, 2004). On the other hand the reason for every Chinese mother has only one child involves with population policy of China since 1979 (Zhu, 2003).

It's observed that Chinese mothers pay more attention to their food during the pregnancy than Turkish mothers do. It's also observed that both Turkish mothers (84.2%) and Chinese mothers (61.7%) were mostly breastfeeding to their babies as first nutrient. This result consistent with results of many research that have made about Turkey (Acik *et al.*, 1999; Aydin and Olgun, 2000; Dalgic *et al.*, 1998). In China however, according to study that Zhao *et al.* (2003) conducted in Jinan city, only 52.6% of mothers had given breast milk to their babies as first nutrient. However, it's thought that cultural and regional differences might influence on the results. This claim is supported by the result that mothers in both research areas had given cultural food to their children as first nutrient.

It's observed in the study that the rate of nursing in the first 6 month is higher among the Turkish mothers than Chinese mothers. The 42.5% rate among the Chinese mothers seems consist with similar studies about first 4 month that had been conducted in the same area. In the first four months the rate of exclusive breastfeeding was determined as 42% in Zhejiang Province (Xu *et al.*, 2009). This rate was found as 61% for rural areas and 38% for downtown in another study in Hangzhou which is capital city of Zhejiang (Qiu *et al.*, 2008). Given the participants of this study coming from rural areas, it can be seen the results actually don't conflict with each other. The rate of 75.8% for Turkish mothers can be said very high for Turkey. Exclusive breastfeeding rates for the first 4 months have been found as 54 and 65.2% in city and rural area respectively (Acik *et al.*, 1999; Genc *et al.*, 1998). There is a little research on the area included Mus so that obtaining healthy results is very difficult. Zetterström (1999) informed that while the rate of breastfeeding in Scandinavian countries is very high in industrialized regions such as North Italy they are considerably low.

In the same study it's said that the rate of breastfeeding in the first three months in New Guinea is 100%. Parallel to this approach it can be said the reason for higher rate of breastfeeding in Muş mothers than Yiwu mothers can be attributed to the lower rates of development and change of Mus. The rate of Chinese mothers had stopped nursing between 6 and 12 months was consistent with other studies' findings in the same

area. The studies in the 10 provinces in China including Zhejiang, shows that the nursing duration in these areas changes from 52-123 months. Duration for Zhejiang province was reported as 82 months (Xu *et al.*, 2009). Nursing duration among the Turkish mothers was found mostly (59.2%) 10 months and over.

However, the finding about 32.5% of Turkish mothers continue to nursing even later from 13 months up to 3 years can be seen as important finding in this study. In study of Tuncbilek and his colleagues in 1978, it's reported that Turkish mother were breastfeeding their babies for 12 months averagely (Dalgic *et al.*, 1998). Later on this rate was found between 6.2 and 10.4 months (Tuncel *et al.*, 2006). According to this finding, breastfeeding duration of participants Turkish mothers are longer than Chinese participant mothers.

## CONCLUSION

In this study, baby feeding practices of mothers who moved out to a rapidly developing city of Yiwu from rural area and of mothers who moved out to relatively stable developing city of Mus were investigated. Findings of the study were found mostly consistent with the findings of studies in Zhejiang province, China. Findings about Turkish mothers were found more positively comparing with the similar studies in Turkey.

Even though there wasn't statistically significant differences between two mother groups' breastfeeding practices, it can be said that Turkish mothers were in more positive status according to proportional result. These findings support the claim that because of Mus mothers are less sensitive to external influences and that stick on their practices affects positively their practices of baby feedings. Contrary to this, it's thought that the new trends which are brought by rapid industrialization and needs rapid and a new life style, affects the baby feeding practices negatively.

## REFERENCES

- Aydin, S.D. and G. Olgun, 2000. Maternal attitudes to breastfeeding and weaning reasons in Isparta. SDU Tip Fakultesi Dergisi, 7: 16-18.
- Acik, Y., E. Dinç, S. Benli and M. Tokdemir, 1999. The knowledge, attitudes and applications of the women about the breast milk and then nutrition who has children aged from 0-24 months in Elazığ. Turk Klinikleri Pediatr., 8: 53-62.
- Dalgic, N., S. Hizel and M.R. Kose, 1998. Knowledge and behavior about breastfeeding. J. Fac. Med. Univ. Ankara, 51: 137-143.

- Genc, M., G. Günes and E. Pehlivan, 1998. How we feed our children? *J. Inonu Univ. Med. Fac.*, 5: 169-175.
- Qiu, L., X. Xie, A. Lee and C.W. Binns, 2007. Infants first feeds in Hangzhou, PR China. *Asia Pac. J. Clin. Nutr.*, 16: 458-461.
- Qiu, L., Y. Zhao, C.W. Binns, A.H. Lee and X.A. Xie, 2008. Cohort study of infant feeding practices in city, suburban and rural areas in Zhejiang Province, PR China. *Int. Breastfeed J.*, 3: 3-4.
- Tuncel, E.K., C. Dünder, S. Canbaz and Y.C.Ü. Pesken, 2006. Searching breastfeed status of children of 0-24 months applied to a university hospital. *J. Cumhuriyet Univ. School Nursing*, 10: 1-6.
- Xu, F., L. Qiu, C.W. Binns and X. Liu, 2009. Breastfeeding in China: A review. *Int. Breastfeed J.*, 16: 4-6.
- Zetterström, R., 1999. Breastfeeding and infant-mother interaction. *Acta Paediatr. Suppl.*, 88: 1-6.
- Zhao, Y., A.M. Niu, G.F. Xu, M.J. Garrett and T. Greiner, 2003. Early infant feeding practices in Jinan City, Shandong Province, China. *Asia Pac. J. Clin. Nutr.*, 12: 104-108.
- Zhu, W.X., 2003. The one child family policy. *Arch. Dis. Child.*, 88: 463-464.
- Ozgun, E.M., 2004. Spatial distribution of total fertility rate in Turkey. *Turkish J. Geogr. Sci.*, 2: 1-12.