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# **Factors affect infant feeding in Thi-qar, Nassriyah, Iraq in 2022**

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# **Acknowledgement**

I pay my deepest gratitude and my special thanks

to lecturer Dr. Tariq Khudhair , who gave

me full guidance and encouragement

I have learnt so many things through this study and I am really  
thankful for that.

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## **Dedication**

**I dedicate this work to my parents, for  
putting up with the stress and the  
complaining throughout the past study years.**

## **ABSTRACT:**

**Objective:** A cross sectional study was conducted in Bent Alhuda hospital in Nassriyah, Thi- Qar to find the prevalence of different patterns of infants feeding as well as to show the differences between breast- fed and bottle- fed infants in relation to their background 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:** Total sample of 200 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.

**Results:** The rate of different infants feeding practices were , (19.5%) exclusive breast feeding, (21%) mixed feeding and (64%) from 100 case of infants less than 6 months old were on bottle feeding. The rate of exclusive breast feeding increase slightly among other age groups reaching (25%) at age 6 months -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.

**Conclusion:** breast feeding was common practice of infants feeding among mothers in Thi-Qar regardless their age, parity and level of education, while pediatricians, infant disease, 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.

# **CHAPTER 1**

## **Introduction**



**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 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.

# **CHAPTER 2**

## **Methodology**

## **Materials and methods:**

This cross sectional study was conducted between December 2021 and April 2022 in Bint Alhuda hospital in Thi-Qar, Nassriyah, Iraq. The target population was sample of (200) mothers whose infants were less than two years who had been attended bint Alhuda hospital for receiving treatment for their infant. 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 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.

# **CHAPTER 3**

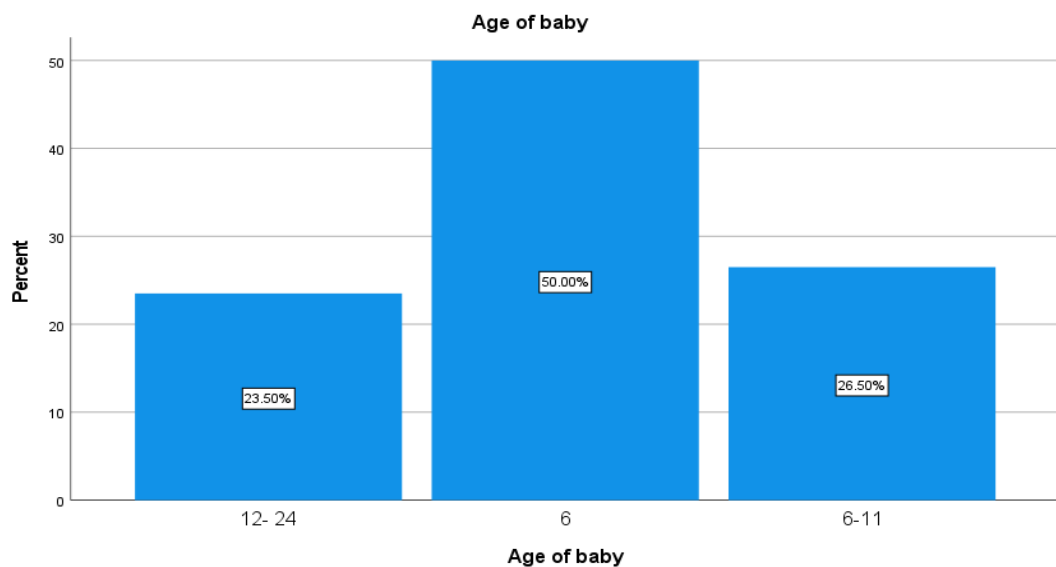
## **Result**

**Table 1: Demographic factors (N=200)**

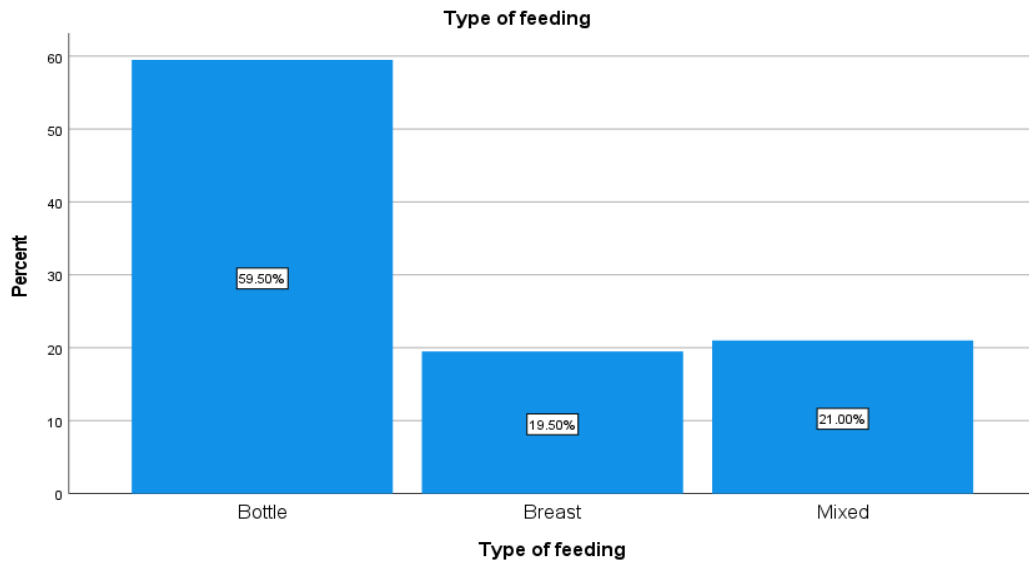
<b>Factors</b>	<b>N (%)</b>
<b>Age of baby</b>	
○ 6	100 (50.0%)
○ 6-11	47 (23.5%)
○ 12- 24	53 (26.5%)
<b>Type of feeding</b>	
○ Bottle	119 (59.5%)
○ Breast	39 (19.5%)
○ Mixed	42 (21.0%)
<b>Parity</b>	
○ 1	47 (23.5%)
○ 2	41 (20.5%)
○ 3	37 (18.5%)
○ 4 and more	75 (37.5%)
<b>The educational level of the mother</b>	
○ Illiterate	41 (20.5%)
○ Primary school	84 (42.0%)
○ Secondary	2 (1.0%)
○ Secondary school	47 (23.5%)
○ University	26 (13.0%)
<b>Mother's reason for the introduction of the formula</b>	
○ Breast feeding	39 (19.5%)
○ Going to work	3 (1.5%)
○ Infant disease	22 (11.0%)
○ Insuffiecent milk	109 (54.5%)
○ Maternal disease	22 (11.0%)
○ Other	2 (1.0%)
○ Pregnancy	3 (1.5%)
<b>Person who prescribed formula</b>	
○ Breast feeding	39 (19.5%)
○ Doctor in PHC	10 (5.0%)
○ Family member	4 (2.0%)
○ Mother herself	31 (15.5%)
○ Pediatrician	116 (58.0%)

**Table 1** represents the demographic factors of 200 babies in Nassriyah .

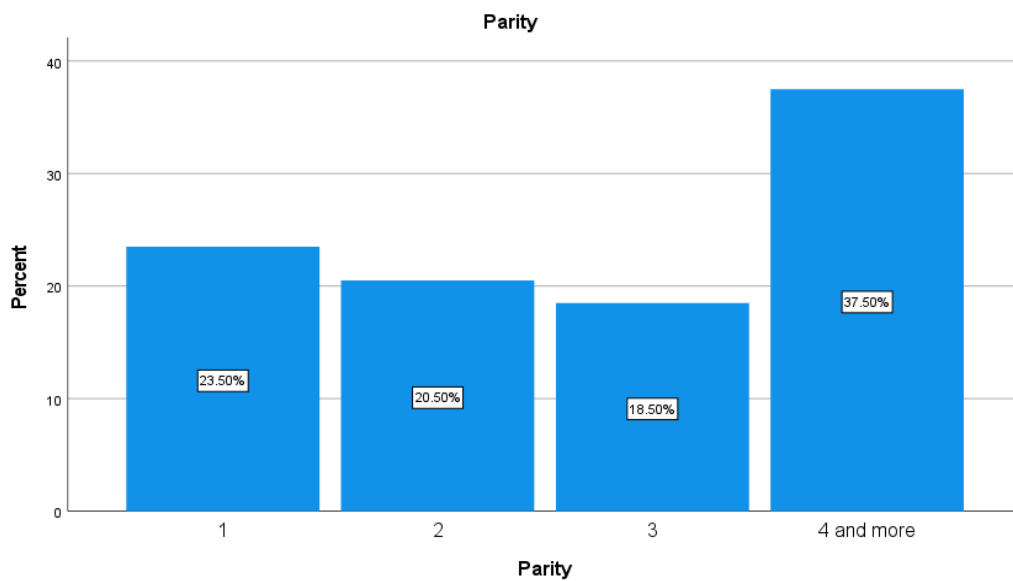
About one-half 100 (50.0%) of the baby the aged less than 6 months. 119 (59.5%) of babies feeding by bottle. 75 (37.5%) of 200 babies at parity 4 and more. The most frequent educational level of the mothers was primary school 84 (42.0%) and 47 (23.5%) in secondary school. The majority of mothers' reasons for the introduction of the formula were insufficient milk 109 (54.5%) and the person who prescribed formula was a pediatrician 116 (58.0%).



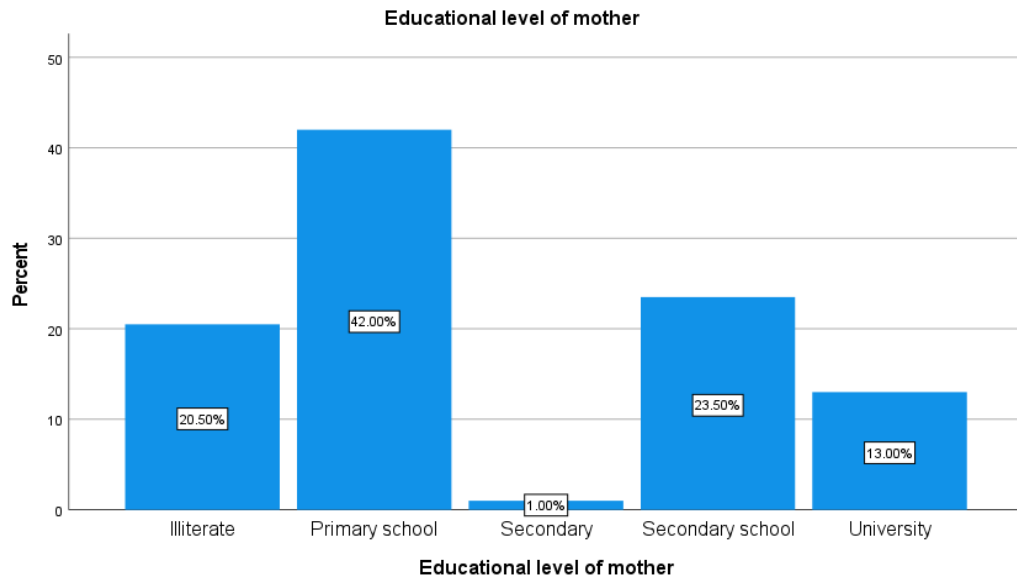
**Figure 1: Age of baby, 100 (50.0%) of the baby the aged between (6 and 11) months**



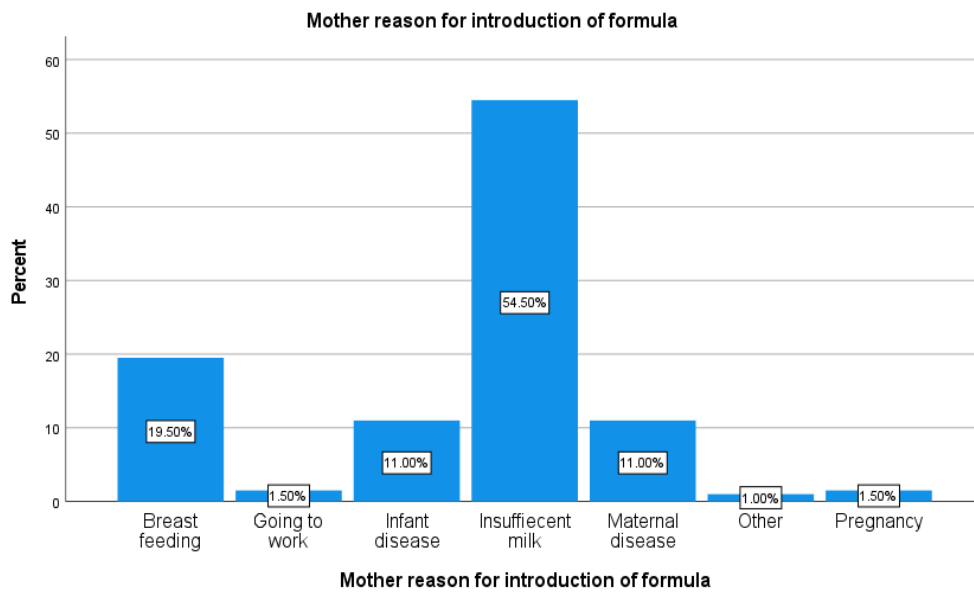
**Figure 1: Type of feeding, 119 (59.5%) of babies feeding by bottle**



**Figure 3: Parity, 75 (37.5%) of 200 babies at parity 4 and more.**

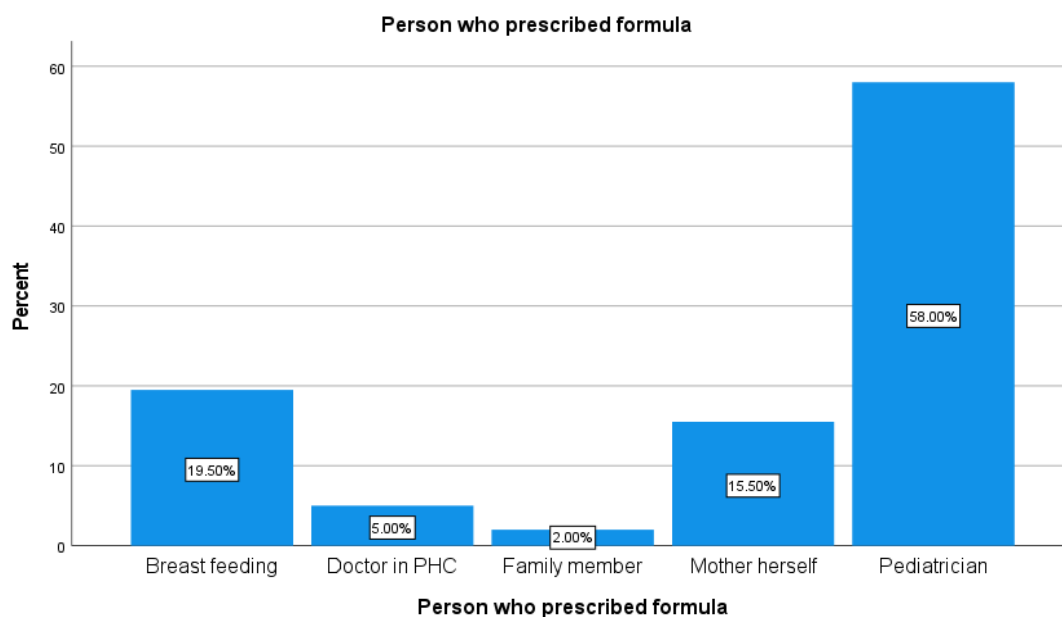


**Figure 4: The educational level of the mother** The most frequent educational level of the mothers was primary school 84 (42.0%) and 47 (23.5%) in secondary school.



**Figure 5: Mother's reason for the introduction of the formula.** The majority of mothers' reasons for the introduction of the formula were insufficient milk 109 (54.5%)





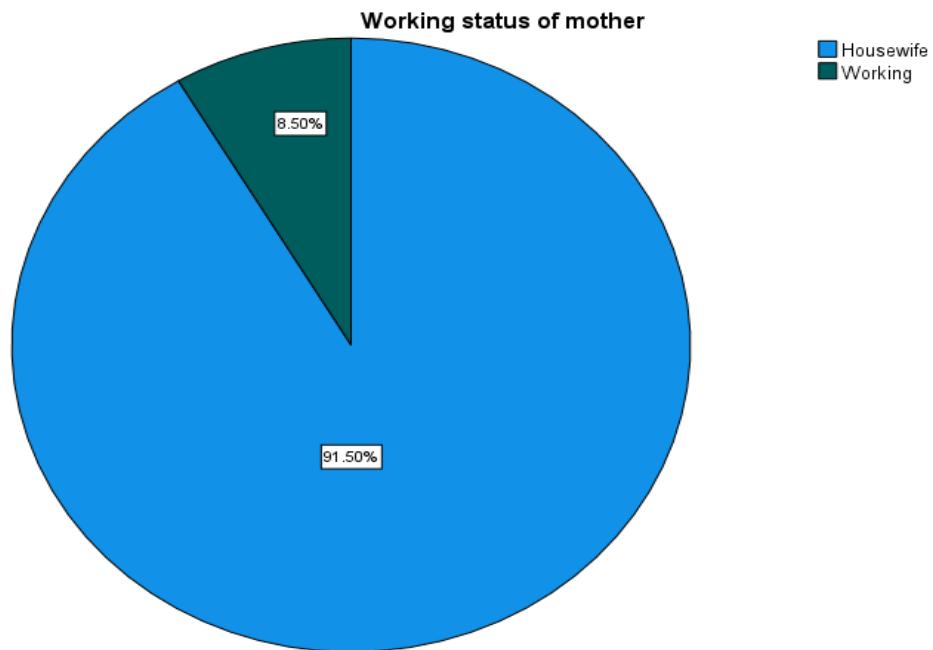
**Figure 6: Person prescribed formula, the person who prescribed formula was a pediatrician 116 (58.0%).**

**Table 2: Maternal factors (N=200)**

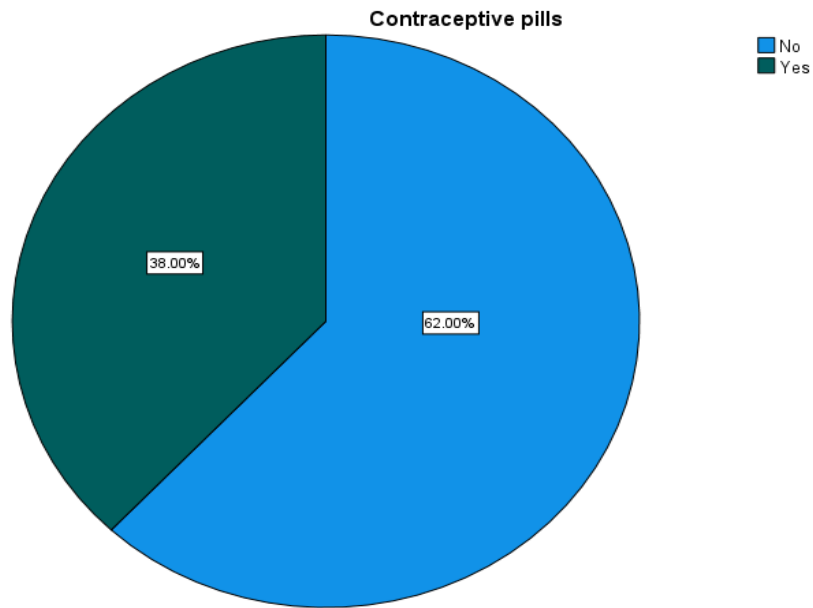
Factors	N (%)
<b>Working status of the mother</b>	
○ Housewife	183 (91.5%)
○ Working	17 (8.5%)
<b>Contraceptive pills</b>	
○ No	124 (62.0%)
○ Yes	76 (38.0%)
<b>Mode of delivery</b>	
○ CS	104 (52.0%)
○ Vaginal	96 (48.0%)

**Table 2** shows the maternal factors of 200 babies. The majority of mothers' working status was housewife 183 (91.5%), while 17 (8.5%) working. Approximately two-thirds of mothers 124 (62.0%) have not received contraceptive pills on the other hand 76 (38.0%) received

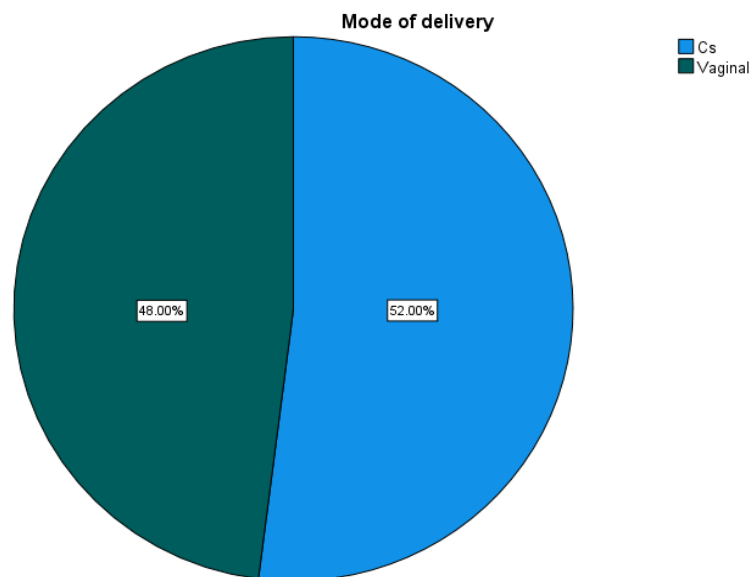
contraceptive pills. Cesarean delivery was observed in 104 (52.0%), while vaginal in 96 (48.0%).



**Figure 7: represents the working status of the mother. The majority of mothers' working status was housewife 183 (91.5%), while 17 (8.5%) working**



**Figure 8: represents the use of contraceptive pills, Approximately two-thirds of mothers 124 (62.0%) have not received contraceptive pills on the other hand 76 (38.0%) received contraceptive pills**

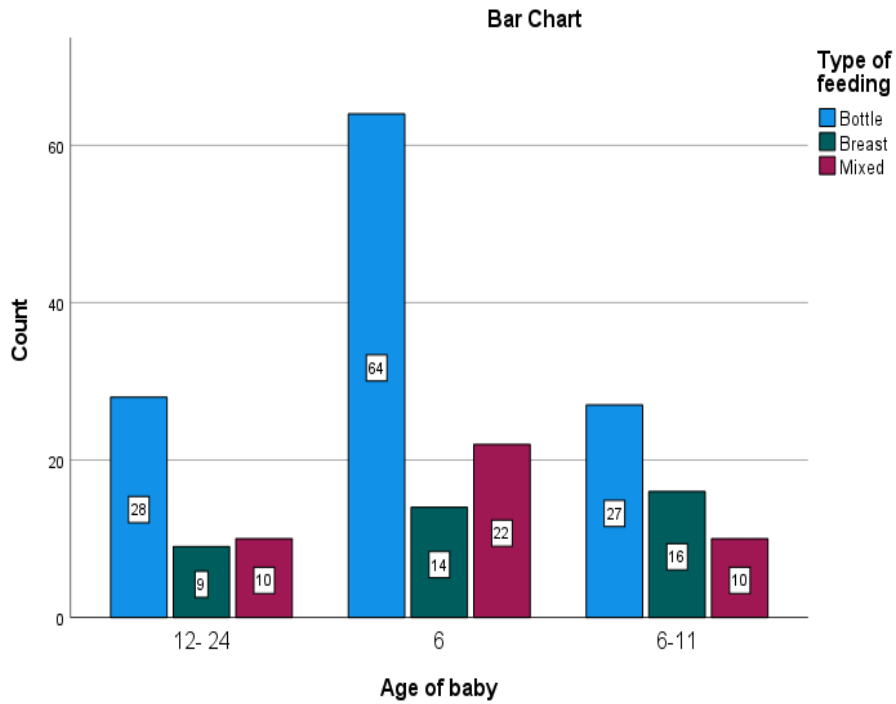


**Figure 9: shows the mode of delivery among 200 babies. Cesarean delivery was observed in 104 (52.0%), while vaginal in 96 (48.0%).**

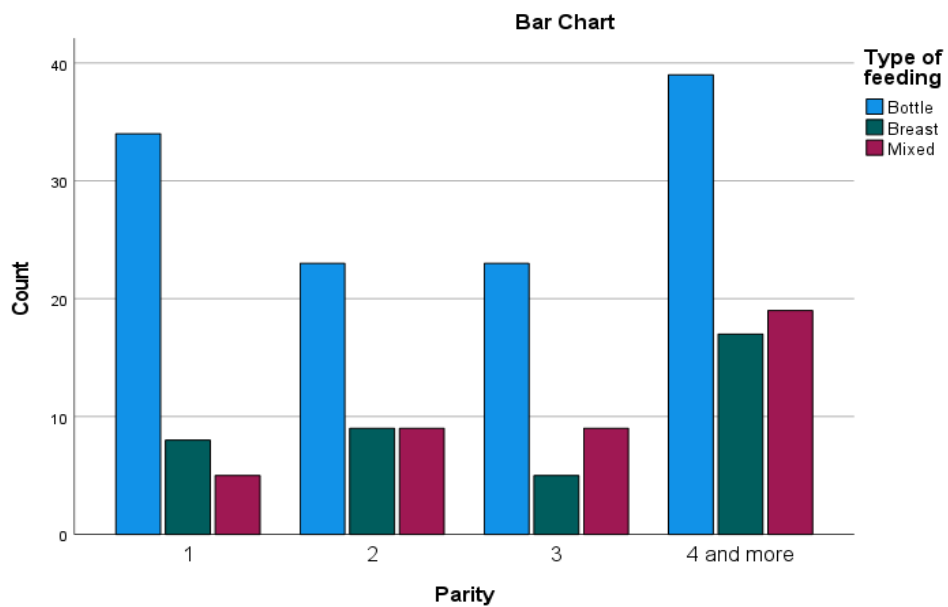
**Table 3: Comparison between different factors (mother and babies) with the type of feeding.**

Factors		Type of feeding			p-value
		Bottle	Breast	Mixed	
Age of baby	12- 24	28	9	10	0.213
	6	64	14	22	
	6-11	27	16	10	
Parity	1	34	8	5	0.343
	2	23	9	9	
	3	23	5	9	
	4 and more	39	17	19	
The educational level of the mother	Illiterate	30	6	5	0.193
	Primary school	49	16	19	
	Secondary	1	0	1	
	Secondary school	25	14	8	
	University	14	3	9	
Working status of mother	Housewife	109	37	37	0.549
	Working	10	2	5	
Contraceptive pills	No	74	29	21	0.078
	Yes	45	10	21	
Mode of delivery	CD	65	13	26	0.024
	Vaginal	54	26	16	
Mother reason for introduction of formula	Breast feeding	0	39	0	<0.001
	Going to work	1	0	2	
	Infant disease	19	0	3	
	Insufficient milk	79	0	30	
	Maternal disease	17	0	5	
	Other	0	0	2	
	Pregnancy	3	0	0	
Person who prescribed formula	Breast feeding	0	39	0	<0.001
	Doctor in PHC	4	0	6	
	Family member	2	0	2	
	Mother herself	23	0	8	
	Pediatrician	90	0	26	

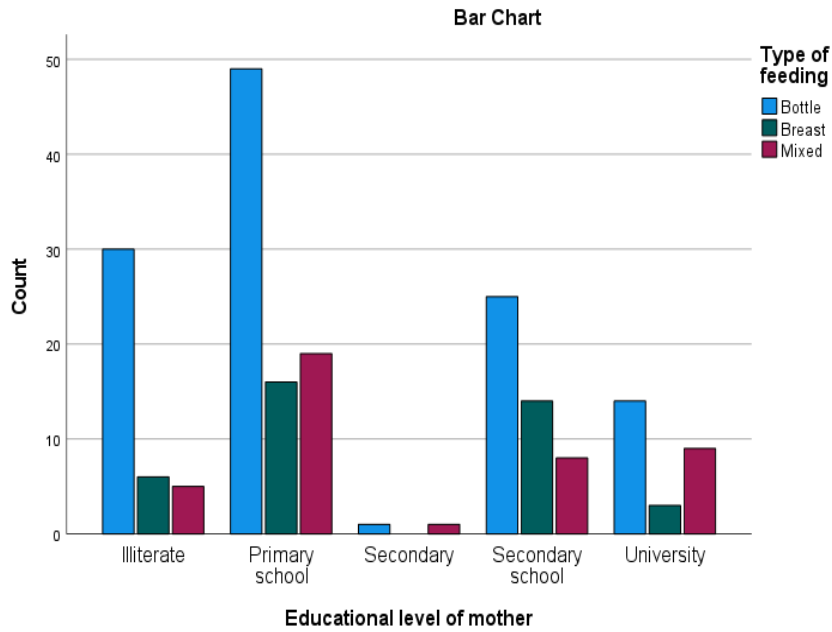
**Table 3** shows the comparison between different factors (mother and babies) with the type of feeding. There is no statistically significant difference between the age of babies and the type of feeding ( $p=0.213$ ). Also, no statistically significant difference between parity and the type of feeding ( $p=0.343$ ). When we perform the Chi-square test the results show no statistically significant difference between the educational level of the mother and the type of feeding ( $p=0.193$ ). The same results were observed when comparing the working status of the mother and using contraceptive pills with the type of feeding ( $p= 0.549, 0.078$ ) respectively. On the other hand, the Chi-square test showed a statistically significant difference between the mode of delivery and the type of feeding ( $p=0.024$ ). Also, there is a statistically significant difference in terms of the mother's reason for the introduction of the formula and the person who prescribed the formula with a  $p\text{-value} < 0.001$ .



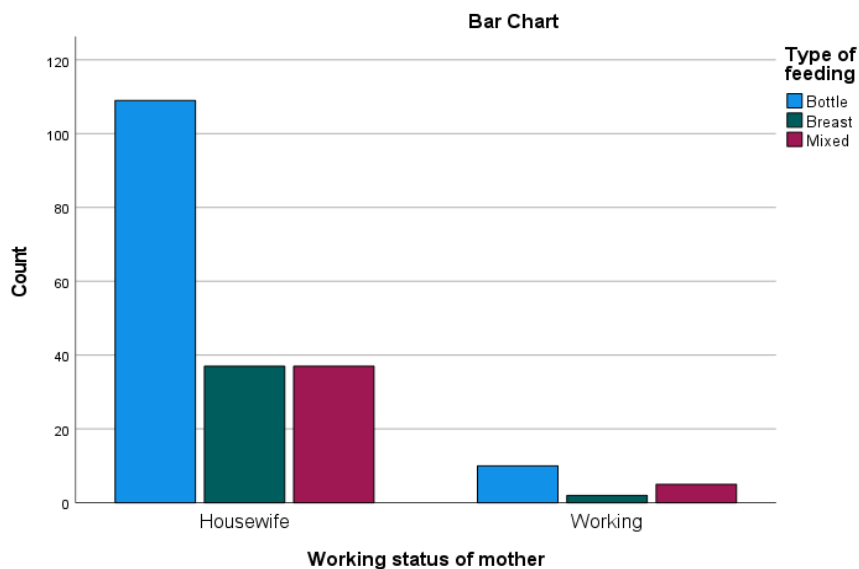
**Figure 10: shows the age of babies with different types of feeding, most babies at age 6-11 use a bottle as the type of feeding. There is no statistically significant difference between the age of babies and the type of feeding ( $p=0.213$ )**



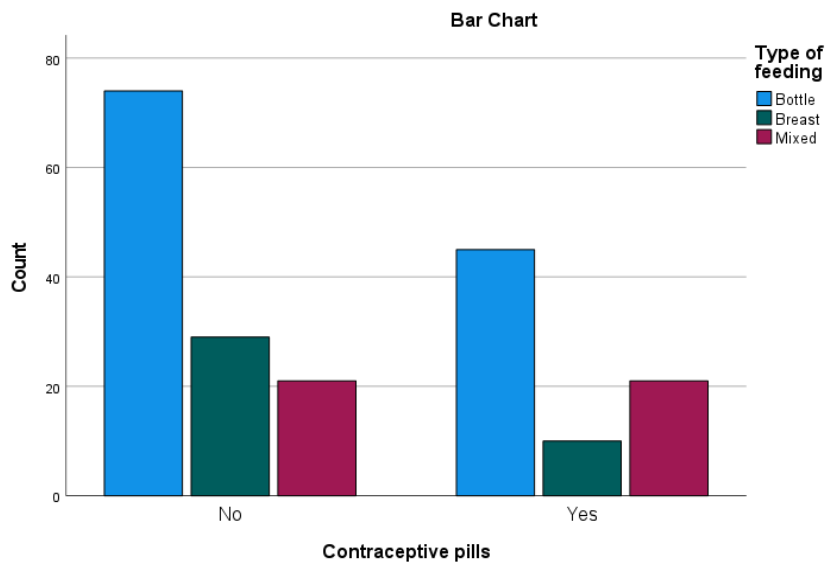
**Figure 11 represents the parity in comparison with the type of feeding no statistically significant difference between parity and the type of feeding ( $p=0.343$ )**



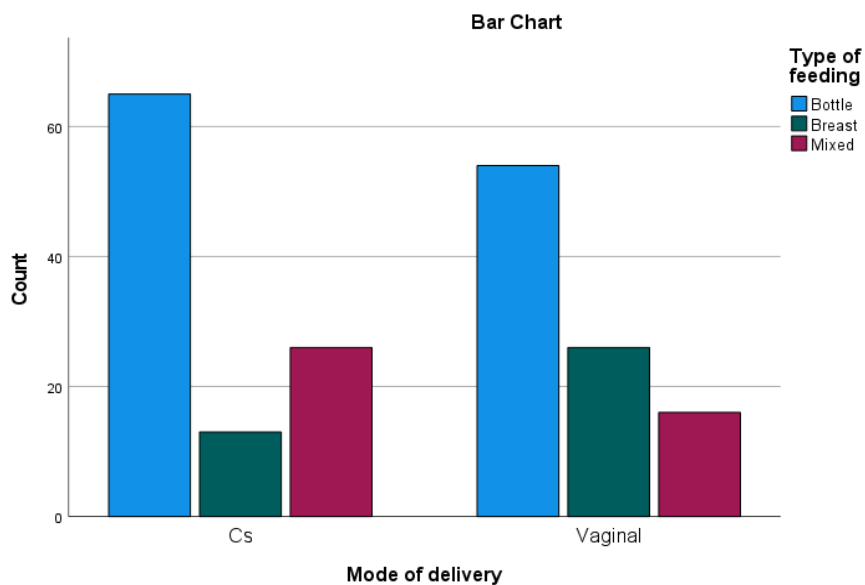
**Figure 12 indicate the educational level of the mother, most Mothers in primary education used bottle feeding. When we perform the Chi-square test the results show no statistically significant difference between the educational level of the mother and the type of feeding (p=0.193).**



**Figure 13 represents the working status of the mother, most mothers was a housewife and used bottle feeding. when comparing the working status of the mother with the type of feeding results show no statistically significant difference (p= 0.549)**

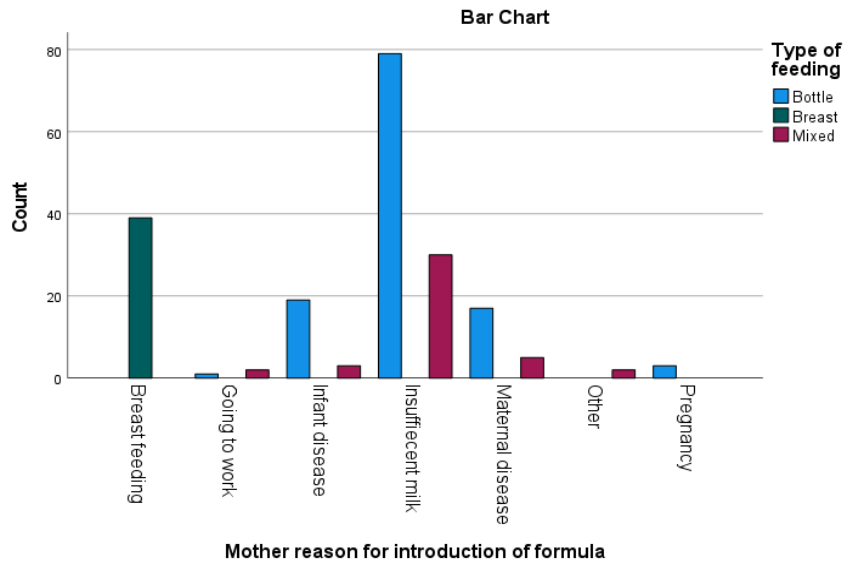


**Figure 14 shows the using contraceptive pills. The majority of mothers do not use contraceptive pills and use bottle feeding. When comparing the using contraceptive pills with the type of feeding ( $p=0.078$ ) respectively**

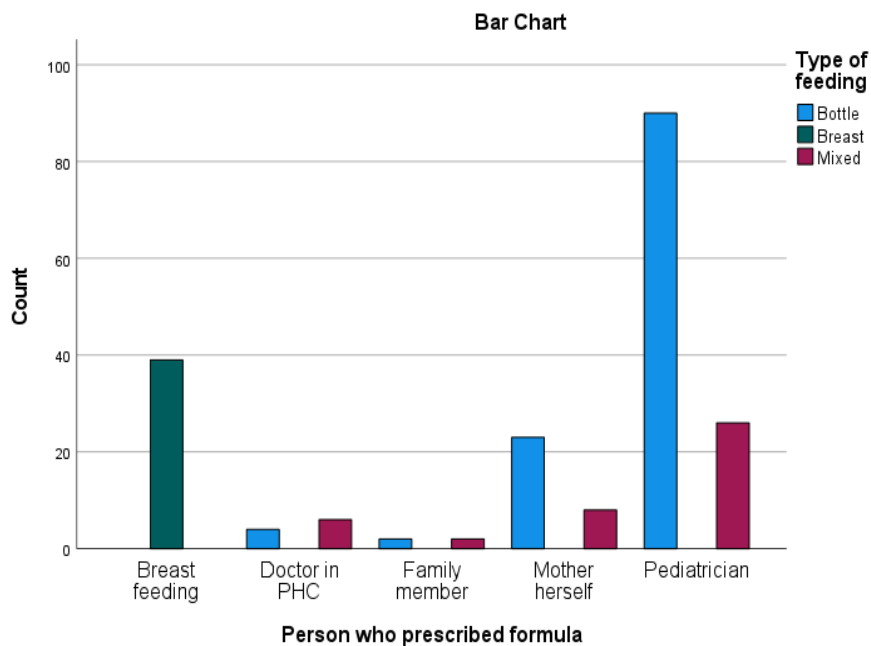


**Figure 15 represents the mode of delivery, the most type of feeding in both modes of delivery was the bottle, the Chi-square test showed a statistically significant difference between the mode of delivery and the type of feeding ( $p=0.024$ ).**





**Figure 16 represents the mother's reason for the introduction of the formula. The majority of mothers' reasons for the introduction of the formula were insufficient milk 109 (54.5%). The Chi-square test showed a statistically significant difference between the mother's reason for the introduction of the formula and the type of feeding p-value < 0.001.**



**Figure 16 represents the frequency of a person who prescribed a formula. The most frequent was the pediatrician. There is a statistically significant difference in terms of the person who prescribed the formula with the type of feeding with a p-value < 0.001.**

# **CHAPTER 4**

## **Discussion**

## **Discussion:**

All mothers should be encouraged to breastfeed. It is a complicated process that frequently requires mothers to exercise considerable patience and perseverance, as well as deal with a variety of breastfeeding difficulties (Cherop, Keverenge-Ettyang et al. 2009)(31). According to Bie et al.(32) , initiation of breastfeeding is a difficult experience for mothers. According to Wagner et al. (Wagner, Chantry et al. 2013)(33), the vast majority of women encounter difficulties during the early stages of breastfeeding. Our analysis revealed that only 8% of respondents reported no breastfeeding difficulties.

Additionally, 54.5 % cited insufficient milk supply as a contributing factor to their breastfeeding difficulties. The primary reason mothers choose to use formula is a perceived insufficient milk supply. Over 21.0 % of mothers who mix feed do so because they believe their milk supply is insufficient to meet their baby's nutritional requirements. These findings are consistent with the available literature (Sun, Chen et al. 2017)(34). According to a study conducted by Li et al. (Li, Fein et al. 2008)(35), more than half of mothers reported discontinuing breastfeeding at 1 or 2 months postpartum due to a perceived lack of milk. Breastfeeding success is contingent on a variety of factors, not just the quantity of breastmilk produced. Among them, without a doubt, is a mother's mental attitude toward breastfeeding (Watson 2013)(36). This is why it is critical to

provide lactation education in maternity units, as well as to bolster new mothers' confidence and reassure them that the small amount of breastmilk produced in the first days after birth is sufficient to meet their baby's needs. Thus, it appears that Nnebe-Agumadu et al. (Nnebe-Agumadu, Racine et al. 2016)(37) are correct when they assert that midwives who demonstrate trust in mothers' parental abilities and appreciation for their efforts help them feel confident and competent.

The literature confirms (Victora, Bahl et al. 2016)(38) that a significant proportion of children are supplemented with formula in the first days after birth, despite the fact that there are typically no clear medical indications for formula use. The current study examined the effect of formula use at birth on mothers' subsequent feeding choices. The study discovered a correlation between formula supplementation at birth and subsequent feeding methods. ukowska-Rubik et al.(39) concluded that individuals recommending the use of supplemental formula feeds should be familiar with the rules for evaluating lactation performance, as well as how to assess the baby's sucking technique and effectiveness, as well as intervene to improve breastfeeding effectiveness when necessary. The amount of supplemental formula feeds should be determined based on the circumstances and weight gain of the infant. Regardless of the circumstances, the use of supplemental formula feeds of 60–80 mL may result in the cessation of breastfeeding.

The current analysis of the effect of parity on a mother's infant feeding method choice revealed that the proportion of primiparous mothers who supplemented with formula was 23.5 percent greater than the proportion of multiparous mothers who supplemented with formula. This factor, however, has no effect on the prevalence of breastfeeding difficulties, as reported by the majority of respondents. This is consistent with Gebuza et al. findings (Gebuza, Jaworska et al. 2015).(40)

Caesarean section rates have increased in recent years (McDonald, Pullenayegum et al. 2012)(41). Current research is examining the difference in breastfeeding performance between women who deliver naturally and those who deliver via caesarean section. Numerous studies have discovered that women who have had a caesarean section are more likely to have difficulties during the early stages of lactation and have difficulty putting their babies to the breast (Watt, Sword et al. 2012)(42). There are several possible explanations for the low rate of timely breastfeeding initiation among mothers who had a caesarean section. Mothers who have had a C-section may require additional time to recover from anaesthesia or may struggle to adjust to a breastfeeding position. The current study, however, did not establish a statistically significant correlation between the mode of delivery and the method of infant feeding chosen. Prior et al. (Prior, Santhakumaran et al. 2012)(43) similarly

discovered no association between any type of C-section delivery and exclusive breastfeeding for up to six months.

Additionally, the current study examined the effect of education on the method of infant feeding chosen. There is no correlation between a mother's education and her feeding preference. The proportion of exclusively breastfeeding women with primary or secondary education was 42.0% higher in the group studied than the proportion of exclusively breastfeeding women with a higher education. According to Day et al. (Day and Newburger 2002)(44), mothers with a higher level of education are more likely to never breastfeed their infants.

# **CHAPTER 5**

## **Conclusion and Recommendation**

**Conclusion:**

The current study concluded that there is no statistically significant difference between the age of babies and the type of feeding. Also, no statistically significant difference between parity and the type of feeding. When we perform the Chi-square test the results show no statistically significant difference between the educational level of the mother and the type of feeding. The same results were observed when comparing the working status of the mother and using contraceptive pills with the type of feeding respectively. On the other hand, the Chi-square test showed a statistically significant difference between the mode of delivery and the type of feeding. Also, there is a statistically significant difference in terms of the mother's reason for the introduction of the formula and the person who prescribed the formula.

**Recommendations:**

- The present study recommended more studies should accomplish on larger number of samples with wide nation region.
- The study recommended also more educational programs for mother especially in lactating period to encourage breast-feeding as much as possible to decrease the risk for mother and infant.



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