# Major Influencing Factors on Infants Feeding Pattern of Hospitalized Children Under 2 Years, Najaf Governorate- Iraq, 2017

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#### Abstract

Infant feeding practices are based on many factors; socio demographic factors are the most critical one. To investigate socio demographic factors that influence the infant feeding practices of mothers in Najaf Governorate/Iraq. A cross-sectional study was employed. Mothers who have under two years child participated in the study.

A tested questionnaire of twenty six inquiries was completed and chi-square test was used to associate feeding practices with different socio- demographic characteristics.

Among the mothers, the majority were between the ages of 19-35 years, unemployed, primary educated, and from low socioeconomic status. Mothers who reported having primary education were significantly more likely to exclusively breastfeed than those with higher levels of education. Mother's socioeconomic statuses, employment status, were also influential in infant feeding practices.

**Aim of the Study:** To describe the feeding practices of infants below two years of age and determine maternal socio-demographic factors that influences these practices among mothers in Najaf Governorate.

**Method:** A cross-sectional study involving three hundred ninety five mother- under two years infant pairs hospitalized at Al-Zahraa teaching hospital for maternity and children, Najaf Governorate, during 2016 – 2017 were consecutively recruited after meeting the study inclusion criteria.

Data on breastfeeding were based on infant feeding practice in the previous 24 hours. Exclusive breastfeeding was defined as infant feeding with only breast milk.

Pretested questionnaire is comprised of 26 items include social demographic domain (11 items) Delivery details domain (3 items), Feeding pattern domain (12 items).

**Results:** The findings of present study presented that the majority of sample was breast fed (44.3%), formula feeding (21.8%) and mixed feeding pattern (33.9%). High significant association between mother age and feeding pattern, the frequency of feeding pattern in age group (19-24) P-value 0.002.

Also significant association between mother educational level and feeding pattern P-value 0.018, also it was noticed that there is significant association between mother occupation with feeding pattern P value 0.043.

The study concludes that infant feeding pattern was significantly associated with mother education, income and occupation, mode of delivery and by person who advice to specific pattern of feeding.

Keywords : Breastfeeding, formula, Najaf, infant feeding practices.

#### Introduction

The World Health Organization recommends "infants should be exclusively breastfed for the first six months of life followed by breastfeeding along with complementary foods for up to two years of age or beyond to achieve optimal growth, development and health<sub>(1)</sub>. According to the WHO recommendations,

the appropriate age at which semisolids should be introduced is after 6 months of age while continue breast feeding to meet the increased physiological requirements of growing infant <sup>(9)</sup> owing to the immaturity of the gastrointestinal tract and the renal system as well as on the neurophysiologic status of the infant<sup>(8)</sup>.

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Some of the major factors that affect exclusivity and duration of breastfeeding include breast problems such as sore nipples or mother's perceptions that she is producing inadequate milk (4), and problem which is affect infant feeding such as refusal to eat, colic, and vomiting, Societal barriers such as employment and length of maternity leave (7), inadequate breastfeeding knowledge, lack of familial and societal support; lack of guidance and encouragement from health care Predictors of breastfeeding (9).

When breast milk or infant formula no longer supplies infants with required energy and nutrients to sustain normal growth and optimal health and development, complementary feeding should be introduced (11) which is both breast milk and other foods or drinks defined as mixed feeding (1).It has been recognized worldwide that breastfeeding is beneficial for both the mother and child, as breast milk is considered the best source of nutrition for an infant (7).

#### **Objectives of the study:**

To study feeding practices among hospitalized children under 2 years

## Methodology

A cross-sectional descriptive and analytical study carried out over a 10 months period involved all infants under-two years with their mother who admitted to Al- Zahraa teaching hospital for maternity and children in Najaf from 1st of December 2016 to  $30_{th}$  of September 2017. Three hundred ninety five mother-infant pairs hospitalized in Al-Zaharaa Teaching hospital for maternity and children during 2016 - 2017 were consecutively recruited after meeting the study inclusion criteria. Data on breastfeeding were based on infant feeding practice in the previous 24 hours. Exclusive breastfeeding was defined as infant feeding with only breast milk. The hospital serves the entire Government and also the neighboring communities from the surrounding Governments. It also provides mainly free routine immunization services. Other services rendered include growth monitoring, and counseling in diverse aspects of child survival strategies.

**The Inclusion Criteria Includes:** All hospitalized children under 2 years of age whose mothers have given informed written consent.

#### **Exclusion Criteria:**

(i) All infants delivered prematurely.

(ii) Low birth weight infants.

#### **Data Collection**

Data collection was done by the two researchers and two research assistants who often randomly went back to interview the mothers for quality control checks. These were all geared towards ensuring that study criteria were well applied. Before data collection mothers were assured that refusal to participate in the study will in no way affect the welfare services for their infants. The data collection tool was a pre-tested interviewer administered questionnaire which was completed by questioning the mother and taking measurements of the infants' weight, length and head circumference.

Information was collected regarding parental residence, maternal age, marital status, educational attainment and occupation.

The categorization of the specific infant feeding option practiced by the mother was based on mothers' past 24 hour dietary recall. Baby's first feed, everything baby took in the previous 24 hours, reason for stopping breastfeeding etc. were documented. There was also a section that sought to find out whether the mothers ever heard of exclusive breastfeeding, mothers' knowledge of the weaning, willingness to practice it if given the opportunity and reason for rejecting exclusive breastfeeding.

**Statistical Analysis:** Percentage, Chi square test, Correlation analysis was conducted to quantify the strength of association among feeding pattern and social demographic variables.

#### Results

#### Factors influencing infant feeding practices in the first six months of life:

This section looks at the influence of mothers' characteristics, method of delivery whether spontaneous vaginal delivery, assisted delivery, or caesarean section. Also look for any maternal complications, and looking for newborn baby history on feeding practices.

Table 1, presents data on how these variables of mothers influence infant feeding practices. The percentage of breast feeding practice is found in 53.4% of mothers with spontaneous vaginal delivery. According to maternal complications, respondents with maternal psychosis or post-partum hemorrhage will be less for breast feeding (3% & 2.3%) respectively.

For newborn baby history, it was found that 78.5% of full term babies were breast fed while in preterm or post term it was low (15.4% and 6.1%) respectively.

#### Table 1: Factors influencing infant feeding practices in the first six months of life

	Frequency	Percentage of breast feeding	
	Spontaneous vaginal delivery	211	53.4
	Assisted delivery	13	3.3
Method of delivery	Elective caesarean Section	130	32.9
	Emergency caesarean Section	41	10.2
	Maternal psychosis	12	3.0
	Wound infection	85	21.5
Maternal complications	Post-partum	9	2.3
-	hemorrhage		
	None	289	73.2
Haalth muchloma	congenital	40	10.1
Health problems	acquired	355	89.9
	Preterm less than 37 week	61	15.4
Newborn baby history	full term 37-40 weeks	310	78.5
	post-term 42 weeks	24	6.1
Total		395	100%

#### **Current Infant Feeding Patterns of the Mothers Interviewed:**

Mothers interviewed breastfed for varied periods. Meanwhile, other foods (formula, juice, porridge etc.) were introduced at varied times in the first six months of the child's life. Table (2), shows the infant feeding practices of mothers who participated in the study. As shown, the proportion of women who practiced exclusive breastfeeding and formula feeding were 34.0% and 21.8% respectively. The proportion of women who practiced mixed feeding within the first six months of life was 33.9%.

When mothers were asked what food they introduced to their infants in the first six months of life majority were quick to respond that they give water. Their responses are summarized in Table 2.

		Total		
Age of	No introduction	Water	Formula/home	
infant			food	
6 months &	3 ( 5.9% )	82 ( 36.2% )	56 ( 48.8% )	141 (36.2%)
below				
7-12 months	47 (94.1%)	68 (30% )	35 ( 29.2 %)	150 ( 37.7%
				)
13-24	0 (0%)	78 ( 33.8% )	26 ( 22 % )	104 ( 26.1%
months				)
Total	50 (100%)	228 ( 100%	117 ( 100% )	395 ( 100% )
		)		

Table (	2):	: Type of	food inti	coduced b	y age of	'infant
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The majority (228 of 395) of respondents give water in addition to breast milk to their infants. As mentioned earlier 50 respondents were exclusively breast feeding, however 56 were giving their babies formula and other home prepared foods. respondents who introduced their infants to water, 36.2% gave their infants water in their first six months of life. Another 30% were still receiving water and breast milk at the ages of 7-12 months (**Table 3**). Mothers in this category explained that water has been part of our culture as a welcoming drink and as part of our food. Their responses emphasize the importance of water in infant feeding practices.

# Table (3): Distribution of current feeding practices by socio-demographic characteristics

Category breastfeedExclusively breastfeedFormula feedingMixed feedingTotal yeadingAge Group (years)<1923413400.020-2463365615515520-2463365615515520-2463365615515520-2463365615515520-255411229959530-3422202870>351314835Marital statusSeparated3036No school672832127Primary school603454148Intermediate20112354secondary1910938University921627Higher education0101ResidenceRural613741139Urban1144993256employed, state type of emploreOffice work7084126280Professional22812136unilyMonthlySufficient582949136			Currently feeding practice				
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Age Group (years) $             \frac{20-24}{5-29}             54             63             36          $		<19	23	4	13	40	0.00
Age Group (years) $25-29$ $54$ $12$ $29$ $95$ $30-34$ $22$ $20$ $28$ $70$ $>35$ $13$ $14$ $8$ $35$ Marital statusMarried $172$ $86$ $131$ $389$ $Separated$ $3$ $0$ $3$ $6$ No school $67$ $28$ $32$ $127$ Primary school $60$ $34$ $54$ $148$ Intermediate $20$ $11$ $23$ $54$ Secondary $19$ $10$ $9$ $38$ University $9$ $2$ $16$ $27$ Higher education $0$ $1$ $0$ $1$ ResidenceRural $61$ $37$ $41$ $139$ employed, state type of employeeOffice work $70$ $84$ $126$ $280$ milyMonthlySufficient $58$ $29$ $49$ $136$		20-24	63	36	56	155	
$\frac{30.34}{30.34} = \frac{22}{20} = \frac{28}{20} = \frac{70}{28}$ $\frac{30.34}{355} = \frac{13}{13} = \frac{14}{8} = \frac{8}{355}$ $\frac{Marital status}{Separated} = \frac{172}{30} = \frac{86}{31} = \frac{131}{389}$ $\frac{Separated}{Separated} = \frac{3}{3} = \frac{0}{3} = \frac{3}{6}$ $\frac{No school}{67} = \frac{28}{32} = \frac{127}{127}$ $\frac{Primary school}{60} = \frac{60}{34} = \frac{54}{54} = \frac{148}{148}$ $\frac{Intermediate}{20} = \frac{11}{23} = \frac{54}{54}$ $\frac{Secondary}{19} = \frac{10}{9} = \frac{9}{38}$ $\frac{University}{9} = \frac{2}{2} = \frac{16}{27}$ $\frac{Rural}{16} = \frac{61}{37} = \frac{37}{41} = \frac{139}{139}$ $\frac{Urban}{114} = \frac{49}{9} = \frac{93}{3} = \frac{256}{250}$ $\frac{Professional}{2} = \frac{2}{2} = \frac{8}{12}$ $\frac{11}{33} = \frac{136}{13}$	Age Group (years)	25-29	54	12	29	95	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$		30-34	22	20	28	70	
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of employeeProfessional22812amilyMonthlySufficient582949136	employed, state type	Office work	70	84	126	280	
amily Monthly Sufficient 58 29 49 136	of employee	Professional	2	2	8	12	
	amily Monthly	Sufficient	58	29	49	136	

income	Non-sufficient	91	38	44	173	
	Sufficient to some	26	19	41	86	
	extent					
Previous children (less than 5 years)	None	7	6	8	21	
	1-3	51	22	<b>40</b>	113	
	4-6	117	58	86	261	
Total						

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#### Discussion

It was evident from this study that awareness and knowledge do not equate to practice. Inferentially, our mothers, probably, have not come to accept or understand the critical vital benefit of breast feeding or that the challenges to its practice are deemed insurmountable for now. To overcome this, emphasis should be shifted from mere dissemination of information on breast feeding to empirically helping mothers resolve potential challenges highlighted in this study.

On average only about 34% of the babies were on breast feeding and this proportion was seen to rapidly decline from about 64% at 1–2 month to around 34% at the 5–6 months. As much as this trend has been variously reported, the rate was much lower than in Port Harcourt Southern Nigeria and Sokoto in Northern Nigeria which were 58% and approximately 41% respectively at 6 months.(13)

Differences in study design might have accounted for this wide variation in rates. The Port Harcourt and

Sokoto studies were both longitudinal and interventional studies and since active mobilization and monitoring have been documented to positively impact EBF practices, the reported higher rates in these locations could be attributed to these interventions<sup>(13)</sup>.

Complementary breastfeeding which involves use of both breast milk, infant formula and other non milk feeds was practiced by significantly more (39%) mothers surveyed compared to breast feeding (34%) and predominant breastfeeding (28%). Not surprisingly stratification analysis showed that mothers whose infants were older and mothers with lower education attainment practiced complementary breastfeeding than other infant feeding option.

The reason for these findings is easily explained.

Most mothers usually start introducing other types of feeds as child gets older and able to tolerate these feeds in order to give them (mothers) time to attend to other activities. Likewise mothers with higher education will more likely understand and be better informed of the benefits of EBF thus delay introduction of other feeds compared to mothers with lower educational attainment. This study clearly showed that mothers with tertiary education were more likely to practice EBF compared to those with secondary and primary education. This was similar to the findings of other study done by Cheizman and his group (14).

Findings in the tables (1,2,3,) refer to relationship between mother age group, level education, Mother's occupation, whether employed or un-employed, and income, and infant feeding patterns. receive education/ counseling about infant feeding choice from mother, decision about infant feeding method was by mothers themselves, previous children was (1-3,less than 5 years), notice in household use the same infant feeding method.

This result of our research agreed with what the researcher pointed (15) which is said successful breastfeeding promotion program depends on the understanding of the factors that influence perception, Maternal socio demographic characteristic like age, education, parity, and employment may influence breastfeeding.

Other factors include, antenatal attendance, multiple births, type of delivery, previous breastfeeding experience, breastfeeding support It is the following table (3) which is refer to relationship between marriage, nresidence, number member in the house show no significant association with feeding pattern, these result was non consistent with the result researcher (15)

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#### Conclusion

Exclusive breastfeeding practice is poor from this study but the awareness is remarkably high depicting significant knowledge-practice discordance. Factors such as low maternal education, higher socioeconomic status, non vaginal birth and use of pre lacteal feeds were significant predictors of lower EBF practice.

This study is one of the important studies related to infant and child health issues, It identified major influencing factors on infant feeding patterns and explore significance association between infant feeding patterns and mothers age, education, occupation and family income, and on other hand the study didn't find any association between infant feeding pattern with number of household members and residence.

#### Recommendations

1. Promotion of early starting breastfeeding during the first hour of life with establishment of consultancy clinic about infant feeding problems.

2. Follow up implementation of (Ten steps) of successful breast feeding and further studies about breastfeeding practice and problems are highly indicated.

Ethical Clearance: Taken from the (Health Directorate of Najaf).

Source of Funding: It was self-funding.

# Conflict of Interest: Nil

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