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Integrated management of neonatal and childhood health (IMNCH) and the exclusive breast-feeding practices in Mosul.

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Abstract
Background: The World Health Organization (WHO) recommends exclusive breastfeeding (EBF) for the first six months of life with early initiation and continuation of breastfeeding for two years or more which provides young infants with the nutrients they need for healthy growth and development, together with the nutritionally-adequate, safe, the age-appropriate complementary feeding starting from six months.
Materials and Methods: A cross-sectional study was conducted at Al-Hadbaa Training Primary Health Care Center (PHCC) of the family medicine, in the right sector of Nineveh Health Directorate in Mosul/Iraq. The data collecting period extend from 1st of June to 31th of November 2013.
Results: 473 mothers with their child are record in the first visit, after the assessment, all the necessary advices and counseling according to IMNCH guidelines, are given with a follow up visit arrange 10 days after, 390 mothers are assessing again.
Conclusions: The counseling and health education regarding the breastfeeding technique in the IMNCH guidelines, encouraging the EBF to be continue correctly and to minimize the early weaning due to improper positioning, poor attachment and loss the effective suckling.

Keywords: Exclusive breastfeeding, IMCI, positioning, attachment, effective suckling

Introduction
The World Health Organization (WHO) recommends exclusive breastfeeding (EBF) for the first six months of life with early initiation and continuation of breastfeeding for two years or more which provides young infants with the nutrients they need for healthy growth and development, together with the nutritionally-adequate, safe, the age-appropriate complementary feeding starting from six months [1-3]. Early and EBF helps children not only to survive, but it also supports healthy brain maturity, improves cognitive performance and is associated with better educational achievement at age 5. Breastfeeding is the basis of good nutrition and protects children against disease. In this way, breastfeeding allows all children to thrive and develop to their full potential [4]. Despite WHO's recommendations on EBF, the global picture falls short of the standards, only 35% of infants worldwide are EBF [1-5]. The WHO and United Nations Children Fund (UNICEF) have articulated a global strategy for infant and young child feeding (IYCF). Based on these guiding principles, the culturally acceptable IYCF guidelines has adopted, which were incorporated in the Integrated Management of Neonatal and Childhood Health (IMNCH) Program and guidelines [6]. This guideline has made possible through support provided by the U.S. Agency for International Development (USAID) under Primary Health Care Project in Iraq (PHCPI) implemented by University Research Co. LLC. And has been developed in Iraq in close collaboration with the Ministry of Health (MoH) [7]. The (UNICEF) recommends that 90% of infants less than 6 months of age in developing countries should be exclusively breastfed [8]. For our locality in Iraq to meet these recommendations, an understanding of the factors associated with reduced EBF rates is important for solutions addressing these factors to be proffered. The United Nations Millennium Development Goal (MDG) 4 aims to reduce infant mortality from about 100 deaths per 1000 live births to a target of 35 deaths per 1000 live births by the year 2015. Studies have shown an inverse relationship between EBF and infant mortality rates in developing countries [9, 10]. The Committee on the Rights of the Child (CRC) review in 1998 (session 19), in its Concluding Observations,

the Committee referred explicitly to breastfeeding. In paragraph 22, the Committee noted that "the deteriorating health situation of children, particularly the high and increasing infant and child mortality rates and serious long-term malnutrition, aggravated by poor breastfeeding practices and common childhood diseases". Therefore, it urged Iraq "to develop comprehensive policies and programs to promote and improve breastfeeding practices" and "to prevent and combat malnutrition, especially in vulnerable and disadvantaged groups of children" (paragraph 12) [11]. So an appropriate infant feeding practices are required [8]. The EBF is a function of the proper positioning of mother and baby and attachment of child to the mother's breast [12].

It is estimated that 1.5 million lives could be saved each year if infants were fed according to recommended breastfeeding practices [13]. According to UNICEF, Iraq launched a national nutrition strategy in 2012, which set a 10- year plan and aimed at reviewing and updating relevant national policies and legislation. Its development started in 2009 and was led by the National Food and Nutrition Committee within the Ministry of Health. Importantly, the strategy includes the promotion of breastfeeding [14]. In 2011, only 2 children out of 10 were exclusively breastfed during the first six months of their life (20%). This low rate can be mainly explained by a lack of appropriate knowledge about optimal infant and young child feeding practices [15].

Aim of study

To study the to which extent, the IMNCH program affect the breastfeed practicing.

Material and Method

This observational, cross-sectional study was conducted at Al-Hadbaa Training Primary Health Care Center (PHCC) of the family medicine, in the right sector of Nineveh Health Directorate in Mosul/Iraq. The data collecting period extend from 1st of June to 31th of November 2013. Three female's health care employees who work in the Maternity Care Unit (MCU) were trained by the researchers about how to assess the process of breastfeeding, while the other data obtained from the mothers directly during the interview with the researchers after taking formal consent. During the study period 473 mother-child who reports difficulty with breastfeeding were recorded by the following inclusion and

Exclusion criteria, the inclusion were

- The mother was initiated or intended to breastfeed and experience difficulty with breastfeeding.
- The child age less than 6 months old.

While the exclusion were

- Bottle-fed child.
- Sick child needs urgent referral.
- Mothers refuse the study assessment.

The questionnaire designed, supervised, conducted by the researchers and included demographic information (maternal age, parity, level of education of both parents, residence, occupation of both parents, and the size of the family), place of delivery (home/hospital), mode of delivery (vaginal delivery, caesarean delivery), and medical disorders such hypertension, diabetes, obesity, musculoskeletal disorders, asthma, delivery details; infant information (age in months, gender, child order, weight/age, number of day remained in Neonate Unit at hospital). Breastfeeding assessment done individually by using IMNCH guidelines that include assessment of positioning, attachment, and effective suckling starting by greeting the mother and asking the mother sit down comfortably, in relax and to put her infant to the breast, if the infant had not been fed in the previous hour. If the infant had been fed during the last 1 hour, then the mother was asked when the infant would have the next feed and the observation assessment was planned accordingly, the health worker observed the breastfeeding process for 4 minutes and recorded the findings.

The four key points for positioning are

- Body of the child is straight and the head may be slightly backward.
- The face facing to the breast, and his nose opposite her nipple.
- The child's body in close contact to mother's body.
- Supporting the bottom of child.
- If all presented, so there were good positioning, but if any point missed there would be bad positioning.

The four key points for attachment are

- The baby's chin touches the breast.
- His mouth is wide open.
- His lower lip is turned outwards.
- You can see more of the areola above his mouth and less below.

If all presented, then the attachment were good, if all absent, so there were no attachment, whereas if one point was absent, the attachment were poor.

After the findings were recorded, then praising the mother for the good practices and the necessary notes given to her by using photos, video clips, and model play to correct the points that did wrongly. The all recorded mothers requested to returned back for the next assessment with interval of 10 days. The breastfeed assessed again and the findings recorded. 390 out of the 473 women assessed at the first interview, have been attended at the time of follow up assessment. The data were managed by using SPSS version 18. This software installed in a personal mini laptop. The percentages, Mac-Nemar and p-value were measured.

Results

Characteristic of study population

Demographic maternal data

Figure (1) displays the demographic factors related to mothers enrolled in the study, in which (71.3%) are at the age below the 25 years, being para 1 represents (46.4%). The (12.3%) and (87.7%) of the study population are living in rural and urban areas respectively. Concerning the educational levels, the finding is (15.4%) of the mothers are illiterate and (84.6%) are literate of different levels. (47.4%) of them are house wives. Most of the deliveries (72.1%) occur in hospital while rest take place in home. The normal vaginal mode shows the higher ratio (70.8%) in comparison with the caesarean section (29.2%). History of medical diseases presents only in (6.1%) of the study population.

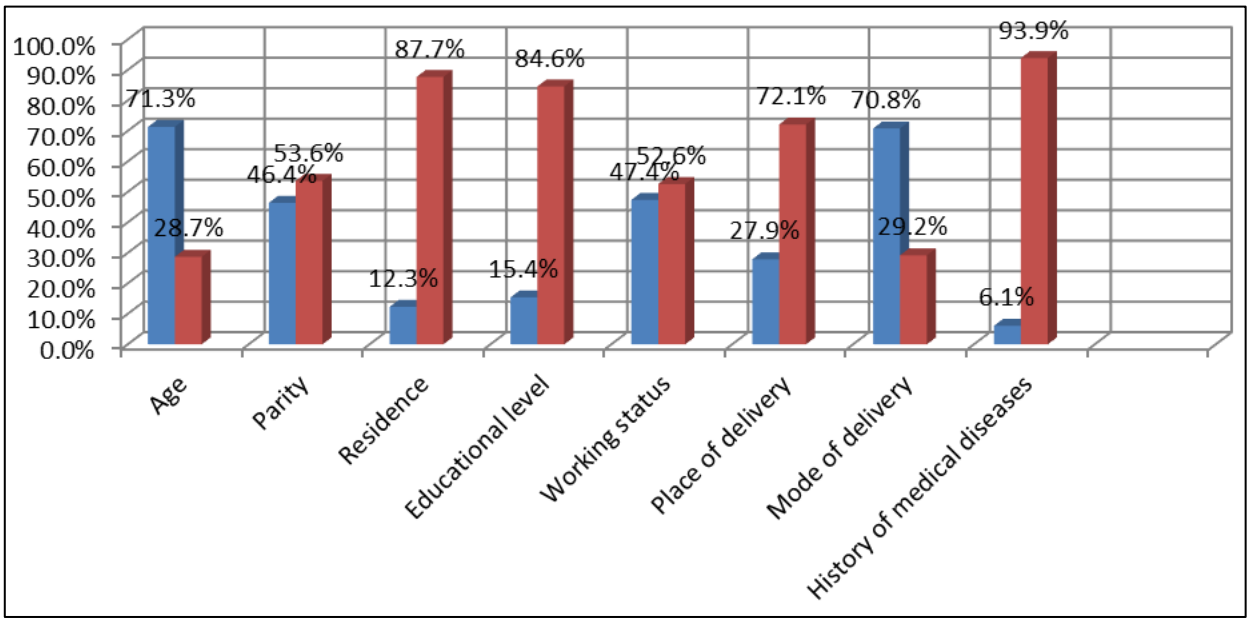

Fig 1: Demographic maternal data of the study population.

Infant data: The age of the child in months, gender, and birth weight (<2500g; 2500-3500g; 3500-4500g; >4500g), number of day the child remained in Neonate Unit at hospital (<1 hour; 12-24 hours; >24 hours), all these are illustrating in the figure (2); whereas the highest ratio (26.4%) are in the age of one month, the female gender is (56.9%). The infants with birth weight <2500g represent (26.2%) and those with >4500g birth weight correspond 3.3% only. Being the 3rd child in the family appears to be (33.9%) of the infants in the current study. While (65.9%) of the infants remain for less than one hour in the Neonate Unit at hospital, (9.0%) stay for more than 24 hours.

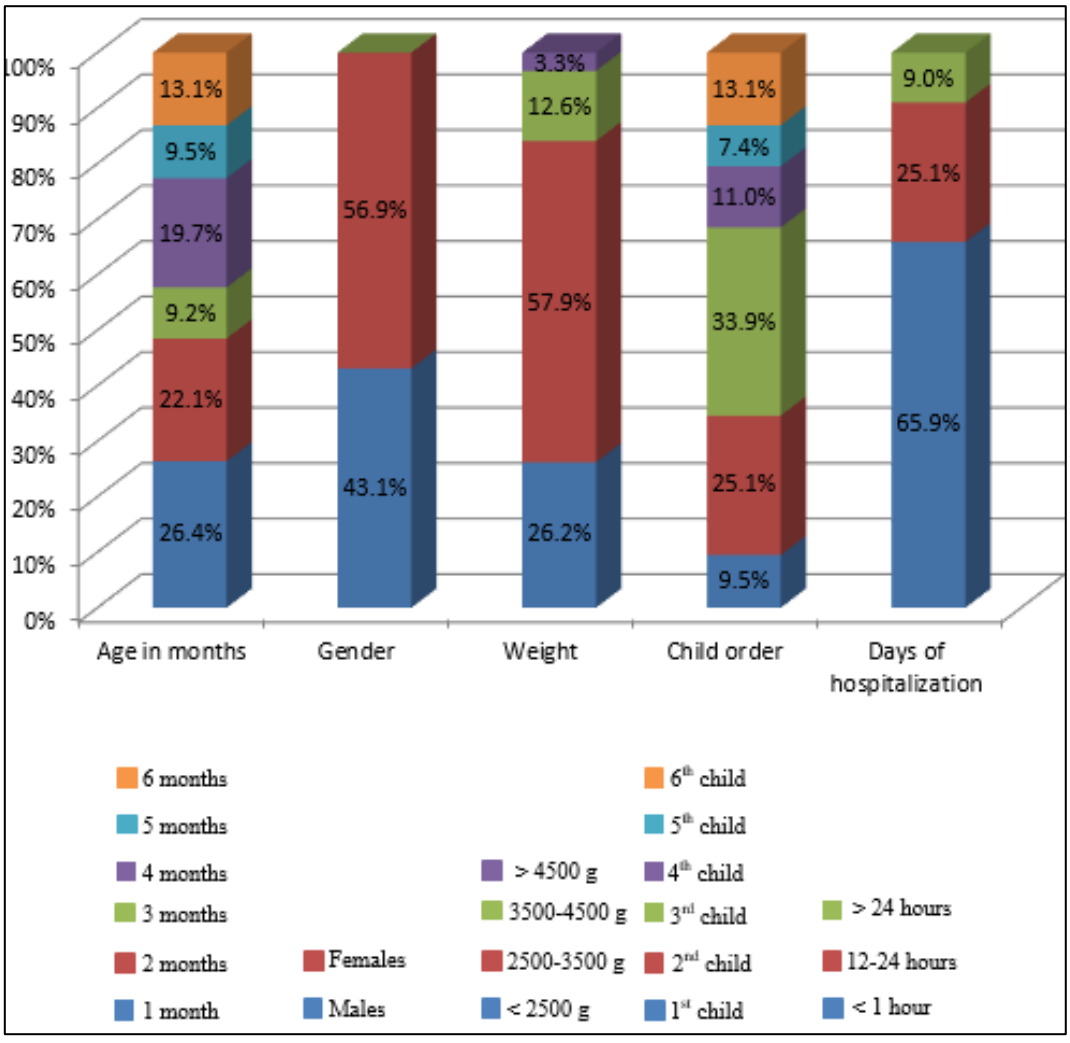

Fig 2: Infant data of the study population.

Family data

These include educational level of the husbands and their occupations, in addition to the size of the family and the figure (3) reveals that just (9.7%) of the husbands are illiterate. Regarding the occupation; (0.5%) are students, (3.6%) unemployed, (23.1%) unskilled worker, (61.8%) skilled worker, and (11.0%) professional. Mothers live in nuclear family represent (17.7%) of the study population, while those with extended family have ratio of (82.3%).

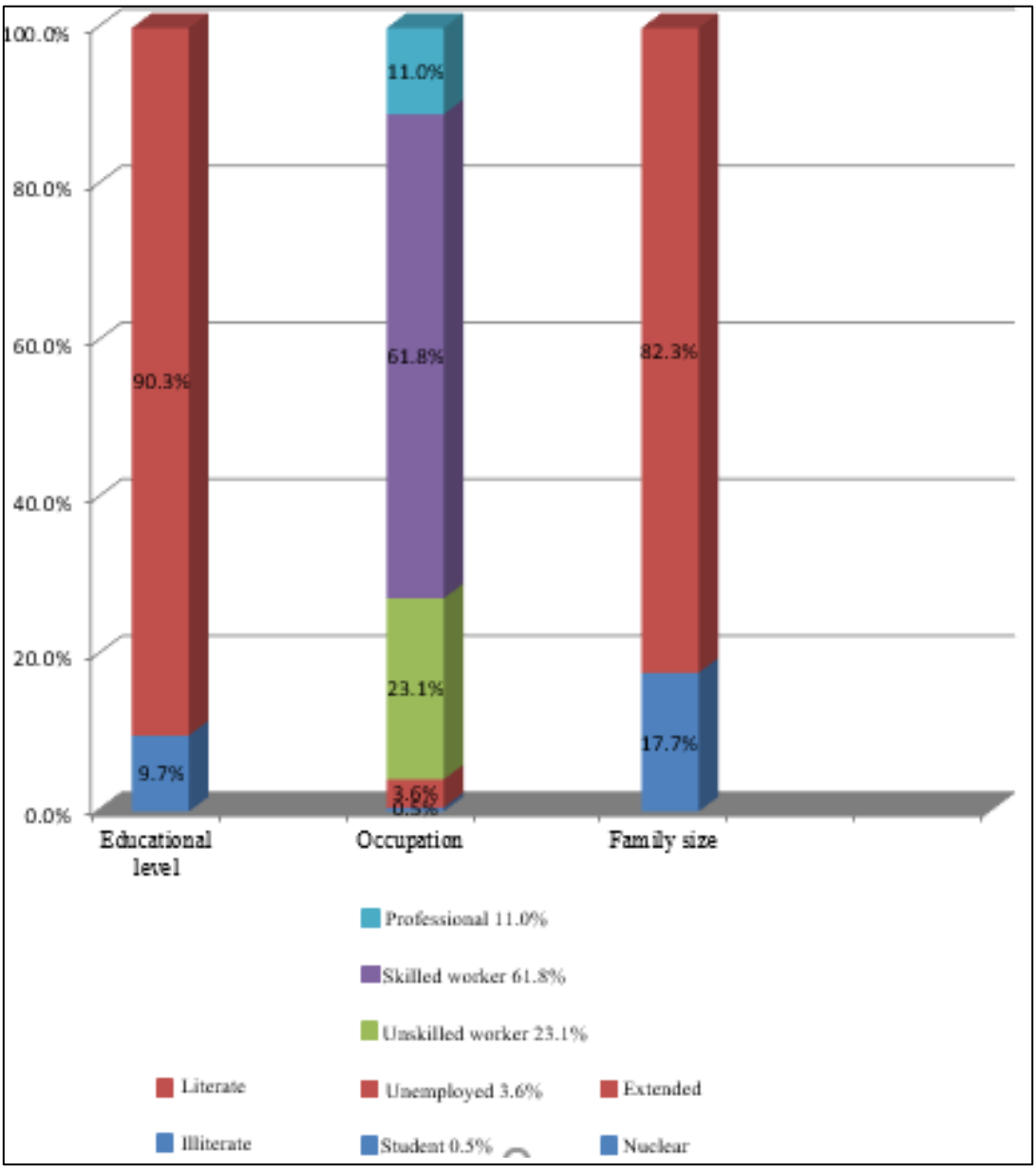

Fig 3: Family data of the study population.

Table (1) expresses the four keys for the assessment of positioning, and reveals a very high significant difference (p= 0.000) considering the all four points (body of the child and the head are straight; child's body is turned towards the mother; child's body is close to the mother and child's whole body is supported) between the first assessment and the follow up assessment.

Table 1: the association of positioning between first visit and follow up visit

Positioning	First assessment	Follow up assessment	McNemar's Test	p-value
Body of the child and the head are straight	223 (57.2%)	367(94.1%)	74.2	0.000
Child's body is turned towards the mother	270 (69.2%)	378 (96.9%)	132.6	0.000
Child's body is close to the mother	184 (47.2%)	343 (87.9%)	33.7	0.000
Child's whole body is supported	294 (75.4%)	364 (93.3%)	155.0	0.000
Attachment	**First assessment**	**Follow up assessment**	**Mc Nemar's Test**	**p-value**
The baby's chin touches the breast	193 (49.5%)	351(90.0%)	42.7	0.000
Child's mouth is wide	224 (57.4%)	355 (93.0%)	86.5	0.000
Child's lower lip is turned outwards	201 (51.5%)	349 (89.5%)	47.0	0.000
You can see more of the areola above his mouth and less below	157(40.3%)	371 (95.1%)	31.1	0.000

Table (2) shows the difference in the attachment of the child to the breast during the first assessment and follow up assessment, and illustrates a high-significant relation (p=0.000) in all elements.

Table 2: the association of attachment between first visit and follow up visit

Attachment	First assessment	Follow up assessment	McNemar's Test	p-value
The baby's chin touches the breast	193 (49.5%)	351 (90.0%)	42.7	0.000
Child's mouth is wide	224 (57.4%)	355 (93.0%)	86.5	0.000
Child's lower lip is turned outwards	201 (51.5%)	349 (89.5%)	47.0	0.000
You can see more of the areola above his mouth and less below	157 (40.3%)	371 (95.1%)	31.1	0.000

Figure (4) show the association of effective suckling between first visit assessment and the follow up, the proportion of children who have deep and slow sucking with temporarily pause in the first visit is 69.2%, and increase in the follow up assessment to reach up to92.5%.

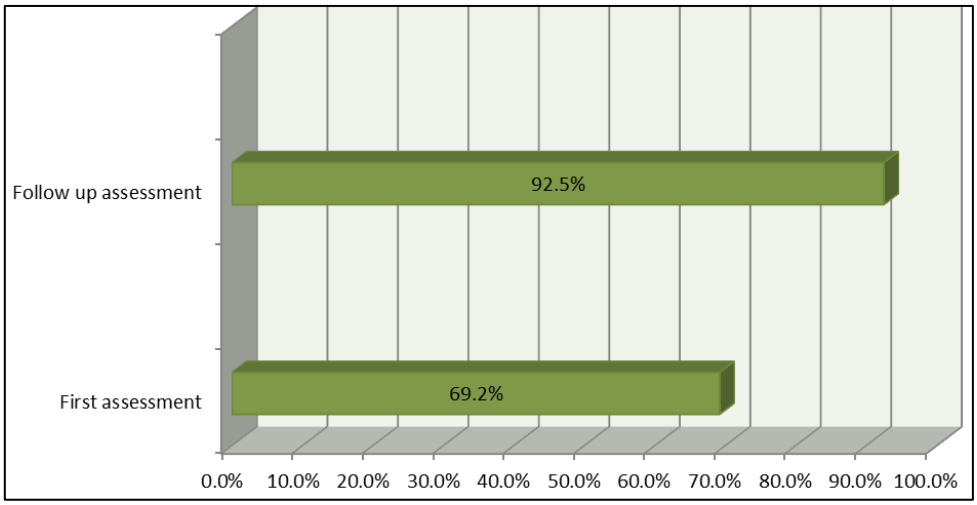

Fig 4: the association of effective suckling between first visit and follow up visit

Discussion

Exclusive breastfeeding means that the infant receives only breast milk from his or her mother or a wet nurse, or expressed breast milk, and no other liquids or solids, not even water, with the exception of oral rehydration solution, drops or syrups consisting of vitamins, minerals supplements or medicines [16]. After review of literature it was found that, there is no documented study conducted in our locality assessing the correct position, attachment and effective suckling in infant breastfeeding. The current study involved the socio-cultural factors of the mothers, child and their family were reviewed among the mothers attending Al-Hadbaa center; as shown in table (1) 71.3% were 25 years and below, this a little bit higher than the finding in a descriptive study on mothers in Kirkuk in 2011 [17], which was 58.3%, while in a study done in Kerbala, the analysis of data revealed that the highest rate was among age group 30-34 years (95.2%) and the lowest rate was (62.3 %) in age group 20-24 years [18], moreover 40% of mothers were between the ages of 25-35 years in a cross sectional study done in Thi-Qar [19]. Ogunlesi was found in a study done in Nigeria that the maternal age and parity did not confer any advantage on breastfeeding practices [20], another study in Libya showed that the multipara have ratio of 74.0% of mothers [21], while the present work express a contrary finding that the primi-para (para 1) mothers represented 46.4% of the study sample and this may be due to psychological pressure of the pregnancy on these women who didn't have experience and visit the health center more frequently.

The residence evaluated in the current study and found that most of the study population were lived in urban areas, which was similar to the finding of a cross sectional study done on a random sample of 200 mothers selected from Al-Zahraa teaching hospital & primary health care centers in Najaf city from 2009-2011 [22], where the rural residence represented 15%. Several studies [23-26] have shown significant association between EBF and education of the parents, in this study, the result runs parallel; 84.6% of mothers were literate, and this may be due to the influencing role of education on the individual's attitude and opportunities in life, a contradicted finding found in a study done at Bahir Dar [27] the practice of EBF where mothers who are unable to read and write are 3 times more likely to practice EBF than those with different levels of education. Regarding the maternal employment, it was found in our work, that 47.4% of the mothers were house wife which was opposed to the finding of a cross sectional study was conducted between October 2oo6 and November 2007 in four primary health care centers in Thi-Qar [28], as 62.4% of working mothers were breast feeding, moreover it was ascertain that 95% of the employed mothers were working while they were pregnant during a study done in 2000, at Baghdad city/AL-Risafa [29]. Whereas a study of Johnston and Esposito in 2007, found that mothers who work full time have similar initiation rates for breast feeding as those who do not work [30], while in other studies [31-33], it was found that mothers who work full-time are less likely to initiate and negatively affects breastfeeding behavior, compared to mothers who do not work or who work part-time. In our work, 27.9% of the mothers delivered their baby at home, and 70.8% of the population sample had normal vaginal rather than CS, while in a study in Thi-Qar, the mothers who delivered at home nursed had a significantly

(p<0.01) longer time than those who delivered in hospital and the majority of the mothers (90%) stated that they had normal delivery, they breastfed for a longer time (11.7 ±2.1 months), than those who had CS delivery (9.8±3.4 months) [19], Similarly a study in Ghana reported that delivery at a hospital/polyclinic was associated with a two times higher likelihood of EBF (OR=1.96; 95% CI, 1.08–3.54) [34]. Moreover, the rate of bottle-feeding practice was much higher among mothers who delivered by CS than those who delivered vaginally [28]. Although the result was statistically not significant as p-value was >0.05, a study showed that mothers who were delivered by normal and caesarean had almost the same rate of breast feeding [18]. The finding of the present study showed that only 6.1% of the mothers had history of medical diseases since that the mothers with chronic illnesses are often discouraged from breastfeeding either by the health care providers or their families. Other studies showed beneficial effects of breastfeeding during infancy on chronic diseases in adulthood, particularly on hypertension, obesity, diabetes, hypercholesterolemia, and cardiovascular diseases. History of lactation was associated with a reduced risk of type 2 diabetes, breast, and ovarian cancer [35]. In our work, the infant data include age in months, gender, weight, order of the child and days of hospitalization. The child attending Al-Hadbaa PHCC were distributed according to age per month and 26.4% representing the first month which was the largest proportion. Several papers show that in the settings with son-preference, a mother that had a son is more likely to stop having children or wait longer to have the next child [36-38]. Hemochandra, Singh, and Singh (39) in a study done in India at 2010, show that birth intervals are shorter if parents have not reached their self-reported ideal number of sons, so the female child was breastfed less than the male child. Our result showed different view, the female proportion of the breastfed child was more than that of male. Although the son-preference setting was dominant in our locality, but the families provide equal care for their babies of both gender and sometime more to the female child. The children of the third order in the family appear to be the most frequent 33.9%. More than the half of children had normal weight and stay less than one hour in the hospital. The paternal educational level affects the relations and the support inside the family and considerably associated with intention and continuation of EBF [40]. A woman's close relationships are important in her decision and behavior toward the feeding of her child. Moreover, the mother attitude depends on the type of relationship and the amount of support [41]. In the present study, the majority of fathers were literate, this result was similar to a cross-sectional study [42] conducted at Al-Batool Teaching Hospital for Maternity and Children in Diayla in Iraq from 1st of September 2011-1st of March 2012, fathers of babies on breastfeeding were more educated than those on of bottle fed children and this was statistically significant (p= 0.011) and only 2.5% were illiterates, in our study, the result was close; 90.3% were literates. Another studies [43, 44] displayed the analogous pattern and showed strong association between the educational level of father and EBF. A longitudinal study [45] of infant feeding patterns among women in Kuwait was conducted over the period of October 2007 to October 2008 showed that most of father occupation was unskilled work, while the result in our work was 61.8% of father had skilled work Breastfeeding is promoted also by the support of the family members other than the husband in the extended families, this is clearly seen in the studies [46-48]. Our result displayed that the extended family associated with breastfeeding more than the nuclear one. Contrarily, a descriptive study was conducted in [13] PHCC which contain Child Growth Monitoring Units, in Erbil City in Iraq [15], and showed that 56.6% of the families were nuclear and 43% were extended families. This discrepancy may related to the differences in social, financial aspect of life and the attitude of local population to live in a large family setting. Based on IMCI guidelines [49], it is recognized that breastfeeding is most likely to be successful and trouble free if the infant's attachment and positioning fulfill the four keys for each, that is the child should be held with close contact and directly facing the breast and ensure that baby's head, neck and back are well supported and straight when infant's hold in mouth is widely opens, taking the nipple and much of the areola and underlying tissues to become inside the mouth especially the lower areola, and when the infant's chin is touching the breast with lower lip turned outwards [50-51]. It become obvious that the milk passes from the breast to the infant as a result of the oxytocin reflex and the peristaltic movement of infant's tongue, and the milk is not removed from the breast by suction only. Suction helps to protract the breast tissue into the baby's mouth to ensure the effective suckling in which, child several slow deeps sucks, one to two per second, swallowing between sucks and then pauses, waiting for the oxytocin reflex to refill the lactiferous sinuses with milk. The baby may then suck quickly a few times without swallowing, to start the milk flow, then takes more slow deep sucks. These slow deep sucks and swallows show that breast milk is definitely flowing into the baby's mouth [52]. The present study revealed a high significant difference (p=0.000) between the first assessment and the follow up assessment of breastfeeding techniques regarding positioning, attachment and effective suckling, this result proved the effective role of IMCI guideline in promoting EBF through simple advices and counseling that raise the awareness of mother to the importance of breastfeeding and the correct positioning and attachment, thus ensuring that the breastfeeding to be continue with problem free. In the same manner, studies conducted in North India [53] reveal that there was "good attachment" in 42% mother-infant pairs and infants were held in "correct position" by 60% mothers. Another study in Bangladesh [54] reported that correct breastfeeding position (74%) and good attachment (72.3%) as assessed by CHWs at late visits (67 days after delivery) were practiced by mothers. Many studies [55, 58], indicate a statistically significant association between position and attachment and nipple lesions, because the improper suction causing trauma which if corrected can become a protective factor as shown in a study conducted in Brazil [59] that showed a greater proportion of primigests (first time pregnant) displayed nipple lesion (57.4%) followed by 54.9% of primipara (with one live birth) and 45.1% of multipara. While in a study in Ethiopia done by Tamiru *et al* [60]. Found that mothers had poor positioning and poor attachment in ratio of 64.08% and 51.15% respectively. Unlike our study, in which the effective suckling represented 92.5% % in the follow up assessment with a high significant, it was noted in a study [61] conducted in West Bengal that 46.4% of the baby's cheek were full and not hollow or retracting during sucking and they suckled slowly and paused in between to swallow. The high proportion of mothers to be above 25years, literate, lived in extended family with literate husband may be the responsible for the significant differences in practicing breastfeeding and

the improvement between the first and the follow up assessment.

Conclusion

The counseling and health education regarding the breastfeeding technique in the IMNCH guidelines, encouraging the EBF to be continue correctly and to minimize the early weaning due to improper positioning, poor attachment and loss the effective suckling.

References

1. World Health Organization (WHO). Global strategy for infant and young child feeding. Geneva: World Health Organization, 2003, 41.
2. Hannula L, Kaunonen M, Tarkka MT. A systematic review of professional support interventions for breastfeeding. Journal of Clinical Nursing. 2008; 17:1132-1143.
3. World Health Organization (WHO). Breastfeeding. Retrieved from World Health Organization. WHO, 2013. http://www. who.int/ topics/ breastfeeding /en.
4. Graffy J, Taylor J. What information, advice and support do women want with breastfeeding? Birth. 2005; 32(3):175-186.
5. Dykes F, Flacking R. Encouraging breastfeeding: A relational perspective. Early Human Development. 2010; 86(11):733-736.
6. Ministry of Health and Family Welfare in India. Integrated management of neonatal and childhood illness. Training module of health workers. New Delhi: Ministry of Health and Family Welfare, Government of India, 2003, 74-75.
7. Integrated Management of Child Health. IMCI IRAQI Adaptation. Second Version. Ministry of Health, World Health Organization, UNICEF, and USAID, 2005.
8. Agho KE, Dibley MJ, Odiase JI, Ogbomwa SM. Determinants of exclusive breastfeeding in Nigeria. Biomed Central Pregnancy and childbirth. 2011; 11:2. doi: 10.1186/1471-2393-11-2.
9. Mani K, Dwivedi SN, Pandey RM. Determinants of Under-Five Mortality in Rural Empowered Action Group States in India: An Application of Cox Frailty Model. International Journal of MCH and AIDS. 2012; 1(1):60-72.
10. Azuine RE, Murray J, Alsafi N, Singh GK. Exclusive Breastfeeding and Under-Five Mortality 2006-2014: A Cross-National Analysis of 57 Low- and-Middle Income Countries. International Journal of MCH and AIDS. 2015; 4(1):13-21.
11. United Nations. Committee on the Rights of the Child-Nineteenth session. CRC/C/15/Add.94 26, 1998.
12. Dongre AR, Deshmukh PR, Rawool AP, Garg BS. Where and How Breastfeeding Promotion Initiatives Should Focus Its Attention? A Study from Rural Wardha. Indian J Community Med. 2010; 35:226-229.
13. Black R, Morris S, Bryce J. Child Survival I: where and why are 10 million children dying every year? Lancet. 2003; 361:2226-2234.
14. UNICEF. Media Centre, available at:http://www.unicef.org/iraq/media. 7424. html.
15. Sawsan II, AL-Azzawi, Kareema A, Hussin, Norhan Z. Shaker. Assessment of Breastfeeding knowledge among Mothers in Erbil City. Zanco J Med. Sci. 2010; 2:1-6.
16. World Health Organization (WHO). Indicators for assessing infant and young child feeding practices. Geneva, World Health Organization, 2008.
17. Nazar AM. Knowledge of Breastfeeding: A descriptive study among mothers in Kirkuk Governorate. Iraqi National Journal of Nursing Specialties. 2011; 24(2):84-93.
18. Sulfa AH, Suhair MH, Suha A. Effect of maternal factors on breast feeding pattern among women in holy Karbala. Journal of Kerbala University. 2013; 11(2):176-181.
19. Moayyad NM. Factors influencing breastfeeding patterns in Thi-Qar governorate. Thi-Qar Medical Journal (TQMJ). 2009; 3(1):25-32.
20. Ogunlesi TA. Maternal socio-demographic factors influencing the initiation and exclusivity of breastfeeding in a Nigerian semi-urban setting. Matern Child Health J. 2010; 14(3):459-465.
21. Ram CG, Ashish SB, Fatima Z, Ahmed AT. Breastfeeding practices: Positioning, attachment (latch-on) and effective suckling - A hospital-based study in Libya. J Family Community Med. 2011; 18(2):74-79.
22. Rajaa Jabbar Kadhum. Maternal knowledge & Attitude towards Breast Feeding in Najaf. Kufa Journal for Nursing Sciences. 2013; 3(3):114-118.
23. Aghali MN. Exclusive breast-feeding practice and associated factors in Enugu, Nigeria. West Afr Med. 2002; 21(1):66-9.
24. Nichols S *et al*. socio-demographic and health system factors in relation to exclusive breast feeding in Tobago. West Indian Med J. 2002; 51(2):89-92.
25. Haku M. Breastfeeding: factors associated with the continuation of breastfeeding. The current situation in Japan and recommendations for further research. J Med Invest. 2007; 54:224-234.
26. Taveras EM, Capra AM, Braveman PA, Jensvold NG, Escobar GJ, Lieu TA. Clinician support and psychosocial risk factors associated with breastfeeding discontinuation. Pediatrics. 2003; 112:108-115.
27. Bhandari NMS, Bahl R, Martines J, Black RE, Bhan MK. An educational intervention to promote appropriate complementary feeding practices and physical growth in infants and young children in rural Haryana, India. The Journal of nutrition. 2004; 134:2342-2348.
28. Tariq KH. Pattern of Infant Feeding. Thi-Qar Medical Journal (TQMJ). 2011; 5(1):97-103.
29. Huda Habib A, Nada AI-Ward J. Breast Feeding and Mothers Employment. Al - Kindy Col Med J. 2012; 8(2):32-39.
30. Johnston ML, Esposito N. Barriers and facilitators for breastfeeding among working women in the United States. Journal of Obstetric, Gynecological, and Neonatal Nurses (JOGNN). 2007; 36(1):9-20.
31. Roe B, Whittington LA, Fein SB, Teisl MF. Is there competition between breastfeeding and maternal employment? Demography. 1999; 36:157-171.
32. Lindberg LD. Women's decisions about breastfeeding and maternal employment. J Marriage Fam. 1996; 58:239-251.
33. Ryan AS, Zhou W, Arensberg MB. The effect of employment status on breastfeeding in the United States. Women's Health Issues. 2006; 16(5):243-251.
34. Aidam BA, Pérez-Escamilla R, Lartey A, Aidam J. Factors associated with exclusive breastfeeding in Accra, Ghana. Eur J Clin Nutr. 2005; 59(6):789-796.
35. Ip S, Chung M, Raman G, Chew P, Magula N, DeVine

D *et al*. Breastfeeding and maternal and infant health outcomes in developed countries. Evid Rep Technol Assess. 2007; 153:1-186.
36. Clark S. Son Preference and Sex Composition of Children: Evidence from India. Demography. 2000; 37(1):95-108.
37. Arnold F, Choe MK, Roy T. Son Preference, the Family-Building Process and Child Mortality in India. Population Studies. 1998; 52:301-315.
38. Retherford RD, Roy TK. Factors Affecting Sex-Selective Abortion in India. NFHS Bulletin, 2003.
39. Hemochandra L, Singh NS, Singh AA. Factors Determining the Closed Birth Interval in Rural Manipur. Journal of Human Ecology. 2010; 29(3):209-213.
40. World Health Organization (WHO). Infant and young child nutrition: Global strategy on infant and young child feeding. Fifty Fifth World Health Assembly. 2002; 53:1-18.
41. Henry E. The relationship between family structure and exclusive breastfeeding prevalence in Nicaragua. salud pública de méxico. 2002; 44(6):499-507.
42. Najdat SM, Kareem AO. Significance of Parental Education in Choosing Breast Milk for Infant Feeding at Diyala Province, Hospital- Based Study. Diyala Journal of Medicine. 2013; 4(1):117-120.
43. Eyl L, Kya A, Ssw C, Sy K, Hk L, Wcw W. Practice of breastfeeding and factors that affect breastfeeding in Hong Kong. Hong Kong Med J. 2006; 12:432-436.
44. Suneth BA, Thilini CA, Udage KDP. Breastfeeding practices in a public health field practice area in Sri Lanka: a survival analysis. International Breastfeeding Journal. 2007; 2:62.
45. Manal D, Jane AS, Christine AE, Mona Al-Sughayer. Determinants of breastfeeding initiation among mothers in Kuwait. Int Breastfeed J. 2010; 5:7. Published online 2010 Jul 28. doi: 10.1186/1746-4358-5-7
46. Dennis CL. Breastfeeding initiation and duration: a 1990-2000 literature review. J Obstet Gynecol Neonatal Nurs. 2002; 31(1):12-32.
47. Thulier D, Mercer J. Variables associated with breastfeeding duration. J Obstet Gynecol Neonatal Nurs. 2009; 38(3):259-268.
48. Meedya S, Fahy K, Kable A. Factors that positively influence breastfeeding duration to 6 months: a literature review. Women and Birth. 2010; 23(4):135-145.
49. WHO. USAID, UNICEF: Integrated Management of Childhood Health, Assess and Classify the Sick Child Age 2 Month up to 5 Years, IMCI Iraqi Adaptation Ministry of Health, Directorate of Public Health PHC department, 2009, 32-35.
50. Mohrbacher N, Kendall-Tackett K. Breastfeeding Made Simple. Seven Natural Laws for Nursing Mothers. 2nd Ed. USA: New Harbinger Publications, 2010.
51. Kent J *et al*. Volume and frequency of breastfeeding and fat content of breast milk throughout the day. Pediatrics. 2006; 117(3):387-392.
52. World Health Organization, and UNICEF. Breastfeeding Counseling and Training course. Participants Manual Part One: Sessions WHO/CHR/93.5. UNICEF /Nut/93. 1993; 3:1-9.
53. Sai M, Kishore S, Kumar P, Aggarwal AK. Breastfeeding Knowledge and Practices amongst Mothers in a Rural Population of North India: A community-based study. J Trop Pediatr. 2009; 55:183-188.
54. Mannan I, Rahman SM, Sania A, Seraji HR, Arifeen SE, Winch PJ *et al*. Can early postpartum home visits by trained community health workers improve breastfeeding of newborns? J Perinatol. 2008; 28:632-640.
55. Blair A, Cadwell K, Turner-Maffei C, Brimdyr K. The relationship between positioning, the breastfeeding dynamic, the latching process and pain in breastfeeding mothers with sore nipples. Breastfeed Rev. 2003; 11:5-10.
56. Weigert EM, Giugliani ER, França MC, Oliveira LD, Bonilha A, Espírito Santo LC *et al*. The influence of breastfeeding technique on the frequencies of exclusive breastfeeding and nipple trauma in the first month of lactation. J Pediatr (Rio J). 2005; 81:310-316.
57. Cadwell K. Latching-on and suckling of the healthy term neonate: Breastfeeding assessment. J Midwifery Women's Health. 2007; 52:638-642.
58. Narramore N. Supporting breastfeeding mothers on children's wards: An overview. Paediatr Nurs. 2007; 19:18-21.
59. Coca KP, Gamba MA, Silva RS, Freitas V, Abrão AC. Does breastfeeding position influence the onset of nipple trauma? Rev Esc Enferm USP. 2009; 43:442-448.
60. Tamiru D, Bogale B, Merdikios B. Breast-feeding patterns and factors with exposure to suboptimal breast-feeding practices in rural communities of Arba Minch Zuria, Ethiopia. Glob Health Perspect. 2013; 1:105-112.
61. Prabha Shrivastava, Indranil Saha, Saswati Nandy. A study on feeding practice of under 6 months infants attending the Nutrition Clinic of a tertiary care hospital of West Bengal, India. Epidemiology Biostatistics and Public Health. 2013; 10(2):1-6.