Maternal Vista Regarding Pros and Cons of Breastfeeding Versus Formula Feeding

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Abstract:

Background: Mother and infant form an inseparable biological and social unit. Ultimately, mothers have initial decision about the type of infant feeding according to their perspective about the pros and cons of each type of feeding. Aim of the study: is to investigate the maternal vista regarding pros and cons of breastfeeding versus formula feeding. Subject and methods: Research design: A descriptive research design was implemented. Setting: This study was conducted at medical units of Alexandria University Children's Hospital at El-Shatby (AUCH). Subject: A convenient sample of three hundred mothers were selected, 150 breastfeeding mothers versus 150 formula feeding mothers. Tools of data collection: The pros and cons of breastfeeding versus formula feeding interview structured schedule was used to collect data. This tool was developed by the researcher after thorough review of the most recent and related literature about breastfeeding and formula feeding. Results: unfortunately, large percent of mother considered breastfeeding is time consuming, and leads to some breast problems. There was statistical significance differences between maternal socioeconomic characteristics and their selection of infant's nutritional types either breast or formula feeding. Unfortunately, more than half of mothers did not know any pros of breastfeeding for them. Conclusion: There were many factors influencing the maternal vista and consequently affecting their selection of infant's feeding such as maternal age, working, income, and influence of support group. Recommendations: Tailoring illustrated breastfeeding booklet should be available and distributed for nursing mothers to include increase their knowledge and promote their skills relative to breastfeeding and positively influencing their attitudes about it. In addition, creation of hotline providing 24-hour access to provide help for lactating mothers is beneficial.

Keywords: maternal vista, opinion, infant feeding, breastfeeding, formula feeding.

Introduction:

Appropriate feeding type has fundamental impact for the survival, growth, development, health and nutrition of infants everywhere (1). Optimal infant feeding practices rank among the most effective approach to improve child health. In 2006 an estimated 9.5 million children died during the first five years of life, and two third of these deaths occurred in Breastfeeding has great health other benefits including and psychosocial, economic, and environmental benefits, SO. breastfeeding has been endorsed by several prominent organizations of health professionals, among them the American Academy of Pediatrics (AAP), (3) American Academy of Family Physicians, (4) American College of Gynecologists, (5) Obstetricians and

the first year of life. Under-nutrition is associated with at least 35% of child deaths. Around 32% of children less than 5 years of age in developing countries are stunted and 10% are wasted. It is estimated that sub-optimal breastfeeding, especially non-exclusive breastfeeding in the first 6 months of life, results in 1.4 million deaths (2).

American College of Nurse- Midwives⁽⁶⁾ American Dietetic Association⁽⁷⁾ and American Public Health Association⁽⁸⁾. These organizations also recommend that for about the first six months, infants must be exclusively breastfed. meaning they should not be given any foods or liquids other than breast milk, Iron-fortified infant not even water. formula is an appropriate alternative for the infant's first year of life in case of inability of the mother to breastfeed, death of the mother, or who do not prefer breastfeeding. Infant formula is simulating human milk and is used to complete or partially substitute the human milk (9).

Concerning the breastfeeding versus formula feeding debate, both of them have valid arguments for the pros, and their downfalls (cons). Many new mothers struggle with the decision to breastfeed or formula feed their new baby (10). Eventually, the decision either to breastfeed or formula feed the infant is one of the parental decisions (11). In respect of mothers, the decision is based on their comfort level, lifestyle, and specific medical considerations that they might have (12). Furthermore. there are several factors have been identified as having a significant impact on a maternal decision to initiate or continue breastfeeding. These include the attitudes of healthcare providers, as well as the mother's support group that may involves fathers/partners, family members, and/or friends. Moreover, hospital practices such as providing infant formula to newborns, unique mother's previous feeding experience, workplace environment influence maternal vista about the selection of the nutritional type for their infants (13).

Some mothers may encounter difficulties with initiating and establishing breastfeeding and decide to change the infant's feeding method to be artificially rather than naturally one. These can be usually overcome with support and encouragement from health workers, family and community (14). organizations Particularly, pediatric nurses are in key positions to disseminate information to women concerning the most appropriate nutritional type of feeding their infants and how that choice affects their health in general (15)

Significance of the study:

In fact, the infants' nutrition is considered the golden base for their health and survival. Consequently, this

study focuses on maternal vista regarding pros and cons breastfeeding and formula feeding as a type of nutrition. The results will provide precious data that can help health professional and community establishing innovative and efficient reinforcement methods to correct maternal knowledge and raise their positive attitude toward breastfeeding as a natural, efficient and safe method of feeding.

Aim of the study:

The aim of the current study was to investigate the maternal vista about pros and cons of breastfeeding versus formula feeding.

Research Questions:

What is the maternal vista about pros and cons of breastfeeding?
What is the maternal vista about pros and cons of formula feeding?
What are the influencing factors during maternal selection of the infant type of feeding?

Subjects and methods: Research Design:

A descriptive research design was implemented in this study.

Setting of the study:

This study was conducted in medical units of Alexandria University Children's Hospital at El-Shatby (AUCH).

Study subjects: Subjects:

A convenient sample of all lactating mothers (300 mothers) in the previously mentioned setting are included in the study. They had the following criteria:

- 1. Breastfeed mother or
- 2. Formulas feed mothers.

Tools of data collection:

One tool was used for data collection in this study

Pros and Cons of Breastfeeding Versus Formula Feeding Interview Structured Schedule:

This tool was developed by the researcher after thorough review of the most recent and related literature about breastfeeding and formula feeding. It was used to identify the common pros and cons of both types of infant's feeding.

It included five parts:

Part I: Characteristics of mother and infant:

For mother: It constituted maternal age, level of education, occupation, income, crowding index and residence.

For infant: includes age, sex, birth order, and type of feeding either breast or bottle.

Part II: Maternal vista about pros and cons of breastfeeding:

1: Pros of Breastfeeding such as:

A: Pros for infant:

- 1. It is convenient and easily digestible.
- 2. Protect against infections.
- 3. Contains all nutritional elements and vitamins for infant....ect

B: Pros for mother:

- 1. Build special bond between mother and infant.
- 2. Help mothers to lose weight more easily.
- 3. No financial burden on the family....ect

2: Cons of breastfeeding such as:

A: Cons for mother:

- 1. Can't monitor how much the infant gets breast milk.
- 2. Not all expressed breast milk is equal in its amount.
- 3. lack of breaks for working mothers.... ect

Part III: Maternal vista about pros and cons of formula feeding:

1: Pros of Formula Feeding such as:

A: Pros for infant:

- Formula contains all the necessary nutrients for baby to grow and thrive.
- 2. It's still not as ideal as breast milk, but it is pretty close.....ect

B: Pros for mother:

1. Mother can take necessary medications without worrying about they will harm.

- No need for private place during feeding.
- 3. Mother does not have to worry about their diet.ect

2: Cons of Formula Feeding such as: A: Cons for infant:

- The infant doesn't receive antibodies from formula, and therefore may not have protection against certain viruses.
- 2. Infant has risk for water contamination.....ect

B: Cons for mother:

- 1. Formula is expensive, especially if the infant drink a certain type of formula.
- 2. Interruption of maternal midnight sleep....ect

Part IV: Sources of maternal knowledge about pros and cons of selected infant nutritional type such as:

- Health personal.
- Support group as partner, sister
- Mass media.
- General knowledge.

Part V: Factors affecting maternal decision about type of infant nutrition such as: Past feeding experience. , Support group and Occupation.

Validity and reliability:

The developed tool was validated by 5 experts in pediatric nursing field. The reliability of the tool was ascertained using the Cronbach's Coefficient alpha test to measure the internal consistency of the tool, which was 0.91.

Field work:

The researcher attending the medical units during morning shift from 9 a.m to 2 p.m and started the interview after medical clinical round was finished as well as when the mother was free and ready to communicate. The researcher collected the data from approximately 4-5 mothers daily for 5 days per week. The average time of the

interview session lasts from 15-20 minutes for every mother. Data collection covered a period of 5 months, started from the beginning of January 2012 till the end of May 2012. **Pilot study:**

A pilot study was carried out on 10% (30 mothers) of the study sample size to test clarity as well as the feasibility of the tool. They are not excluded from the actual sample size of the study because there was no modification or change was carried out in the tool.

Administrative and ethical considerations:

official An approval was obtained to conduct the study from the director of medical units in the Alexandria University Children's Hospital at El-Shatby (AUCH). Oral informed consent for participation was from mothers explanation the aim of the study. Every mother was interviewed individually to maintain her privacy.

Confidentiality of the data, anonymity and right to withdraw at any time were quaranteed.

Statistical analysis:

Collected data was tabulated and statistically analyzed using statistical package for social science (SPSS) version 20. The data was presented in the form of frequency, distribution, Chi square test was used in this study to identify whether there are statistically significance differences between the responses of mothers in both types of feeding.

Results

The results of the study were presented in three parts as follow:

Table (1): reveals maternal vista about pros of breastfeeding for infants. The common breastfeeding pros that mentioned by mothers are it is convenient and easily digestible, breast milk protect the infant against infections especially diarrhea, it also promotes the child's intelligence later on, the infant is less likely to be constipated and have colic in addition to, it contains

all nutritional elements and vitamins for infant (16%, 28.7%, 6.7%, 25.3%, 15.3% respectively. Only 8% of mothers did not know any pros of breastfeeding for infants.

Concerning the pros of breastfeeding for mothers. unfortunately, the table demonstrates that more than quarter of mothers (28%) did not know any pros of breastfeeding for them. Whereas, the rest of mothers stated that it is always available and mother is able to feed infant anywhere, it builds special bond between mother and breastfeeding protects mother against breast and ovarian cancers, it may delays menstrual period, it helps mothers to lose weight more easily, as well as it has no financial burden on family budget and there is no interruption of maternal night sleep (17.3%, 4.7%, 5.3%, 4.0%, 7.3%, 24%, 9.3% respectively).

Table (2): shows the maternal vista regarding cons of breastfeeding mothers. Enthusiastically. mothers mentioned that there are no cons of breastfeeding for infant. While, 38% of them consider nursing is definitely time consuming for mothers. The others (18%, 18%, 4.7%,9.3%, respectively) identified breastfeeding causes breast engorgement if the infant does not feed frequently, mother can't monitor how much the infant gets breast milk, mother has to continue lactation even she feels pain, or sick, certain medications can pass into the breast milk and harm the infant. Additionally, Breastfeeding is uncomfortable and either physically or even painful, psychologically

Table (3): demonstrates maternal vista concerning pros of formula feeding for infant and mother. For infants, the mothers show that formula contains all the necessary nutrients for baby to grow. In spite of, it is still not as ideal as breast milk, but it is close (42%, 50.7% respectively). While, only 7.3% of mothers do not

know anything about its pros. Regarding the pros of formula for mothers, it is found that lactating mother can take necessary medications without worrying from harm, and she does not worry about her diet during lactation (8% and 39% respectively). Moreover, more than half of mothers (52.7%) do not know the pros of artificial feeding for themselves.

Table illustrates (4): maternal vista about cons of formula feeding for infant and mother. It is found that the infant doesn't receive antibodies from formula milk (22.7%), Some babies are allergic to certain types of formula milk (10%), The infant is at risk for water contamination (46%) are the most cons of formula feeding for infant from maternal vista. While 21.3% of mothers do not know any cons for formula feeding. Concerning its cons for the mothers, the result shows formula is very expensive (80.7%) and preparation of formula at night leads to interruption of maternal night sleep (19.3%).

Table (5): shows that nearly half of breastfeed mothers (48.7%) aged from 30-<35 years. While, the highest percent of formula feed mothers (44.7%) aged from 25-30 years. There was a statistically significant difference between both groups

Table (6): shows that the highest percent (59.6%) of illiterate mother and approximately half of those who hold secondary and university education (50.9%, 50%) respectively) choose formula feeding for their infants with no statistical significant difference between mothers $(x^2=5.484, P=.140)$.

Table (7): demonstrates the relationship between maternal occupation and current type of feeding. It shows that most of working mothers (71.7%) selects formula feeding for their infant whereas; the majority of non-working mothers (82.5%) chose breastfeeding. A statistical significant difference is

observed between both variables (X^2 = 84.500, P = .000)

Table (8): describes relationship between familiar income of current type feeding. Approximately two third of families (64.4%) ,who have sufficient income. select formula feeding for their infants. While 57.3% of those who have insufficient income, preferred to feed their infant breast milk. There is a statistical significant difference (X² = 12.553 - P = .000

Table (9): represents that 64.9% of mothers and 66.7% of mothers in low decided and select breastfeeding as a type of nutrition for infant. On the other hand, most of physician (87.2%) decided formula feeding for their infants. A statistical significant difference was found ($X^2 = 66.783$, P = .000)

Discussion:

Adequate nutrition during infancy and early childhood is essential to ensure the growth, health, and development of children to their maximum potential. Poor nutrition increases the risk of illness, and is responsible, directly or indirectly, for one third of the estimated 9.5 million deaths that occurred in 2006 in children less than 5 years of age (16-18). Protection, promotion, and support of breastfeeding are critical public health needs. Healthy People 2010 set goals for increasing both breastfeeding initiation and duration (19).

Breastfeeding is nutritionally superior for infants. It has numerous pros for both mothers and their infants. It is revealed in the current study that the common breastfeeding pros for infants that mentioned by mothers are it is convenient and easily digestible. Furthermore, breast milk protects the infant against infections especially diarrhea in addition to, it promotes the child's intelligence, the infant is less likely to be constipated and have colic in addition to, it contains all nutritional elements and vitamins for infant (Table 1). This is congruent with the finding of

Wieslaw ., et al (20). that confirm that exclusive breastfeeding in infancy enhances cognitive ability in children who were exclusively breastfed .Moreover, reviews of studies from developing countries show that infants who are not breastfed are 10 times more likely to die in the first months of life than infants who are breastfed (WHO et al, and PAHO(21,22),) Diarrhea and pneumonia are more common and more severe in children who are artificially fed.

In the present study, the mother mentioned the pros of breastfeeding for them include the following: it is available; they can feed an infant anywhere: it builds special bond between mother and infant; in addition breastfeeding protects mother against breast and ovarian cancers; it may delays menstrual period; it helps mothers to lose weight more easily: as well as it has no financial burden on family budget and there is interruption of maternal night sleep (Table 1). This result in the same line with Leung, Sauve⁽²⁴⁾ who document the health gains for breastfeeding mothers include lactation amenorrhea. early involution of the uterus, enhanced bonding between the mother and the infant, and reduction in incidence of ovarian and breast cancer

Fortunately, all breastfeeding mothers did not find any cons of breastfeeding for their infants. But some of them mentioned the con of breastfeeding for mothers involve nursing is definitely time-consuming, Breastfeeding is uncomfortable and even painful, either physically or psychologically (table 2). It could be based on personal and prevailing circumstances around breastfeeding mothers. This finding is congruent with the results of Otoo et al, (25), who found in their study that breastfeeding could be tiring, stressful or pleasurable to some mothers

Regarding the pros of formula feeding for infants, the mothers stated that formula contains all the necessary

nutrients for baby to grow and thrive. In spite of, it is still not as ideal as breast milk, but it is close (Table 3). This is parallel with the results of Mattar et al (26) and Carver (27) who mentioned that the number of nutrients found in human milk is recommended as a guideline in establishing the minimum and maximum levels in infant Formulas

The maternal vista in the current study about cons of formula feeding for infant involves many perspectives such the infant does not receive antibodies from formula milk, some babies are allergic to certain types of formula milk, and the infant is at risk for water contamination (Table 4). The relatively similar result is with Gdalevich et al (28) and Oddy et al (29) who discovered that artificially-fed children have an increased risk of long term diseases with an immunological basis, including asthma and other atopic conditions.

Maternal age is considered a contributing factor to early cessation of breastfeeding. It is clear from the current study that younger mothers (25-30 years) select formula to feed their infants (Table 5). It may be due to lack of information about the benefits of breastfeeding for infant; mother and community as well as their incorrect perception that breastfeeding will disfigure their body image. This nearly in the same line with Forster et al (30) who identified that maternal age less than 25 years was associated with early stop of breastfeeding

Maternal education is one of the influential elements for selection of infant's nutritional type. The current study represented that the highest percent in breastfeeding and formula feeding mothers finished their basic education with no statistical significant differences (Table 6). It could be due to lack of attending educational programs regarding breastfeeding and its crucial benefits of feeding and insufficient mass media awareness program about breastfeeding. To some extent, this results agreed with the study done in

the United States by Ryan et al (31) who concluded that mothers who are more highly educated, they most likely to successfully combine paid employment with breastfeeding

Paternal and maternal income been shown to breastfeeding in opposite directions. It is obvious in the present study that most of mothers who have sufficient income select formula feeding for their infant (Table 7). This finding could be attributed to mother are practicing the easiest and affordable type of feeding as they have the ability to buy the formula and their vista about the formula as it contains all the necessary nutrients for infant to grow and thrive and formula milk is pretty close to breast milk. This is congruent with the results of Heck et al (32) and Pinto (33) who demonstrated that women with higher family incomes were more likely than their counterparts to breastfeed mothers have high socio-economic status tend to stop breast feeding earlier than the mothers from lower educational and socio-economic status:

Maternal postnatal employment has a negative effect on maintaining breastfeeding for 6 months, and this in turn has an impact on child health outcomes (34). Unfortunately, in the present study, most of working mothers were formula feed while the majority of non working mothers were breastfeed (Table 8). It could be due to lack of privacy in working settings, fatigue, inflexible schedules, work unsupportive employers. Furthermore, ignorance of mother regarding feeding practices, and lack of health education given by the nursing personals is considered a barrier to breastfeeding and influence maternal vista regarding breast and bottle feeding. This is Conclusion:

In the light of the current results, it was concluded that breastfeeding experience, practices as an embodied experiences are context bound and

contrary with a national study done by Elsharkawy et al (35) who found that returning back to work and continuation of breastfeeding were clearly exists in their study While internationally, Taveras et al (36) and Hawkins et al (37) found that consistently employment in the first postpartum year has a strong negative effect on breastfeeding duration, Contrary, Parttime employment seems to exert little or no effect on breastfeeding duration, as mothers employed part-time in the first year following birth have similar breastfeeding duration employed mothers of infants

Grandmothers are an important source of information for new mothers. Based on their roles, their infant feeding experience and knowledge. they can influence mothers' decisions to initiate and continue breastfeeding Grasslev & Eschiti (38). In the current study, the mothers themselves and mother in law were the most supportive persons to choose breast milk as a type of nutrition for infants contrary to physician who did not advocate breastfeeding. It may be due to many people, including health professionals, believe that because commercially prepared formula has been enhanced in recent years, infant formula is equivalent to breast milk in terms of its health benefits however, this belief is incorrect Similarly, this finding was parallel to the results of Agunbiade and (39,40)who stressed the Ogunleve incorporation of significant others such as grandmothers, mothers-in-laws, and husbands process in the encouraging breastfeeding mothers. There is an indication that significant others play active roles in encouraging or discouraging exclusive breastfeeding practices among the study population.

culture dependent regardless the educational level of nursing mothers. There are multiple factors still influencing the maternal selection of the infant's feeding type such as maternal age, working, income and **Recommendations:**

- breastfeeding booklet should be available and distributed for nursing mothers to include increase their knowledge and promote their skills relative to breastfeeding and positively influencing their attitudes about it.
- Create a hotline providing 24hour access to provide help for lactating mothers.
- Make informational tear-off sheets on special breast feeding issues available to health professionals to aid them in their care of breastfeeding mothers and their breastfed infants.
- Breastfeeding-friendly office should be established to advocate breastfeeding and

influence of support group.

- provide education about breastfeeding for family .
- Hospital policies aimed at improving exclusive breastfeeding uptake should also incorporate significant others (grandmothers, mothers in-laws, and husbands) in the process of encouraging breastfeeding mothers.
- Formula supplementation of breastfed babies should occur only when medically indicated.
 Family physicians should not undermine breastfeeding by providing formula samples to breastfeeding mothers.

Table (1): Distribution of maternal vista concerning pros of breastfeeding for infant and mother

Pros of breastfeeding for infant and mother	No(150)	%
A: Pros of breastfeeding for infant		
It is convenient and easily digestible	24	16.0
Protect against infections especially diarrhea.	43	28.7
Promote the child's intelligence later on	10	6.7
Infant is less likely to get constipated and have colic.	38	25.3
Contains all nutritional elements and vitamins for	23	15.3
infant.		
do not know	12	8.0
B: Pros of breastfeeding for mother:		
It's always available and able to feed infant anywhere	26	17.3
Build special bond between mother and infant	7	4.7
Protects against breast and ovarian cancers.	8	5.3
May delay menstrual period	6	4.0
Help mothers to lose weight more easily	11	7.3
No financial burden on the family.	36	24.0
No interruption of maternal night sleep	14	9.3
Do not know	42	28.0

Table (2): Distribution of maternal vista regarding cons of breastfeeding for mother

Cons of breastfeeding for mother	No(150)	%
Nursing is definitely time-consuming	57	38.0
If infant does not feed frequently leads to breast engorgement.	27	18.0
Mother can't monitor how much the infant gets breast milk.	27	18.0
Mother has to continue lactation even she feels pain, or sick	7	4.7
Certain medications can pass into the breast milk and harm the infant.	14	9.3
Breastfeeding is uncomfortable and even painful, either physically or psychologically.	18	12.0

Table (3): Percent distribution of maternal vista about pros of formula feeding for infant and mother

Pros of formula feeding for infant and mother	No(150)	%
A: Pros of formula feeding for infant:		
Formula contains all the necessary nutrients for baby to grow.	63	42.0
It's still not as ideal as breast milk, but it is close.	76	50.7
do not know	11	7.3
B: Pros of formula feeding for mother:		
Lactating mother can take necessary medications without worrying about they will harm their.	12	8.0
mother does not worry about her diet during lactation	59	39.3
do not know	79	52.7

Table (4): Percent distribution of maternal vista concerning cons of formula feeding for infant and mother

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Cons of formula feeding for infant and mother	No(150)	%
Cons of formula feeding for infant:		
The infant doesn't receive antibodies from formula milk	34	22.7
Some babies are allergic to certain types of formula milk.	15	10.0
The infant is at risk for water contamination	69	46.0
do not know	32	21.3
Cons of formula feeding for mother:		
Formula is unaffordable.	121	80.7
Interruption of maternal midnight sleep	29	19.3

Table (5): Relationship between maternal age and current type of feeding

Age/year		Significance			
	Breastfe	eding	Formula feedir	ng	$X^2 = 57.738$
	No (150)	%	No(150)	%	P: .000*
<25	10	6.7	10	6.7	
25-	23	15.3	67	44.7	
30-	73	48.7	27	18.0	
35-	38	25.3	22	14.7	
> 40	6	4.0	24	16.0	

^{*}Statistical at P < 0.05

Table (6): Relationship between level of maternal education and current type of infant feeding

Current type of	e of Level of education								Significanc	
feeding -	feeding	illiterate		basic education		secondary education		3	ersit / catio n	е
	NO (89)	%	No (146)	%	No (57)	%	No (8)	%		
Breastfeeding	36	40. 4	82	56. 2	28	49. 1	4	50	$X^2 = 5.484$ P= .140	
Formula feeding	53	59. 6	64	43. 8	29	50. 9	4	50	-	

Statistical at P < 0.05

Table (7): Relation between maternal occupation and current type of feeding

Current type of feeding		occi	Significance		
	working	working non-working			_
	No (180)	%	No (120)	%	_
Breastfeeding	51	28.3	99	82.5	$X^2 = 84.500$
formula feeding	129	71.7	21	17.5	P = .000*

*Statistical at P < 0.05

Table (8): Relation between maternal income and current type of feeding

Current type of feeding		Inc	Significance		
	Sufficient Insufficient		_		
	No (101)	%	No (199)	%	_
Breastfeeding	36	35.6	114	57.3	$X^2 = 12.553$
Formula feeding	65	64.4	85	42.7	P = .000*

*Statistical at P < 0.05

Table (9): Relationship between the personal decision and current type of feeding

recuirig							
Current type of	Perso	Significance					
feeding	Mother		physician			her in aw	_
	No (202)	%	No (86)	%	No (12)	%	_
Breastfeeding	131	64.9	11	12.8	8	66.7	$X^2 = 66.783$
Formula feeding	71	35.1	75	87.2	4	33.3	P=. 000*

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