

# PATTERN OF INFANT FEEDING

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## ABSTRACT

The aims of this study were to find the prevalence of different patterns of infants feeding in relation to the back ground characteristics of their mothers and to explore the causes of breast feeding failure in Thi-Qar. Across sectional study was conducted in four primary health care centers in Thi- Qar .Total sample of 512 mothers ,whose infants less than two years were included in the study . Data about feeding practices were collected by interviewing the mothers using standard questionnaire designed for the study. The rate of different infants feeding practices were (90.8%) breast feeding, (55.1%)exclusive breast feeding , (35.7%) mixed feeding and (9.1%) bottle feeding among infants less than 6 months old. The rate of breast feeding decreased rapidly among other age groups reaching (72.2%) at age 1-2 years . There was no significant association between patterns of infants feeding and age, parity and educational level of mothers .However, going to work , oral contraceptive use and delivery by caesarean section were significantly associated with bottle feeding . The main reasons for bottle feeding were insufficient breast milk (53.4%) and going back to work (18.2%),and Pediatricians (45.6%) were found to be the main persons prescribing infants formula for mothers. In conclusion, breast feeding was common practice of infants feeding among mothers in Thi-Qar regardless their age, parity and level of education ,while pediatricians , going to work oral contraceptive use and delivery by caesarean section were the main contributors to breast feeding cessation and switch to bottle feeding. Therefore, the health educational programs to promote breast feeding are necessary for both mothers and health care providers ,and the health care providers should also take into consideration the negative impact of caesarean section deliveries and early oral contraceptive use on breast feeding practice.

## INTRODUCTION

Breast feeding is the natural and physiological way of feeding infants and young children (1). Breast feeding promotion is an important component of child survival strategies, and the WHO recommends the practice of exclusive breast feeding of infants for the first 6 months of life(2). A vast scientific literatures demonstrates substantial health, social, and economic benefits associated with appropriate breast feeding, including lower infant morbidity and mortality from diarrhea and other infectious diseases(3-5)Recently, there has been increasing concern about decline in breast feeding duration in developing countries especially in urban areas where well-to-do mothers

resort to bottle feeding early in the postnatal period (6). Many studies were carried out in different parts of world to investigate the factors associated with breast feeding cessation such as young age mothers (7), employment and using estrogen containing oral contraceptive pills (8), negative attitudes of doctors and nurses (9) and early introduction of food and water (10). The lower attitudes score was found to be consistently with young mothers, low social class and low educational level (11,12). The aims of this study were to find the prevalence of different patterns of infants feeding in Thi – Qar, Iraq, as well as to show the differences between breast– fed and bottle – fed infants in relation to their background

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characteristics and to explore the causes of breast feeding failure. This information will be useful to revise ongoing programs and to devise new strategies to promote breast feeding.

### Materials and methods:

This cross sectional study was conducted between October 2006 and November 2007 in four primary health care centers in Thi – Qar, Iraq. The target population was sample of (512) mothers whose infants were less than two years who had been attended primary health care centers for vaccinating their infants. Selection of mothers was systematically by interviewing every third mother. A consent for participation was obtained verbally only (1%) of mothers refused to be interviewed. The WHO indicators for assessing infants feeding practices were used (13). An exclusively breast fed infant is one who receives only breast milk and no other fluids or solids. A bottle-fed infant is one who receives fluids or semisolid food from bottle with teat and mixed – fed infant is one who receives both breast milk and other fluid or semisolid food including non human milk formula. Information were collected by using standard questionnaire designed for the study which included the following items such as sociodemographic profile of mothers and their infants , type of infants feeding and some of characteristic of bottle feeding practice such as reasons for choosing bottle feeding and who prescribed the feeding. The quality of the information collected was ascertained using the child medical record. On completion of the questionnaire, mothers were instructed on infant feeding and detected misconceptions were clarified . Statistical analysis was done using the SPSS program. Associations between categorical variable were tested by the chi-square test. P- value < 0.05 was considered statistically significance.

### RESULT

Table(1) shows the rate of infants feeding practices with different age groups. The

rate of infants feeding practice among infants less than six months old were (90.8%)breast feeding whether exclusive or mixed, ( 55.1%) exclusive breast feeding and (9.1%)bottle feeding . The rate of breast feeding tends to decrease rapidly after age of 6 months reaching (72.2%) at age of( 1-2) year, while bottle feeding increases with increase in child age . Table (2) shows preference of breast feeding over bottle feeding among all age groups of mothers ,although this difference was not statistically significant(  $P>0.05$ ). There was no significant association between parity ,educational level of mothers and pattern of infants feeding ( $P>0.05$ ). (62.4%) of working mothers were breast feeding and (37.6%) of them were bottle feeding , this difference was statistically significant ( $P<0.05$ ). The rate of bottle feeding practice was much higher among mothers who delivered by caesarean section and those who used oral contraceptives than those who delivered vaginally and did not use oral contraceptives (63% vs 7.6%), (39.2% vs 6.7%)respectively. Among mothers who switched from breast to bottle feeding the most common reason was insufficient milk (53.4%),followed by going to work (18.2%) table (3). Pediatricians (45.6%) were found to be the main persons prescribing infant formula for mothers table (4).

### DISCUSSION

The present study showed that infant feeding practices in Thi- Qar was similar to other studies in Iraq . In 1977 , Abdulli reported that( 58 .7%) of infants aged less than 6 months old in Baghdad were exclusive breast feeding and( 37.6%) were mixed feeding (14). Similar results were obtained from Basra in 1994 *were( 50 .7%) of infants were exclusive breast feeding and ( 14.4 %)of them had mixed feeding* (15) .But the results were much differ from study done in northern of Iraq in 2003 , which demonstrated a high percentage of bottle feeding (64%) and low exclusive breast feeding rate (7%) for infant aged ( 0-6 )month (16) . The results of this study also in agreement with studies in other

parts of world like Saudi Arabia (17) and India (18). This high rate of breast feeding could be due to many factors such as , the Baby Friendly Hospital Initiatives which were aimed for increasing maternal education regarding the benefits of breast feeding (19), the high cost of formula may also discourage many families from using it and ethical marketing of breast milk substitutes to parents and staff in health care facilities were started by nutritional unit , there by implementing the WHO's International Code for Marketing of Breast Milk substitutes (20) .On other hand ,the prevalence of breast feeding decreased with increase child age which similar to other studies (15,21). The reason is that almost all mothers began solid foods before the infants were six months of age . It was reported that early introduction of other foods shortened the duration of breast feeding (22).The health education programs should therefore focus on encouraging mothers to exclusively breast-fed their babies up to age of six months. The study showed breast feeding was not significantly related to age , parity and education of mothers which differs from Nigerian(23) and Jamaican (24) reports which demonstrated significant correlation between breast feeding and previous variables ,this might be that socioeconomic standard is ethnic specific as reported by Braveman et al ( 25). Delivery by caesarean section and use oral contraceptive pills were significantly related to breast feeding cessation . This result coincides with previous studies that revealed the impact of delivery by caesarean section and use oral contraceptive pills in reducing the length of lactation(26-28). Similar to other studies(14,15,17,29)the main reasons for bottle feeding in this study were insufficient milk and need to go back to work . Many mothers believe that they do not have sufficient milk for their babies, especially in the first week after labor .This

can be explained by the lack of awareness about the oxytocin reflex mechanism that increase milk production due to infants continuously sucking the breast (1) . In this study pediatricians were the ones who commonly prescribed infant formula similar to other studies which showed that health care providers were cited as sources of encourage of bottle feeding (8,30) . This negative attitudes of the pediatricians toward breast feeding could be explained by the fact many health professionals are exposed to advertisement for infant formula .

## CONCLUSION:

It was noted that the general tendency was toward preference breast feeding over bottle feeding among mothers in Thi-Qar regardless of age, parity and level of education while ,going to work ,delivery by caesarean section and oral contraceptive use were the main contributors to breast feeding cessation. However ,the rate of breast feeding was decreasing rapidly after age of six months due to early introduction of solid food . Pediatricians and misconception about breast feeding were an important reasons for bottle feeding therefore , 1-the health educational programs to promote breast feeding are necessary to correct misconception about breast feeding among mothers and health care provider.

2-breast feeding should be promoted to all mothers at delivery and especially to those who delivered by caesarean section . 3-early introduction of solid food to infants and oral contraceptive to mothers should be discouraged to ensure high quality of breast feeding .

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## Patterns Of Infant Feeding

**Table(1):**

Pattern of infants feeding according to age groups.

age group(months)	exclusive breast no. (%)	mixed feeding no. (%)	bottle feeding no. (%)	total
<6	151 (55.1%)	98 (35.7%)	25 (9.1%)	274
6-11	27 (21.4%)	67 (53.1%)	32 (25.3%)	126
12-24	19 (16.9%)	62 (55.3%)	32 (27.6%)	112

**Table(2):**

pattern of infants feeding according to back ground characteristics of mothers attending primary health care centers in Thi-Qar.

Characteristics	breast feeding no. (%)	bottle feeding no. (%)	total	P-value
<b>Age(years):</b>				>0.05
<20	39 (83.0%)	8 (17.0%)	47	
20-25	125 (81.7%)	28 (18.3%)	153	
26-30	123 (85.4%)	21 (14.6%)	144	
31-35	85 (82.5%)	18 (17.5%)	103	
>35	52 (80.0%)	13 (20.0%)	65	
<b>Parity:</b>				>0.05
para1	116 (82.3%)	25 (17.7%)	141	
para2	100 (83.3%)	20 (16.7%)	120	
para3	57 (85.0%)	10 (15.0%)	67	
para4 or more	151 (82.0%)	33 (18.0%)	184	
<b>Educational level:</b>				>0.05
illiterate	85 (84.0%)	11 (16.0%)	69	
primary or secondary school	293 (82.3%)	63 (17.7%)	356	
university	73 (83.9%)	14 (16.1%)	87	
<b>Working status:</b>				<0.05
housewife	361 (87.8%)	50 (12.2%)	411	
working	63 (62.4%)	38 (37.6%)	101	
<b>Contraceptive use:</b>				<0.05
non	323 (93.3%)	23 (6.7%)	346	
yes	101 (60.8%)	65 (39.2%)	166	
<b>Mode of delivery:</b>				<0.05
vaginal	391 (92.4%)	32 (7.6%)	423	
caesarean section	33 (37.0%)	56 (63.0%)	89	

**Table(3):**

Mothers reasons for introducing bottle feeding:

reasons	bottle feeding No. (%)
insufficient milk	47 (53.4%)
going to work	16 (18.2%)
maternal diseases	4 (4.6 %)
infants diseases	9 (10.2 %)
pregnancy	8 (9.0 %)
others	4 (4.6 %)

**Table(4):**

Distribution of bottle-fed infants according to the persons who prescribed the formula.

Persons who prescribed the formula	bottle feeding No. (%)
pediatrician	40 (45.6%)
doctor in primary health care center	24 (27.3%)
family member	8 (9.0%)
mother herself	16 (18.1%)

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## أنماط تغذية الرضع في ذي قار ، العراق

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### الخلاصة :

أن أهداف هذه الدراسة هو تحديد معدل أنماط تغذية الرضع المختلفة في ذي قار بالإضافة إلى الكشف عن أسباب فشل الرضاعة من الثدي . أجريت دراسة مقطعية في أربعة مراكز للرعاية الصحية الأولية في ذي قار، حيث شملت الدراسة (512) أم كانت أعمار أطفالهن اقل من سنتين وتم جمع المعلومات عن ممارساتهن في تغذية أطفالهن عن طريق الاستبيان . وقد تبين من الدراسة أن معدل الرضاعة من الثدي هو (90.8%) ، والرضاعة الحصرية من الثدي ( 55.1%) ، والرضاعة المختلطة (35.7%) والرضاعة من الزجاجة (9.1%) للأطفال الذين تقل أعمارهم عن ستة أشهر وقد لوحظ أيضا انخفاض سريع في معدل الرضاعة من الثدي في الفئات العمرية الأخرى ليصل إلى(72.2%) في الفئة العمرية (1-2) سنة . أيضا بينت الدراسة انه ليس هناك ترابط إحصائي بين أنماط تغذية الرضع وعمر الام، وعدد الولادات والمستوى التعليمي للام بينما كان هناك ترابط إحصائي بين الإرضاع من الزجاجة والذهاب إلى العمل، والولادة بالعملية القيصرية و استعمال حبوب منع الحمل . وكانت الأسباب الرئيسية للإرضاع من الزجاجة هي عدم كفاية حليب الثدي (53.4%) ، والرجوع إلى العمل ( 18.2%) . وكان أطباء الأطفال (45.6%) من أكثر الأشخاص الذين وصفوا الرضاعة من الزجاجة للأمهات . نستنتج من هذه الدراسة أن الإرضاع من الثدي هي الطريقة الأكثر شيوعا في ذي قار ، وكان هناك انخفاض سريع في معدل هذه الرضاعة مع الزيادة في عمر الطفل ولذلك يجب أن تكون البرامج التثقيفية الداعمة للرضاعة من الثدي موجه لكل من الأمهات والكوادر الصحية ويجب أن تأخذ الكوادر الصحية بنظر الاعتبار التأثير السلبي للاستعمال المبكر لحبوب منع الحمل والولادة بالعملية القيصرية.

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