A STUDY OF MONITORING & PREPARING AL-HUSSEIN UNIVERSITY HOSPITAL (PEDIATRIC DEPARTMENT) FOR BECOMING BABY FRIENDLY HOSPITAL

By

Mohammed Salem Zayed*, Mahmoud Mohamed Rashad*, Sherif Mostafa Reda*, Osama Abdel Aziz Fakher**

*pediatrics, **Community medicine, Al-Azhar Faculty of Medicine

ABSTRACT

***Background**: Breastfeeding is known as the optimal and unique method of infant feeding that result in short and long-term benefits for infants, mothers, families, economy and the entire society. Recommended by international organizations such as WHO and UNICEF. Planning, implementation and evaluation of programmes like BFHI to promote appropriate infant feeding practices require detailed, current information about these practices in the target populations.*

***Objectives**: The aim of this research is to evaluate and prepare Al-Hussein University Hospital (Pediatric department) to attain the designation of baby friendly hospital.*

***Subjects & Methods:** A cross-sectional study (with intervention). The tools used were those developed by the UNICEF and WHO for monitoring Baby Friendly hospitals. The tools included the following: Hospital data sheet, mother interview sheets, staff interview sheet, observation forms, and summary sheet for the ten steps. (Annexes 1-5).*

Answers of questionnaires and findings of monitoring forms were obtained from randomly selected 210 mothers having babies less than 6 months old delivered at Al-Hussein UH, and 50 medical staff who joined Pediatric department for 12 months or more. Questionnaires answers collected through 2 visits weekly to the Pediatric department over 6 months. The 1st monitoring reflects the weak points, which were: skin to skin contact with early initiation, exclusive breastfeeding, milk expression, positioning and attachment, the code, giving written information about where mothers can get advice about breastfeeding for follow up and deficient knowledge and practice of the staff. 20- Hours training courses were conducted for the relevant staff in the target areas during the intervention phase, then the post intervention Phase conducted (phase I was repeated) 2 month after the intervention.

***Results:** There is improvement in the weak points and the difference is statistically significant; (skin to skin contact improved from 1% to 16.19 %, showing or giving written information on how to express breast milk improved from none to 22%, receiving flavoured water declined from 32.9% to 19.05%, receiving infant formula*

declined from 35.2% to12.86%, help offered regarding breastfeeding improved from none to17.14 %, offering help with positioning and attachment improved from 1% to15.71%, correct positioning and attachment improved from 41.4 % to 60.48%, mothers guided by the staff to feed their babies in response to the feeding cues during the 1st time in delivery room or after returning to the ward improved from 3.3% to18.10 %, encouragement of feeding on demand improved from 20.5% to 44.29 %, giving oral information about exclusive breastfeeding improved from 3.3% to 26.19%, giving written information about breastfeeding improved from 0.5% to10.95% and staff discussion with the mothers about hazards of formula milk improved from 1.9% to 17.62 %, the rate of exclusive BF improved from 34.3% to 48.57%, staff showing the mothers positioning and attachment improved from 26% to 44%, staff showing breast milk expression improved from 8% to 30 %, staff orientation about the effects of giving formula or water before the breast milk comes in have on the success of BF improved from 72% to 86%, staff orientation about the major causes of painful nipples improved from 18% to 46%, about the code improved from 40% to 76% and about the most common causes of insufficient milk improved from 64% to 86%. Also there is no statistically significant difference as regard rooming in and time needed to it.

Conclusion: *There are statistically significant differences between the pre and the post intervention monitoring results in the criteria of BFHI, especially those related to the weak points. Including; skin to skin contact with early initiation, exclusive breastfeeding, milk expression, positioning and attachment, the code and medical staff knowledge, attitude and practices regarding the BFHI in general.*

Key Words: *Breastfeeding, Baby-Friendly Hospital Initiative, Monitoring, Ten Steps, University Hospitals, Designation, Health Promotion.*

INTRODUCTION

Breastfeeding is known as the optimal and unique method of infant feeding that result in short and long-term benefits for infants, mothers, families, economy and the entire society[3-7]. Breastfeeding is recommended by international organizations such as WHO, UNICEF and AAP and supported by recent researches. Planning, implementation and evaluation of programmers to promote appropriate infant feeding practices require detailed, current information about these practices in the target populations[1-4]. Breast-feeding provides protection against newborn, infant and child infections, allergies, asthma, inflammatory bowel disease and sudden infant death syndrome. The benefits of breast-feeding extend into adulthood, with lower rates of obesity, cardiovascular disease risk factors, diabetes and some types of cancers. There are also health benefits for the mother, as it reduces the risk of breast cancer, ovarian cancer, diabetes, hypertension and heart disease[8].

Exclusive breastfeeding is recommended for the first 6 months of life [9]. In Egypt only 42.2% of infants below 4 months were currently being exclusively breast-fed[10]. The Baby Friendly Hospital Initiative is a worldwide initiative that aims at increasing the rates of exclusive breastfeeding by improving maternity practices at birth. It requires hospitals to meet the Ten Steps for successful initiation and continuation of breastfeeding and abide by the International Code of Marketing of Breast-milk Substitutes[11-12]. The BFHI is a part of the Global Strategy of Infant & Young Child Feeding and is required for achieving many of the sustainable goals of development especially those related to eradication of poverty, reducing infant mortality, malnutrition and improving maternal health[12]. To achieve BFHI status the maternity health facility is required to develop its own policy and train all the staff working in direct contact with the mothers and with the babies in the perinatal and neonatal wards to practice the skills of exclusive breastfeeding. Monitoring tools are derived from the UNICEF/WHO Global BFHI criteria to measure sustained and continued improvement in these practices and their impact on neonatal and maternal health. Continuous quality improvement is integrated with the monitoring tools and serves to identify and improve indicators that need further improvement[13-15]. The International Code for Distribution of Breast Milk Substitutes calls on countries to protect breastfeeding by stopping the inappropriate marketing of breast-milk substitutes including infant formula, feeding bottles and teats. It also aims to ensure that breast-milk substitutes should be used safely when they are necessary. It bans all forms of promotion of substitutes, including advertising, gifts to health workers and distribution of free samples. In addition, labels cannot make nutritional and health claims or include images that idealize infant formula. They must include clear instructions on how to use the product and carry messages about the superiority of breastfeeding over formula and the risks of not breastfeeding[16].

AIM OF THE WORK

The aim of the research is to evaluate and prepare Al-Hussein University Hospital (Pediatric department) to attain the designation of baby friendly hospital.

Ethical consideration:

1- The study was approved by the Ethics committee at the Pediatric department at Al-

Hussein University Hospital, and another at Faculty of Medicine, Al -Azhar University.

2- A verbal consent was obtained from the mothers.
3- The authors declared no potential conflicts of interest with respect to the research, authorship, and /or publication of this article.
4- All the data of the mothers and results of the study are confidential and the mothers have the right to keep it.

Financial Disclosure / Funding: The authors received no financial support for the research, authorship, and /or publication of this article.

SUBJECTS AND METHODS

Research Design:
A cross-sectional study (with intervention).

Research Setting and Target Population
All available medical staff and mothers present in all the units of the pediatric department at Al-Hussein University Hospital at the time of the study, randomly selected.

Sample Size: The sample size is (210) randomly selected mothers and 50 medical staff with the following

Inclusion criteria:

(A) Mothers: All mothers with babies delivered at Al-Hussein University Hospital (less than 6 months old) presented to pediatric ward, NICU, POC and BFCC available at the time of study.

(B) Medical Staff:

(1) Residents who had joined pediatric department of Al-Hussein University Hospital for12 months or more.
(2) Junior faculty staff (lecturers and assistant lecturers) that had joined pediatric department of Al-Hussein University Hospital for12 months or more.
(3) Nurses who had joined pediatric department of Al-Hussein University Hospital for12 months or more.

Exclusion criteria:

(A) Mothers:

1. Mothers whose babies born in other hospitals.
2. Mothers whose babies are more than 6 months old.

(B) Medical Staff:

1. Staff who are not affiliated to Al-Hussein University Hospital.

2. Staff who are not affiliated to Pediatric department.
3. Medical staff that joined pediatric department of Al-Hussein University Hospital for less than 12 months.

Research Instrument (Tools of the Study)

The tools used were those developed by the UNICEF and WHO for monitoring Baby Friendly hospitals. The tools included the following:

1- Hospital data sheet
2- Mother interview sheets
3- Staff interview sheet
4- Observation forms
5- Summary sheet for the Ten steps

Data Analysis and Management:

The collected data were coded and analyzed using SPSS (Statistical Package of Social Sciences) version 22.

RESULTS

Table (1): Skin to skin soon after birth

		Pre intervention		Post intervention	
		N	%	N	%
None		208	99.0	176	83.81
6- 60 Minutes		2	1.0	34	16.19
Total		210	100	210	100
Chi-square	X^2	29.197			
	P-value	<0.001*			

*p-value is statistically significant if < 0.05.

Table (1) shows that there is statistically significant difference between the pre and the post intervention monitoring as regard giving the baby to the mother to hold skin to skin soon after birth.

Table (2): Showing or giving written information on how to express breast milk

		Pre intervention		Post intervention	
		N	%	N	%
Yes		0	0.00	46	21.90
No		210	100.0	164	78.10
Total		210	100	210	100
Chi-square	X^2	49.436			
	P-value	<0.001*			

Table (2) shows statistically significant difference between the pre and the post intervention monitoring regarding showing or giving written information on how to express breast milk.

Table (3): Receiving anything other than breast milk since birth

	Pre intervention		Post intervention		Chi-square	
	N	%	N	%	X^2	P-value
Plain water						
No	209	99.5	210	100.00	0.00	1.00
Yes	1	0.5	0	0.00		
Sweetened or flavoured water						
No	141	67.1	170	80.95	9.714	0.001*
Yes	69	32.9	40	19.05		
Infant formula						
No	136	64.8	183	87.14	27.584	<0.001*
Yes	74	35.2	27	12.86		
Tinned, powdered or fresh milk						
No	208	99	210	100.00	0.502	0.475
Yes	2	1	0	0.00		
Vitamins, mineral supplements, medicine						
No	189	90	178	84.76	2.159	0.141
Yes	21	10	32	15.24		
Anything else (other than breast milk?)						
No	202	96.2	207	98.57	1.494	0.221
Yes	8	3.8	3	1.43		

Table (3) shows statistically significant differences between the pre and the post intervention monitoring as regard receiving sweetened or flavoured water and infant formula. Both were declined in post intervention monitoring.

Table (4): Help offered regarding breastfeeding by a staff since mother got to her room

		Pre intervention		Post intervention	
		N	**%**	**N**	**%**
Yes		0	0.00	36	17.14
No		210	100.0	174	82.86
Total		210	100	210	100
Chi-square	X^2	37.21			
	P-value	<0.001*			

Table (4) shows statistically significant difference between the pre and the post intervention monitoring as regard help offered regarding BF by a staff member since the mother got to her room.

Table (5): Mothers offered help with the positioning and attachment

		Pre intervention		Post intervention	
		N	%	N	%
Yes		2	1.0	33	15.71
No		208	99.0	177	84.29
Total		210	100	210	100
Chi-square	X^2	28.052			
	P-value	<0.001*			

Table (5) shows statistically significant difference between the pre and the post intervention monitoring as regard mothers offered help with positioning and attachment and this is reflected by the statistically significant difference between the pre and the post intervention monitoring regarding mothers shown me correct positioning and attachment (41.4 % improved to 60.48 %).

Table (6): Mothers guided by the staff to feed their babies in response to the feeding cues during 1sttime in delivery room or after returning to the ward

		Pre intervention		Post intervention	
		N	**%**	**N**	**%**
Yes		7	3.3	38	18.10
No		203	96.7	172	81.90
Total		210	100	210	100
Chi-square	X^2	22.400			
	P-value	<0.001*			

Table (6) shows statistically significant difference between the pre and the post intervention monitoring as regard the mothers guided by the staff to feed their babies in response to the feeding cues during 1st time in DR or after returning to the ward.

Table (7): Mothers encouraged by the staff to feed on demand

		Pre		Post	
		N	%	N	%
Yes		43	20.5	93	44.29
No		167	79.5	117	55.71
Total		210	100	210	100
Chi-square	X^2	26.109			
	P-value	<0.001*			

Table (7) shows statistically significant difference between the pre and the post intervention monitoring as regard the mothers encouraged by the staff to feed on demand.

Table (8): Giving oral and written information about BF

		oral information				written information			
		Pre		post		Pre		Post	
		N	%	N	%	N	%	N	%
Yes		7	3.3	55	26.19	1	0.5	23	10.95
No		203	96.7	155	73.81	209	99.5	187	89.05
Total		210	100	210	100	210	100	210	100
Chi-square	X^2	41.799				19.489			
	P-value	<0.001*				<0.001*			

Table (8) shows statistically significant difference between the pre and the post intervention monitoring as regard giving oral and written information about BF.

Table (9): Staff discussion with the mothers about hazards of FM

		Pre intervention		Post intervention	
		N	%	N	%
Yes		4	1.9	37	17.62
No		206	98.1	173	82.38
Total		210	100	210	100
Chi-square	X^2	27.677			
	P-value	<0.001*			

Table (9) shows statistically significant difference between the pre and the post intervention monitoring regarding staff discussion with the mothers about hazards of formula milk if it was her choice and the difficulty of reversing the decision.

Table (10): Exclusive Breastfeeding Rate

		Pre		Post	
		N	%	N	%
Exclusive BF		72	34.3	102	48.57
Not Exclusive BF		138	65.7	108	51.43
Total		210	100	210	100
Chi-square	X^2	8.252			
	P-value	0.0041			

Table (10) shows statistically significant difference between the pre and the post intervention monitoring as regard Exclusive Breastfeeding Rate.

Table (11): Staff teaching or showing the mothers positioning and milk expression by hand

		Positioning				milk expression			
		Pre		post		Pre		Post	
		N	%	N	%	N	%	N	%
Yes		13	26	22	44	4	8	15	30
- Correct		11	22	22	44	2	4	13	26
- Incorrect		2	4	0	0	2	4	2	4
No		37	74	28	56	46	92	35	70
Total		50	100	50	100	50	100	50	100
Chi-square	X^2	6.352				14.327			
	P-value	0.0117				0.0002			

Table (11) shows statistically significant difference between the pre and the post intervention monitoring as regard staff teaching or showing the mothers how to position and attach their infants and how to do milk expression by hand.

Table (12): Staff orientation about the effects of giving formula or water before the breast milk comes in have on the success of BF

		Pre intervention		Post intervention	
		N	%	N	%
Correct		36	72	43	86
Incorrect		12	24	7	14
Don't know		2	4	0	0
Total		50	100	50	100
Chi-square	X^2	7.872			
	P-value	0.019			

Table (12) shows statistically significant difference between the pre and the post intervention monitoring regarding staff orientation about the effects of giving formula or water before the breast milk comes in have on the success of BF.

DISCUSSION

Current study is A Cross-sectional study with intervention was conducted to evaluate and prepare Al-Hussein University Hospital (Pediatric Department) to attain the designation of baby friendly hospital. The study conducted on 210 randomly selected mothers having babies less than 6 months old, delivered in the same hospital present during the study, and 50 medical staff (residents, junior faculty staff and nurses) who joined Pediatric department for 12 months or more. All the units of the Pediatric department at Al-Hussein University Hospital were included. The total staff number was 50; 21 Resident, 24 nurse and 5 faculty staff. 8 of them did not receive any orientation about BF, 13 received didactic orientation about BF, 7 on the job and 22 received undergraduate orientation only.

There is improvement in the weak points and the difference is statistically significant; (skin to skin contact improved from 1% to 16.19 %, showing or giving written information on how to express breast milk improved from none to 22% receiving flavored water declined from 32.9% to 19.05%, receiving infant formula declined from 35.2% to12.86%, , help offered regarding breastfeeding improved from none to17.14 %, offering help with positioning and attachment improved from 1% to 15.71%,

correct positioning and attachment improved from 41.4 % to 60.48%, mothers guided by the staff to feed their babies in response to the feeding cues during the 1st time in delivery room or after returning to the ward improved from 3.3% to18.10 %, encouragement of feeding on demand improved from 20.5% to 44.29 %, giving oral information about exclusive breastfeeding and how to deal with the common problems in the first 6 months during their stay in the hospital improved from 3.3% to 26.19%, the mothers given written information about where or how to get help if they have problems with breastfeeding after leaving the hospital improved from 0.5% to10.95% and staff discussion with the mothers about hazards of formula milk if it was their choice and the difficulty of reversing the decision improved from 1.9% to 17.62 %, the rate of exclusive BF improved from 34.3% to 48.57%, staff showing the mothers positioning and attachment improved from 26% to 44%, staff showing breast milk expression improved from 8% to 30 %, staff orientation about the effects of giving formula or water before the breast milk comes in have on the success of BF improved from 72% to 86%, staff knowledge about the major causes of painful nipples improved from 18% to 46%, staff knowledge about the code improved from 40% to 76% and staff knowledge about the most common causes of insufficient milk improved from 64% to 86%. Also there is no statistically significant difference as regard rooming in and time needed to it.

UNICEF/ WHO 20-hour training courses about breastfeeding that conducted in Al-Hussein University hospital (Pediatric department), resulted in significant improvement in health professionals' knowledge, attitudes, and practices regarding the breastfeeding. That reflected as improvement in the criteria of the BFHI and subsequently in increased the rate of exclusive BF from 34.3 to 48.5%.

And this rate of exclusive BF goes with the available studies highlight low rates of exclusive breastfeeding (<6 months) in most countries of the Eastern Mediterranean region, with the regional average being of 31.8% in 2012. The lowest rates were documented in Somalia (5.3%) and Tunisia (8.1%). While the highest rate reported in Afghanistan (58%), in other countries, such as Egypt, Syria, Djibouti, Pakistan, Palestine, and Sudan, the rate is around 40%[17].

The region has to increase and sustain annual increases of 1.2 percentage points in the rate of

exclusive breastfeeding between 2012–2025 in order to meet the World Health Organization (WHO) global nutrition target which is more than 50% exclusive breastfeeding. However, as per rates reported by United Nations International Children's Emergency Fund (UNICEF) for the Middle East in 2016, exclusive breastfeeding rates for infants at six months of age in the Eastern Mediterranean region have considerably declined[18,19].

Also results shows statistically significant difference between the pre and the post intervention monitoring regarding staff orientation about causes of painful nipples, common causes of insufficient milk and regarding the implications of accepting gifts, sponsorships or donations from companies of Baby Milk formula or Baby foods.

Despite of receiving some training by the staff in the target wards of Pediatric and neonatal units before the first monitoring and after it. However the response is still not sufficient to the training and improvement did not reach the requirements of the global criteria indicating a high degree of resistance and the need to develop strategies in training and implementation that are tailored to the needs of the hospital.

Complexity of implementation of BFHI in university hospitals (UH) is that these hospitals carry the dual role of teaching and providing services. They have a high rate of turnover of staff because of the continuous training of students and residents. Although there is diversification between the teaching and service delivery practices, yet they are both interlinked. Moreover, Baby-friendly criteria for UHs have not been developed by UNICEF and WHO, which pose more difficulty in the interpretation of the findings. However Baby friendly as a program needs to be integrated into the teaching curriculum in order to ensure sustainability[20].

In 2008, Utah University hospital was the first hospital to become Baby-Friendly in Utah and the 73rd in the USA[21].

In the Eastern Mediterranean region the Jordan University Hospital launched the BFHI[22].

Our study goes with **(Ayoub Al-Jawaldeh et al., 2018)** that found that the main common impediments to implementation in most countries included deficient knowledge of health professionals in BFHI and their role in supporting mothers in overcoming breastfeeding-related difficulties.

Another important and common-place challenge is the continued manipulation by industry and their influence on country policies and media to market and distribute their products freely to health workers and mothers. Despite the various forms of crises that many of the countries are facing in the region, there is no emergency preparedness plan to ensure an integrated response to protect and support BFHI programs as an important measure for ensuring the survival of mothers and babies living in countries with emergencies. The reversal of BFHI trends in countries of the region is due to the lack of sufficient political buy-in and increasing instability in many countries in addition to the high staff turnover in hospitals that leads to the lack of retention of the trained staff and committed administrators[23].

Studies have shown that the integration of breastfeeding management skills in the curriculum for residents in pediatrics, family medicine, and obstetrics and gynecology improves services and increases breastfeeding support[24].

Hence, the importance of integrating BFHI practices in the medical curricula of medical and nursing schools and the use of political buy-in as a tool for going to scale at the national level for ensuring sustainability[24].

In our study Significant improvement occurred in all areas of knowledge and practices tested in the range of 10% – 36% but the most improvement was with that related to the code, improved from 40 to 76% while the lowest improvement was that related to giving written information about where or how to get help if they have problems with breastfeeding after leaving the hospital improved from 0.5% to10.95%. And this goes with the following studies;

(Irena et al., 2010) in a survey in Croatia Conducting the UNICEF/WHO 20-hour breastfeeding course in maternity hospitals in Dalmatia resulted in significant improvement in health professionals' knowledge, attitudes, and practices of breastfeeding[25].

(Cattaneo et al., 2001) in a survey of 571 health workers in Italy, showed that knowledge scores increased significantly after hospital staff attended the UNICEF course[26].

The same study found that hospital practices, based on implementation of the "Ten Steps," also improved.

Other studies also showed an increase in knowledge **(McIntyre E, Lawlor-Smith C, 1996)**[27],

practices **(Valdes V et al., 1995)**[28], or breastfeeding support skills **(Moran VH et al.,2000)**[29], following breastfeeding training that was different from the WHO/UNICEF course.

Our study finding agree with **(Irena et al., 2010)** that found The proportion of health professionals who recognized hospital practices that support breastfeeding and signs of poor positioning when breastfeeding nearly doubled after training. The proportion of health professionals correctly recommending immediate "skin to-skin" contact post-Cesarean section under local anesthesia did not improve significantly. Although the proportion of health professionals who correctly managed mastitis improved significantly as a result of the training, the number of staff with positive attitudes toward breastfeeding increased from 65% to 79%, whereas the number of staff with neutral attitudes dropped from 26.6% to 9.9%[25].

Al-Hussein University Hospital for Becoming Baby friendly Hospital should achieve 80% in each step of the Ten Steps.

(Azza Abul-Fadl et al. 2017-2018) found that Al-Hussein University Hospital met BFHI global criteria in steps 1, 8 (policy and Support mothers to recognize and respond to their infants' cues for feeding) and the Code (20). The drop occurred in step 8 may be due to the shortage in number of the obstetric staff in the delivery room, operation room and postnatal ward as mentioned by the obstetric staff. Also obstetric medical staff deficient knowledge and were not concerned.

(Irena et al., 2010) study was included 5 Hospitals were included. Three of these hospitals had achieved "baby friendly" status in the 1990s, but they had allowed this certification to lapse. (Similar to Al- Hussein Hospital). Hospitals must undergo reassessment every 3 years in order to keep the "baby-friendly" designation[25].

(Bireshwar et al.) found that Intervention delivery in combination of settings seemed to have higher improvements in breastfeeding rates. Greatest improvements in early initiation of breastfeeding, exclusive breastfeeding and continued breastfeeding rates, were seen when counselling or education were provided concurrently in home and community, health systems and community, health systems and home settings, respectively. Baby friendly hospital support at health system

was the most effective intervention to improve rates of any breastfeeding[30].

Our study showed statistically significant difference as regard giving the baby to the mother to hold skin to skin soon after birth and early initiation of BF (where only 1% of the mothers were received their infants to hold skin to skin in the pre intervention, improved to16.19% in the post intervention monitoring. The reason of why skin to skin contact and early breastfeeding had not been implemented before was the lack of knowledge amongst the hospital's personnel about it and its benefits and also lack of sufficient number of medical staff in the delivery room, operation room and post natal ward.

(Luis Fernando Sanchez et al.) conducted a similar study in Mexico , it was surprising to find that skin to skin contact and early initiation of breastfeeding were achieved in 77% of the cases. Especially since it was an intervention that had never been performed in the hospital's history[31].

And this is also reflected in our study by the ratio of the mothers encouraged or shown by the staff How to put the baby Skin to skin where only 0.5% of the mothers have encouraged or shown by the staff how to put the baby skin to skin in the pre intervention, become 22.38 % in the post intervention monitoring.

Also our study agree with the findings of this study **(Azza et al., 2017)** that foundThe highest challenge facing hospitals is the early initiation of the breastfeeding and, immediate placement of newborn skin-to-skin with the mother for one hour or up to the first suckle. This is a very important step in order to achieve BFHI status. Several other studies have shown that this was one of their main challenges and barriers to achieving the BFHI status. Administrative, cultural and traditional practices interfere.

Other studies in Egypt have shown that supplemental feeding of neonates in maternity hospitals and lack of immediate skin to skin were one of the biggest challenges facing Egyptian safe delivery breastfeeding practices[32, 33]. May be attributed to traditional beliefs in the community[34]. Hence any Baby Friendly initiative intervention must go hand in hand with community-based breastfeeding promotion.

Delayed breastfeeding initiation has deleterious effects of on child survival and breastfeeding continuity[35].

Hence, in order to improve the outcome of first hour skin to skin

contact, process mapping of skin-to-skin practice[36].

In the first hour after birth using the algorithms, can provide a guide for analysis and opportunities for improvement with targeted interventions for guiding staff in implementing this procedure for improving child survival and breastfeeding outcome. In Egypt a study showed that implementing Mother-Friendly practices can greatly improve the outcome on implementing the ten steps and discharge rates of exclusive breastfeeding[37].

Clinical guidelines and protocols should be developed by each of the pediatrics department to integrate breastfeeding management in their clinical guidelines for management of their cases[38].

Also our study found only 3.8% only of the babies did not breastfeed at all while 96.2% breastfed for some period of time and this agree with the findings of Egypt Demographic and Health Survey 2014. That found that regarding the initiation of breastfeeding among last-born children born in the two years prior to the Egypt Demographic and Health Survey 2014. The results show that almost all Egyptian children are breastfed for some period of time. With 94 per cent or more of children reported as ever breastfed. Breastfeeding began soon after birth for the majority of breastfed children; 79 per cent of the children were put to the breast within the first day after delivery, and 27 per cent within the first hour[38].

Our study found that babies received flavored water were 32.9% and babies received infant formula 35.2% and this is agree with the Egypt Demographic and Health Survey 2014. That found, although breastfeeding is initiated early for the majority of children, pre lacteal feeding is common; 61 per cent of last born children born in the two-year period prior to the survey received a pre lacteal feed during the first three days after birth. Breastfeeding practices are not always optimal; 6 in 10 children were reported to have received a pre lacteal feed after birth, only 4 in 10 children under 6 months of age were being exclusively breastfed, and around 3 in 10 children under 6 months were being bottle fed[38].

So the majority start BF but the failure is in the continuation of BF due to lack of support and follow up and this goes with the current study finding that found 32.9% of the babies have been given

sweetened water and 35.2% given Infant formula in the pre intervention phase that declined to 19.05% and to12.86% in the post intervention monitoring respectively.

Results shows no statistically significant difference between the pre and the post intervention monitoring as regard rooming in. 82.9% of babies roomed in with their mothers in the pre intervention and 87.5% in the post intervention with no significant statistical difference. Also shows no statistically significant difference between the pre and the post intervention monitoring as regard the time needed for rooming in. 53.3% of babies roomed in within 1 hour of the delivery in pre intervention and 60% in the post intervention monitoring.

BFHI had made 126 hospitals designated as Baby-friendly in 1996 in Egypt; however with the lack of reassessments the hospitals lost their designation. Over the past decade there have been several attempts to revive the BFHI using the updated BFHI tools. Several studies to test the monitoring tools have been used to monitor and improve implementation in Egyptian hospitals[39].

CONCLUSION

There are statistically significant differences between the pre and the post intervention monitoring results in the criteria of BFHI, especially those related to the weak points. Including; skin to skin contact with early initiation, exclusive breastfeeding, milk expression, positioning and attachment, the code and medical staff knowledge, attitude and practices regarding the BFHI that reflected as increase in the rate of exclusive BF from 34.3% to 48.57%.

RECOMMENDATIONS

Al-Hussein UH (Pediatric Department) for becoming baby friendly hospital is in need to continue 21 Hours training courses for medical staff, and follow up to achieve criteria of BFHI. Decision makers and health professionals have to play the role in order to achieve the WHO and UNICEF recommendations regarding Breastfeeding, that should be adopted by the hospital staff, especially those related to the weak points including skin to skin with early initiation of Breastfeeding, the positioning and attachment, the Code, the milk expression, giving written information about where the mothers can get advice about Breastfeeding for follow up and discussion with the mothers about

hazards of formula milk. All house officers should receive the 21 hours training courses and should be a pre request for getting their internship certificates.

- Medical curriculum should include in details the BFHI.
- Under graduate and post graduate examinations should include at least an question about BF.
- All nurses in pediatric department should attend the 21 hours training courses.
- More support to the BF consultation clinic.
- House officers should not get their certificates of training unless attending the 20-hours course.

The head of Pediatric department in Al-Hussein UH should be informed about the main results in hope to improve the present situation.

REFERENCES

1. **AlFaleh K:** Perception and knowledge of breast feeding among females in Saudi Arabia. Jtumed, June 2014, 9, (2), p. 139–142.
2. **Beral V, Fear NT, Alexander P:** Breastfeeding and childhood cancer. British Journal of cancer, 2000; 82(5):1073-1102.
3. **Binns C. & Graham K:** Project report of the Perth Infant Feeding Study Mark II (2002–2004) Common wealth Department of Health and Ageing: Canberra; 2005.
4. **C.L. Dennis: Breastfeeding initiation and duration:** a 1990–2000 literature review. J ObstetGynecol Neonatal Nurs, 31 (1), (2002), pp. 12–32.
5. **Dennison BA, Hawke BA, Roberto RA, and Gregg DJ:** Implementing legislationto improve hospital support of breastfeeding, New York State, 2009-2013. Prev Chronic Dis, 2015;12:E122.
6. **James DC. & lessen R: Position of the American Dietetic Association:** promoting and supporting breastfeeding. J Am Diet Assoc, 2009; 9:1926–1942.
7. **Shaili V, Parul S, Kandpal SD, Jayanti S, Anurag S, Vipul N:** A Community Based Study on Breastfeeding Practices in a Rural Area of Uttarakhand. National Journal of Community Medicine, 2012; l3 (2):283-87.
8. **AAP:** we should encourage mothers to Breast-Feed (2019)
9. **www.who.int :breastfeeding.**
10. **WHO:** Eastern Mediterranean Health journal ,Current status of breastfeeding in Alexandria Governorate: a community based study ,Nahed mohamed kamel,Afaf Gaber Ibrahim,Soha Rashed and fatma Youssef int/emhj-volume-3-1997/volume-3-issue-3/article14.htm.
11. **The Baby-friendly Hospital Initiative: Revised, Updated and Expanded for Integrated Care, Section 1:** Background and Implementation; Section 2:

Strengthening and sustaining BFHI: A course for decision-makers; Section3: Breastfeeding Promotion and Support in a Baby-friendly Hospital; a 20-hour course; Section 4: Hospital Self-Appraisal and Monitoring; Section 5: External Assessment and Reassessment. New York: UNICEF; Geneva: WHO; 2008

12. **Evidence for the ten steps to successful breastfeeding. Geneva:** World Health Organization; 1998.

13. **WHO/UNICEF. Baby-Friendly Hospital Initiative:** 1. the Global Criteria for the WHO/UNICEF Baby-Friendly Hospital Initiative. Geneva, Switzerland: WHO/UNICEF; 1992.

14. **WHO (1991):** Indicators for assessing breast-feeding practices (WHO/CDD/SER/91.14) Geneva, Switzerland: World Health Organization.

15. **Kaushik SL; Parmar VR; Grover N and Kaushik R (1998):** Neonatal mortality rate. Indian J Pediatr, 65: 429-433.

16. **UNICEF :** breastfeeding. Laws to protect breastfeeding inadequate in most countries.

17. **World Health Organization (WHO) National Implementation of the Baby Friendly Hospital Initiative, 2017. WHO; Geneva, Switzerland:** 2017. License CC BY-NC-SA 3.0 IGO.

18. **WHO-EMRO; (2015):** [(accessed on 1 March 2016)]. Framework for Health Information Systems and Core Indicators for Monitoring Health Situation and Health System Performance. Available online:http://applications.emro.who.int/dsaf/EMROPUB_2015_EN_1904.pdf?ua=1&ua=1.

19. **Martin L., Moazzem Hossain S.M., Casanovas C., Guyon A. Learning from Large Scale Community-Based Programmes to Improve Breastfeeding Practices:** World Health Organization; Geneva, Switzerland.

20. **Azza Abul-Fadl1, Nadia Farghally2, Hanan S. Ez-ElArab3, Mahmoud Rashad Shandidi4, Ola Mostafa5, Ghada AlAttar6, Iman Bakr3, Eman ElArabi1, Osama Fakher7, Shahenaz Hussien4, Hoda Ibrahim5, Eman Menazae6, Marwa Rashad5, Sahar Sabbour3, Neama Yousef8, Eman Elkaluby8, A Multicenter Survey for Monitoring the Baby-Friendly Initiative in 6 University Hospitals in Egypt (2017-2018):** A Comparative Analysis).

21. **The Baby Friendly Hospital Initiative (2018):** The Trustees of the University of Pennsylvania. Penn Medicine, Philadelphia. http://www.pennmedicine.org.

22. **Ibanez Prieto, A.V. (2018):** Jordan University Hospital Joins Baby Friendly Hospital Initiative. The Jordan Times.

23. **Ayoub Al-Jawaldeh and Azza Abul-Fadl:** Assessment of the Baby Friendly Hospital Initiative Implementation in the Eastern Mediterranean Region Children (Basel). 2018 Mar; 5(3): 41.Published online 2018 March.

24. **Feldman-Winter L., Barone L., Milcarek B., Hunter K., Meek J., Morton J., Williams T., Naylor A., Lawrence R.A.** Residency Curriculum Improves Breastfeeding Care. Pediatrics. 2010; 126:289–297. Doi: 10.1542/peds.2009-3250. [PubMed] [CrossRef]

25. Irena Zakarija-Grković and Tea Burmaz (Department of Family Medicine, University of Split School of Medicine, Split Croatia and Private Pediatric Practice, Venice, Italy respectively) Effectiveness of the UNICEF/WHO 20-hour Course in Improving Health Professionals' Knowledge, Practices, and Attitudes to Breastfeeding, August 24, 2010.

26. Cattaneo A, Buzzetti R.: Effect on rates of breast feeding of training for the baby friendly hospital initiative. BMJ. 2001;323:1358-62. Medline:11739226 doi:10.1136/bmj.323.7325.1358**.**

27. McIntyre E, Lawlor-Smith C.: Improving the breastfeeding knowledge of health professionals. Aust Fam Physician. 1996;25: S68-70. Medline:8854410.

28. Valdes V, Pugin E, Labbok MH, Perez A, Catalan S, Aravena R, et al.: The effects on professional practices of a three-day course on breastfeeding. J Hum Lact. 1995;11:185-90. Medline:7669237 doi:10.1177/089033449501100318.

29. Moran VH, Bramwell R, Dykes F, Dinwoodie K.: An evaluation of skills acquisition on the WHO/UNICEF Breastfeeding Management Course using the pre-validated Breastfeeding Support Skills Tool (BeSST). Midwifery. 2000;16:197-203. Medline:10970753 doi:10.1054/midw.2000.0214.

30. Bireshwar Sinha1, Ranadip Chowdhury1, M Jeeva Sankar2, Jose Martines3, Sunita Taneja1, Sarmila Mazumder1, Nigel Rollins4, Rajiv Bahl4, Nita Bhandari (nita.bhandari@sas.org.in) Interventions to improve breastfeeding outcomes: a systematic review and meta-analysis.

31. Luis Fernando Sanchez-Gregorio Zuniga-Villanueva and Jose Luis Ramirez-GarciaLuna: An educational intervention to implement skin-to-skin contact and early breastfeeding in a rural hospital in Mexico International Breastfeeding Journal201914:8 https://doi.org/10.1186/s13006-019-0202-4.

32. Fawzi, A., Kadry, H., Abd Rabo, S. and Abul-Fadl, A.M.A. (2013): Challenges Facing the "Updated Baby Friendly Hospital" Program in a Maternity Hospital in Alexandria. MCFC Egyptian Journal of Breastfeeding, 7, 53-66.

33. Soliman, D.R. and Khairy, M. (2014): Does First Hour Skin-to-Skin and Follow-Up Support Improve Breastfeeding Outcomes in Cesarean Delivery Despite Anesthesia? MCFC Egyptian Journal of Breastfeeding, 10, 29-39.

34. Ismail, N.I.A. (2008): Beliefs and Practices of Rural Women Regarding Colostrum. Thesis, Faculty of Nursing, Alexandria University, Cairo.

35. Smith, E.R., Hurt, L., Chowdhury, R., et al. (2017): Delayed Breastfeeding Initiation and Infant Survival: A Systematic Review and Meta-Analysis. PLoS ONE, 12, e0180722. https://doi.org/10.1371/journal.pone.0180722.

36. Brimdyr, K., Cadwell, K., Stevens, J., et al. (2017): An Implementation Algorithm to Improve Skin-to-Skin

Practice in the First Hour After Birth. Maternal & Child Nutrition, 14, e12571.

37. **Abu-AlYazid, A.A., Abul-Fadl, A.M., Noseir, M. and Mahdy, M.H. (2012):** Promoting Mother-Friendly Practices as a Strategy towards Baby-Friendly Hospitals. MCFC Egyptian Journal of Breastfeeding, 4, 89-99.

38. **Ministry of Health and Population (2015):** El-Zanaty and Associates (Egypt) and ICF International. Egypt Demographic and Health Survey 2014. Ministry of Health and Population and ICF International, Cairo, Rockv.

39. **Shetty P. Achieving the goal of halving global hunger by 2015:** Proc. Nutr. Soc. 2006;65:7–18. doi: 10.1079/PNS2005479. [PubMed] [CrossRef].

الملـــــخص العربـــــي

المقدمة: تعرف الرضاعة الطبيعية علي أنها الطريقة الأنسب والفريدة لتغذية الطفل، و التي ينتج عنها فوائد على المدى القصير والبعيد لكل من الأطفال والأمهات والعائلات والإقتصاد والمجتمع ككل. موصا بها من قبل المنظمات الدولية كمنظمة الصحة العالمية واليونيسف والأكاديمية الأمريكية لطب الأطفال.

إن وضع البرامج وتنفيذها وتقييمها لتدعيم الممارسات المناسبة لتغذية الطفل يحتاج إلى معلومات تفصيلية وحديثة عن تلك الممارسات في المجتمعات المعنية.

في مصر وطبقا لدراسة اعدتها منظمة الصحة العالمية سنة 2014 فأن الرضاعة الطبيعية المطلقة تمثل ٤٢,٢% فقط من الأطفال تحت عمر ٤شهور.

حاليا تدعم اليونيسف ٦ مستشفيات جامعية بمصر لتكون صديقة للطفل مستخدمة أدوات رصد "مبادرة المستشفى صديقة للطفل " وتعد مستشفى الحسين الجامعي واحدة منها.

الهدف من العمل: تهدف تلك الدراسة إلى تقييم وتحضير مستشفى الحسين الجامعي (قسم طب الأطفال) لتكون مستشفى صديقة للطفل.

طريقة البحث: أجريت دراسة مستعرضة (مع التدخل) على ثلاثة مراحل. مستخدمة تلك الأدوات التي تم وضعها من قبل منظمة الصحة العالمية واليونيسف لرصد المستشفيات الصديقة للطفل. وهي استمارة بيانات المستشفى واستبيان مقابلة الأم واستبيان مقابلة الطاقم واستمارات الملاحظة والاستمارة المجمعة للخطوات العشر. نتائج الاستبيانات تم الحصول عليها من 210 أم تم اختيارهم عشوائيا لديهم أطفال أعمارهم اصغر من 6 اشهر تمت ولادتهم بمستشفى الحسين حاضرين وقت الدراسة و50 من الكادر الطبي تم التحاقهم للعمل بالمستشفى لاثني عشر شهرا او يزيد. وشمل الرصد كل وحدات قسم الاطفال. تم تجميع النتائج من خلال زيارتين اسبوعيا لقسم الاطفال خلال 6 اشهر. عكست بيانات

الرصد الاول نقاط الضعف والتي كانت. ملامسة الجلد للجلد و البدء المبكر للرضاعة الطبيعية وأن تكون حصرية وتعصير الثدي والوضعية والتعلق والشرعة الدولية واعطاء بيانات مكتوبة عن أين تجد الامهات النصيحة للرضاعة الطبيعية للمتابعة. اجريت دورات 21 ساعة التدريبية للكادر المعني في الاماكن المستهدفة اثناء مرحلة التدخل ثم اجريت مرحلة ما بعد التدخل بعدها بشهرين. تم خلالها اختيار 210 ام اخرين من نفس الاماكن عشوائيا.

النتائج: هناك تحسن في نقاط الضعف والفروق ذات دلالة احصائية. حيث تحسنت نقطة ملامسة الجلد للجلد من 1% الى 16.19% وتناقصت نسبة اعطاء ماء بسكر من 32.9% الي 19.05% وتناقصت نسبة اعطاء لبن صناعي من 35.2% الى 12.86% وتحسنت نسبة ايضاح او اعطاء بيانات عن كيفية تعصير الثدي من لا شيء الي 22% وتحسنت نسبة تقديم المساعدة علي الرضاعة الطبيعية من لا شيء الى 17.14% وتحسنت نسبة المساعدة على التعلق والوضعية من 1% الى 15.71% وتحسنت نسبة الوضعية والتعلق الصحيح من 41.4% الى 60.48% وتحسنت نسبة الامهات التي تم ارشادها بواسطة الكادر الطبي لإرضاع طفلها استجابة لعلامات الجوع للمرة الاولى بغرفة الولادة او بعد العودة الى العنبر من 3.3% الي 18.10% وتحسنت نسبة الامهات التي شجعت على ارضاع طفلها طبقا لحاجته من 20.5% الي 44.29% وتحسنت نسبة اعطاء معلومات شفهية عن الرضاعة الطبيعية المطلقة وكيفية التعامل مع المشاكل الشائعة في الأشهر الست الأولى اثناء تواجدهم بالمستشفى من 3.3% الى 26.19%وتحسنت نسبة الأمهات التي تم اعطائهم بيانات مكتوبة عن أين وكيف يحصلون على المساعدة اذا ما واجهتهم مشكلات متعلقة بالرضاعة الطبيعية بعد مغادرتهم المستشفى من 0.5% الى 10.95% وتحسنت نقطة مناقشة الكادر الطبي مع الأمهات عن مخاطر استخدام ألبان الأطفال اذا كانت تلك رغبتهم وصعوبة التراجع عن ذلك القرار من 1.9% الي 17.62%. كما تحسن معدل الرضاعة الطبيعية المطلقة من 34.3% الي 48.57% وتحسنت نسب بيان التعلق والوضعية من الكادر الطبي للأمهات من 26% الي 44% و كيفية تعصير الثدي من 8% الي 30% وتحسن ادراك الكادر الطبي عن ما يترتب من اعطاء ماء او لبن صناعي قبل بدء الرضاعة الطبيعية على نجاحها من 72% الي 86% وعن اسباب الم الحلمة من 18% الي 46% وعن الشرعة الدولية من

40%الي 76% وعن اشهر اسباب نقص اللبن من 64% الي 86%. كما لا يوجد فروق ذات دلاله احصائية في معدل تسكين الاطفال ولا الوقت اللازم له.

الاستنتاج: يوجد فروق ذات دلالة احصائية بين نتائج الرصد قبل وبعد التدخل في تلك المعايير الخاصة " بمبادرة المستشفى صديقة الطفل" خاصة تلك المتعلقة بنقاط الضعف. مشتملة على ملامسة الجلد للجلد والبدء المبكر للرضاعة الطبيعية والرضاعة الطبيعية المطلقة وتعصير الثدي والوضعية والتعلق والشرعة الدولية وكذلك في معرفة الكادر الطبي وممارساته بخصوص مبادرة المستشفى الصديقة للطفل بوجه عام.