Original Research Article

Prevalence of Breastfeeding and its practice at Sabrata area – Libya.

1 - A B S T R A C T

Objectives: To estimate prevalence of breastfeeding, sources of mothers feeding information, and factors influencing feeding decisions.

Methodology: Study design and setting: Hospital-based, cross sectional study in Sabrata Teaching Hospital (STH); from 1st-December 2017 to 31st - May 2018.

Study population: mothers in postnatal ward, who delivered their babies in the study period.

Data collection: simple interviewing questionnaire.

Results and conclusion: The study enrolled 480 mothers, among them 234 (48.8%) initiated breastfeeding in the first day. There is a strong association between educational level (P-value 0.02), delivery mode (P-value 0.001), and separation of babies (P-value 0.002) with breast feeding initiation in first day. Feeding plans: 30 (6.2%) bottle feeding only, 80 (16.7%) exclusive breastfeeding, 370 (77.1%) both. Mothers' exclusive breastfeeding support was by: The relatives 446 (92.9%), Obstetrician 248 (51.7%), and Social media 185 (32.9%). While Pediatrician advice for exclusive breastfeeding in 214 (44.6%), and gave no advice on feeding in 260 (54.2%).

We conclude that both the early initiation and exclusive breastfeeding rates are still low, and that we have to improve our job as a Pediatrician to become a hospital that embrace the Baby Friendly Hospital Initiative (BFHI). To reach our overall aim which is to encourage exclusive breastfeeding among mothers.

Key words: Infants nutrition, Exclusive breastfeeding, early breastfeeding initiation, Mothers breastfeeding knowledge.

2 - I N T R O D U C T I O N

According to World Health Organization (WHO) , Exclusive Breastfeeding (EBF) : means that infant consumes only breast milk including milk expressed or from a wet nurse with no supplementation of any type , it may include oral rehydration solutions (ORS) , syrups (vitamins , minerals , medicines) , it does not include anything else for the first 6 months of life . Early initiation of breastfeeding : means that mother initiate breastfeeding within 30 minutes of delivery in Normal Vaginal Delivery (NVD) or from recovery of postoperative consciousness in Caesarean section (CS) [1-2] .

Breast milk is the ideal species-specific food for infants. It is easily absorbed, has a low solute load, and an increased availability of minerals, vitamins, and proteins. Studies indicate that breastfed infants have fewer ear and respiratory tract infections, diarrheal illnesses, atopic skin disorders, and less incidence of diseases like Diabetes Mellitus which can be primarily prevented by exclusive breastfeeding. Increased mother–infant bonding and an overall decrease in the infant morbidity and hospitalization rates have also been reported. Mothers benefit by faster return to pre-pregnancy weights [3].

Improved breastfeeding practices can contribute significantly to the achievement of the Millennium Development Goals. An estimated 1.3 million to 1.45 million, childhood deaths in developing countries are attributed to suboptimal breastfeeding practices. Initiation of breastfeeding within the first hour of birth, exclusive breastfeeding for the first six months, and continued breastfeeding to two years and beyond are optimal practices based on scientific evidence of their health impact [2-4].

The best preparation for breastfeeding is good information, almost all women can breastfeed without difficulty if they want to, if they receive correct information about how to do it, and have a lactation consultant or midwife to help them in case of problems [5-6].

Large-scale interventions focusing on educating mothers about breastfeeding have the potential to increase breastfeeding prevalence, especially EBF, up to recommended standards and also to decrease infant morbidity [7].

The BFHI was launched by WHO and United Nations Children's Fund (UNICEF) in 1991, following the Innocenti Declaration of 1990. The initiative is a global effort to implement practices that protect, promote and support breastfeeding. Since its launching BFHI has grown, with more than 152 countries around the world implementing the initiative. The initiative has measurable and proven impact, increasing the likelihood of babies being exclusively breastfed for the first six months [8].

The purpose of this study is to examine mothers and babies' factors disparity in breastfeeding initiation and EBF practices , and to determine the extent to which any differences were explained by the interplay of these factors; consequently identify the obstacles that resulted in law rate of breastfeeding in our society and the role of health professional including Pediatric physicians.

3 – O B J E C T I V E S

- To estimate the prevalence of breastfeeding among mothers delivered in Sabrata Teaching Hospital.
- To explore the mothers' breastfeeding awareness and the source of it.
- To analyze factors affecting mothers' feeding decisions.

4 – M E T H O D O L O G Y

4.1 – Study design: Hospital-based, prospective, cross sectional study.

4.2 – Study setting: In postnatal ward at Sabrata Teaching Hospital, Sabrata city is located on the west of Libya, about 87 Km to the west of the Tripoli.

4.3 – Study period: It was conducted from 1st of December 2017 to 31st of May 2018.

Literature review took 2 months, data collection 2 months, and data analysis 2 months.

4.4 – Participants: Include mothers in the postnatal ward, who delivered their babies during the study period, total number of participants is 480.

4.5 – Data collection: Data were taking directly from mothers by using simple questionnaire composed of 20 questions, including: mother's age, education level and employment, the presence of any maternal chronic diseases or chronic drug use, the mode of the delivery; baby gender, gestational age, birth weight, and total number of children (baby order in the family); duration of hospital stay, if the baby was next to his\her mother during this stay, did the mother initiated breastfeeding while she was in the hospital or not , what were the challenges that she faced during the first 24 hrs ; sources of mothers'

breastfeeding knowledge : Obstetrician , social media and relatives , and what was the advice of the pediatricians , the optimum duration of breastfeeding , breast milk benefits ; Feeding plan : either (EBF , bottle feeding or both) , and factors encouraged bottle feeding .

4.5 – Exclusion criteria: We excluded mothers which were sick, mothers of sick babies needed admissions, non-Libyan nationality, and the ones who refused to participate, the remaining number of subjects is 480.

4.6 – Data analysis : The data from questionnaires were coded and entered into Statistical Package for the Social Sciences (SPSS) program, version 16 (SPSS Inc., Chicago, IL, USA). The data from questionnaire that is in the form of categorical data was represented in descriptive statistics in the form of charts and tables. In addition to descriptive analysis, Pearson's Chi-square test or Fisher's exact test were applied to compare the proportions and find relationships and association between variables. All associations were considered statistically significant at $p<0.05$.

5 - R E S U L T S

From a total of 621 deliveries in Sabrata Teaching Hospital during study period, 480 (77.2%) women participated in our study.

Out of the total 234 (48.8%) had initiated breastfeeding in the first 24 hrs.

5.1 – Hospital stay analysis:

- Most of the mothers 338 (70.4%) stayed for one day, and only 20 (4.2%) ≥ 3 days.
- Among infants 264 (55%) were next to their mothers all the time.
- Hospital stay characteristics are illustrated in the table below.

Table1: Hospital stay characteristics.

Characters	**Number (n)**	**Percent (%)**
Hospital Stay duration :		
One day	338	70.4
Two days	122	25.4
≥3 days	20	4.2
Baby next to his mother all the time	264	55.0
Initiation of breastfeeding in 1st day	234	48.8

- **Feeding obstacles in the first 24 hrs :**

Out of the total, (65%) of the mothers reported that some difficulties faced them in the first day; (some mothers faced more than one obstacle). Among them 23.7% was tired, 18.2% thought there was no enough hospital privacy, these obstacles are shown in the following table.

Table2: feeding obstacles that faced mothers in the first 24 hours.

Obstacles in first day	**percentage**
Mother was tired	23.7
Mothers thought no enough milk	18.2
Child was not suckling well	9.6
Child was sleeping most of the time	5.8
No enough privacy in the hospital	4.2
Mother had breast pains	1.2
Other obstacles	10.4

5.2 – mothers' awareness:

The majority of mothers 446 (92.9%) got information from relatives; and only 214 (44.6%) from pediatrician. The following table and figure illustrate the source of knowledge and Pediatrician advice, respectively.

Table3: Sources of breastfeeding knowledge.

Sources of breastfeeding knowledge :	**Number (n)**	**Percentage (%)**
Relatives :	446	92.9
Obstetrician	248	51.7
Pediatrician	214	44.6
Social media	185	32.9

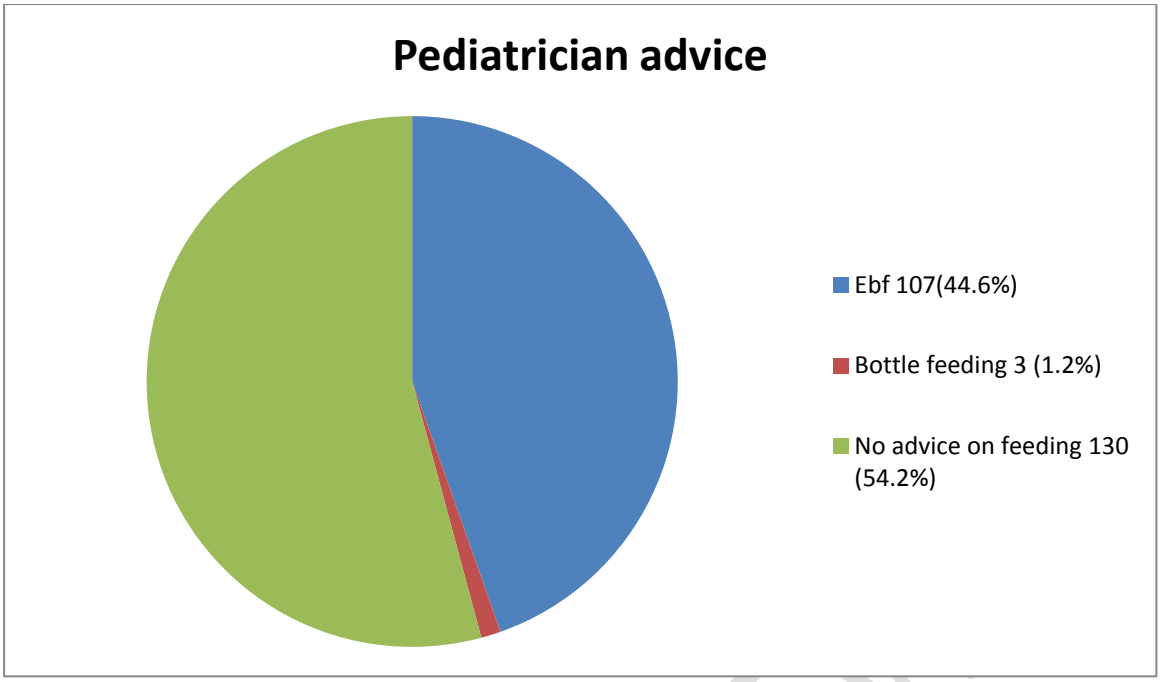

Figure1: Paediatrician advice on infant feeding.

Ideal duration of breastfeeding was 24 months for 294 (61.2%) mothers; and breastfeeding benefits: 362 (75.4%) mothers said; breastfeed have better nutrition than artificial, 352 (73.3%) it is better economically and save money, and 342 (71.3%) breastfeed improves immunity.

5.3 – Factors encouraging bottle feeding:

Among the 30 women who preferred bottle feeding , the reasons were : better nutritionally 2 (6.7%) , as doctor advice 6 (20.0%) , previous bad experience of breastfeeding 8 (26.7%) , other reasons in 12 (46.7%) ; this is shown in the figure below .

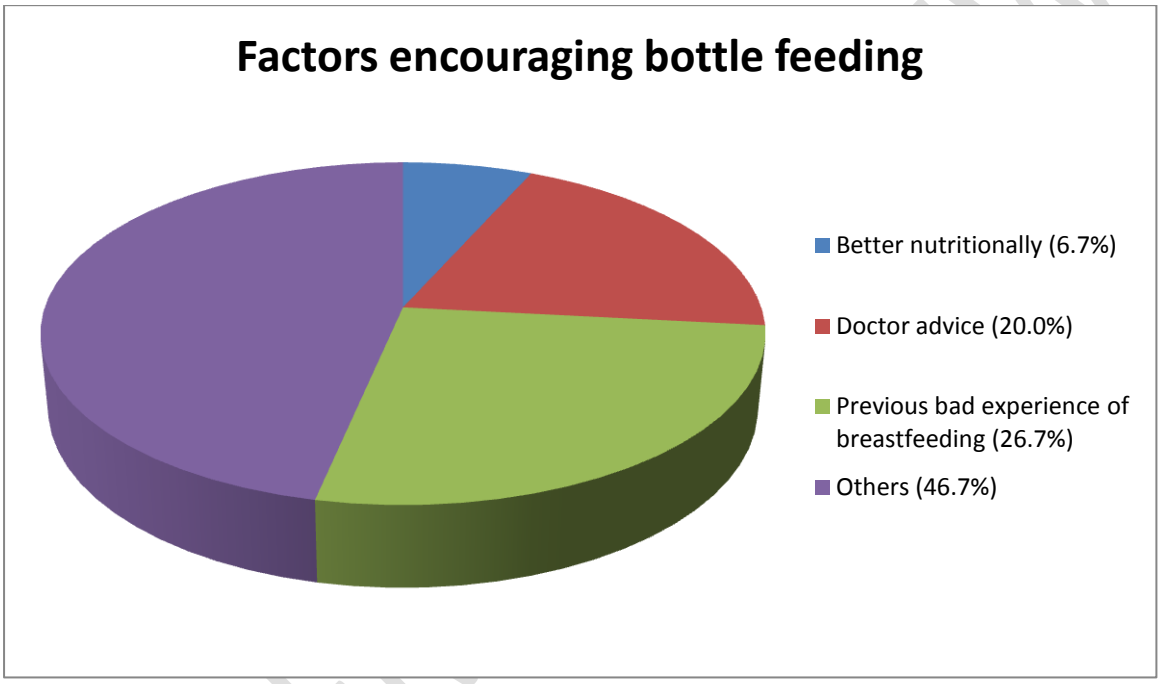

Figure2: Factors encouraging bottle feeding.

5.4 – Correlation between mothers, babies' characteristics and breastfeeding initiation:

Among factors affected breastfeeding in the first 24 hrs, were:

- **Education of the mother :**

Initiation of breastfeeding was higher among mothers with secondary school level, 42/62 (67.8%) started breastfeeding in first day, and out of 416 mothers with university level only 192 (45.9%) started; there is significant association between mother education and breastfeeding initiation in the first day, with (P-value 0.02).

- **Mode of delivery :**

Vaginal deliveries has a higher percentage of breastfeeding initiation in day 1 , out of 224 , breastfeeding was initiated in 138 (61.6%) , while only 96 (37.5%) of the 256 caesarean delivered mothers started ; statistical analysis show strong association between delivery mode and breastfeeding initiation in the first 24 hrs with (P-value 0.001) .

- **Separation of the baby :**

None separated mothers has a higher percentage of breastfeeding initiation in first day, among 264 when there was no separation 152 (57.5%) started, while only 82/216 (38.0%) separated mothers started; statistical

analysis show strong association between baby separation and breastfeeding initiation in first 24 hrs (P-value 0.002).

While other factors: mother age, employment, presence of chronic diseases, baby gestation, sex, and birth weight all showed no significant association with of breastfeeding initiation in the first 24 hrs with (P-value > 0.05) .

The next two tables illustrate the correlation between maternal and babies' characteristics and the initiation of breastfeeding within the first 24 hrs.

Table4: The correlation between mothers' characteristics and breastfeeding initiation.

Factors		Breastfeeding in the 24 hour after birth			*p-value*
		Yes	**No**	**Total (100%)**	
Mother's Age	**< 25**	44 (59.4%)	30 (40.5%)	74	***.14***
	25 - 35	124 (43.6%)	160 (56.4%)	284	
	>35	66 (54.0%)	56 (46.0%)	122	
Mother's Education	**Secondary school**	42 (67.8%)	20 (32.2%)	62	***.02****
	University	192 (45.9%)	226 (54.1%)	418	
Employment	**Employed**	120 (48.4%)	128 (51.6%)	248	***.5***
	Not-Employed	114 (49.1%)	118 (50.9%)	232	
Mode of delivery	**Normal Vaginal Delivery**	138 (61.6%)	86 (38.3%)	224	***.001****
	Caesarean section	96 (37.5%)	160 (62.5%)	256	
Chronic diseases in the mother	**Yes**	14 (50.0%)	14 (50.0%)	28	***.6***
	No	220 (48.6%)	232 (51.3%)	452	

Table5: The correlation between babies' characteristics and breastfeeding initiation.

Factors		Breastfeeding in the 48 hour after birth			*p-value*
		Yes	**No**	**Total (100%)**	
Gestational age	**Term**	232 (49.9%)	242 (51.1%)	474	***.5***
	Preterm	2 (33.3%)	4 (66.6%)	6	
Baby's Gender	**Boy**	132 (51.9%)	122 (48.1%)	254	***.2***
	Girl	102 (45.2%)	124 (54.8%)	226	
Birth weight	**LBW**	14 (43.7%)	18 (56.2%)	32	***.4***
	NBW	220 (49.1%)	228 (50.9%)	448	
Baby next to his mother the whole stay	**Yes**	152 (57.5%)	112 (42.4%)	264	***.002****
	No	82 (38.0%)	134 (62.0%)	216	

5.5 – Correlation between mothers, babies' characteristics and feeding plan:

Among the 80 mothers with EBF plan, 44 (55%) had 2 – 4 children, and 26 (32.5%) had >4 children; statistical analysis show significant association between number of children and feeding plan with (P-value 0.04). While mothers education, employment, and age had no effect on mothers' feeding plan with (P-value > 0.05). As shown in the following table.

Table6: Correlation between mothers and babies' characteristics and feeding plan.

Factors		Mothers' feeding plan			*p-value*
		Exclusive breastfeeding (n=80)	**Bottle feeding only (n=30)**	**Both (n= 370)**	
Mother's Education	**Secondary School**	12 (15.0%)	0	50(13.5%)	***.1***
	University	68 (85.0%)	30 (100.0%)	320 (86.5%)	
Employment	**Employed**	50 (62.5%)	18 (60.0%)	180 (48.6%)	***.2***
	Not-Employed	30 (37.5%)	12 (40.0%)	190 (51.4%)	
Number of Children	**One child**	10 (12.5%)	6 (20.0%)	52 (14.1%)	***.04****
	2 - 4	44 (55.0%)	24 (80.0%)	238 (64.3%)	
	> 4	26 (32.5%)	0 (0.0%)	80 (21.6%)	

6 - D I S C U S S I O N

The optimum nutrition for infants is breast milk as advice by WHO ; right breastfeeding practices lead to fewer health problems , lower numbers of hospital admissions , and consequently low rates of children' morbidities and mortalities [2-9] .

Low breastfeeding rates (59.7%) in the United States continue to be evident despite wide spread information regarding the benefits .However, rates vary depending upon the region, race and ethnicity [10-11]. Recent breastfeeding initiation rates ranged between (54 -69%) in the early postpartum period, despite known health benefits, and the effects of both Baby Friendly Hospital Initiatives and health professionals [8-10-11].

Limited previous work has been done in our country, so this study was undertaken in order to document the rate of breastfeeding initiation in first 24 hours and factors affected it in Libyan women in Sabrata area ; it enrolled 480 mothers in postnatal ward , their age ranged between (18-48 years) , 418 (87.1%) was graduated from university, 248 (51.7%) were employed , 28 (5.8%) of mothers had chronic diseases, Vaginal deliveries were conducted in 224 (46.7%) mother and 250 (53.3%) had Caesarian Section , 254 (52.9%) of the infants were males, the vast majority were term 474 (98.8%) and 448 (93.3%) had NBW , also 68 (14.2%) were the first child in the family .

Mothers reported low rate of both breastfeeding initiation in first day 234 (48.8%), and EBF rates 80 (16.7%).

Another previous similar study was held locally in Zawia city (located to the west of the capital city) in 2008 which revealed that breastfeeding initiation rate in the first 30 minutes was 0.8% , in the first hour 2.6% , in the first 24 hours 88% , and 8.6% did not breastfeed the baby at all ; the reasons behind delayed initiation were 25% CS delivery , 24% labor ward practices , 10.6% insufficient milk [12] .

Other studies reported that there was general consensus , which is children should be breastfed exclusively for the first 6 months among the majority of the respondents ; some of the reasons given were : it is child's right , that is what the doctors say , mother milk has everything , always ready and uncontaminated , child growing well and are healthier , children become very clever , mother gets back to shape quickly , and it help family plan and they have these information from the doctor and health care professional [3-7].

Similarly another study mentioned that the general awareness regarding optimal breastfeeding practices exists in urban poor setting, however this knowledge is not translated in to practices, due to multiple factors, leading to low rate of EBF [9].

Several strategies have been used to promote breastfeeding, such as setting standards for maternity services (e.g., the joint World Health Organization–United Nations Children's Fund [WHO-UNICEF] Baby Friendly Initiative) , public education through media campaigns , and health professionals and peer-led initiatives to support individual mothers [8-13] . These interventions should involve well-timed individual counseling along with group sessions for helping mothers achieve the goal of EBF till 6 months and continued BF till two years of life [7-14].

We observed in our study a limited awareness about breastfeeding as most of the mothers knowledge were: 362 (75.4%) breastfeed have better nutrition than artificial feeding, 352 (73.3%) better economically and save money, 342 (71.3%) breastfeed improves immunity, and fewer percentage of them know the other benefits of breast milk. In the same time, mothers' awareness about breastfeeding correct duration was considerably law, with only 294 (61.2%) of the participant believe that 24 months is the suitable duration of breastfeeding. While the sources of their knowledge about breastfeeding were: from the relatives in 446 (92.9%), the Obstetrician during antenatal care in 248 (51.7%), the social media in 185 (32.9%). Another huge defect in the health education system in my region, that our study revealed was that the role of pediatricians in postnatal ward in raising mothers' awareness about the ideal breastfeeding practices was low, as they advise EBF to only 214 (44.6%) mothers, bottle feeding to 6 (1.2%), while the remaining mothers 260 (54.2%)

did not received any information from them about infant feeding leading them to the right feeding decision.

Some mothers delay initiation of breastfeeding as they need long time to recovery from delivery, as in case of CS others do not give colostrums, some say it is just water [9]. Others believe that breast milk alone is not adequate for babies , especially boys as well as large size babies were thought to need more than breast milk alone [3] .

A study done in USA show that Immigration status was strongly associated with increased early breastfeeding initiation , but US born minority group has a lower rate than their white counterpart , the higher rate is likely due in part to high levels of education and income as well as to access to medical care system that explicitly supports breastfeeding [10] .

Other studies found that early breastfeeding initiation is affected by mothers' education, as higher levels of education where associated with increased rates of early breastfeeding initiation [4-9-10].

Women in urban place settings face an extremely complicated situation in regards to breastfeeding, due to multiple challenging behaviors after being dictated to them by their circumstances and contacts [9]. Variable social and structural barriers influence breastfeeding practice; individual level factors are related directly to the mother and child which enable the mother to breastfeed [4-6-9-10]. The main reasons that women do not start or give up breastfeeding

are reported to be poor family and social support, perceived milk insufficiency, breast problems, maternal or infant illness, poverty livelihood and living conditions, poor social and professional support, poor knowledge, poor education, and return to outside employment [10-11-15]. A large role is played by the mother's return to work, as mothers ranked "could not breastfeed because had to return to work" [3-9]. The timing of quitting breastfeeding and the return to work are closely and powerfully linked, and mothers in administrative and manual positions quit earlier than other women [16]. Ford and Labbok report that the more educated the woman, the more likely she will initiate breastfeeding. Duration of lactation increased with parity, approximately 5 months per child [3].

Our study results revealed that 312 (65%) of mothers faced different challenges during their first day of breastfeeding practice, many of them reported facing more than one , which resulted in difficult and delayed initiation of breastfeeding. These were: 23.7% mother was tired , 18.2% thought there was no enough breast milk , 9.6% child was not suckling well , 5.8% child was sleeping most of the time, 4.2% no enough privacy in the hospital , 1.2% mother had breast pains , 10.4% reported other problems.

On contrast to previous studies our study has revealed that breastfeeding initiation rates were higher in mothers with secondary school level, among 62 mothers, 42 (67.8%) start breastfeeding in first day, while only 192/418 (45.9%)

with university level started ; with (P-value 0.02) . As well as higher proportion of vaginal delivered mothers initiate breastfeeding in first day 138/224 (61.6%), than mothers delivered by CS 96/256 (37.5%); with (P-value 0.001). The stay of the baby next to his mother: among 264 when there was no separation 152 (57.5%) started breastfeeding, while 82/216 (38%) from separated babies; with (P-value 0.002). While the other factors as mother age, presence of chronic diseases, baby gestation, sex, and birth weight showed no significant association with breastfeeding initiation (P-value > 0.05).

Despite observing expected associations of early return to work with reduced breastfeeding initiation and EBF rates; our study revealed no material difference in initiation rates among the employed and unemployed mothers with(P-value 0.2) . This has also been found in other articles [10].

While similar to other study our results revealed that EBF was affected by the number of children ; among the 80 mothers with EBF plan , 44 (55%) had 2 – 4 children , and 26 (32.5%) had >4 children ; statistical analysis show significant association between number of children and feeding plan with (P-value 0.04).

Poor social and professional support was reported as key factor in determining breastfeeding practices in other studies' setting. At the household level, support comes from the spouse, yet men were commonly said to be ignorant of this issue. At the same time, they were said to be the main decision

maker with regard to maternal and child care issues [3-9]. Support from the infant's father through active participation in the breastfeeding decision, together with a positive attitude and knowledge about the benefits of breastfeeding, has been shown to have a strong influence on the initiation and duration of breastfeeding in observational studies [13]. While in our study the husband had no role about infant feeding.

7 - C O N C L U S I O N

From this study we conclude that both the early initiation and exclusive breastfeeding rates are still lacking behind the targeted standards; and that the doctor's role in health education of mothers about breastfeeding is not sufficient to lead them to the optimum breastfeeding practices, especially the Pediatrician. In addition to that, we surprisingly found that mothers with secondary school level of education intend to start breastfeeding earlier than university graduated mothers.

This study needs to be followed by additional ones. We also have to improve the national health education system by performing antenatal sessions, media campaigns, and involve Pediatricians in these activities. All of this well help establishing our goals of being one of the hospitals that embrace the Baby Friendly Hospital Initiative, and improve the national rates of breastfeeding practices to meet the world standards.

COMPETING INTERESTS DISCLAIMER:

Authors have declared that no competing interests exist. The products used for this research are commonly and predominantly use products in our area of research and country. There is absolutely no conflict of interest between the authors and producers of the products because we do not intend to use these products as an avenue for any litigation but for the advancement of knowledge. Also, the research was not funded by the producing company rather it was funded by personal efforts of the authors.

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