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Assessment of Mothers' Knowledge, Attitude and Self-Efficacy Regarding Early Initiation and Exclusive Breastfeeding

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Abstract

Background: Exclusive breastfeeding is the first fundamental right of the infant as the sole source of nourishment for the first six months of life. **Aim:** this study aimed to assess mothers' knowledge, attitude and self-efficacy regarding early initiation and exclusive breastfeeding. **Research design:** A descriptive research design was used in this study. **Settings:** Pediatric Departments, at Bab Al-Shariya University Hospitals affiliated to Al-Azhar University, Cairo, Egypt. **Sample:** A purposive sample composed of 146 mothers who have infants aged ranged from birth to 6 months. **Tools:** Three tools were used. 1st Tool: structured interviewing questionnaire consists of 3 parts: 1) Characteristics of mothers, 2) Characteristics of infants, 3) mothers' knowledge regarding early initiation and exclusive breastfeeding. 2nd Tool: Mothers' attitude scale. 3rd Tool: Breastfeeding Self-Efficacy Scale. **Results:** Less than two fifths of the studied mothers were aged from 25:30. Less than half of the studied mothers received their knowledge from family. There was a statistically significant relation between total self-efficacy level of studied mothers and their age and educational level. **Conclusion:** The study concluded that less than three quarters of the studied mothers had unsatisfactory level of total knowledge. The most of the studied mothers had positive attitude toward early initiation and exclusive breastfeeding and more than half of the studied mothers had high level of self-efficacy. Furthermore, there was a highly significant correlation between total knowledge, attitude and self-efficacy. **Recommendation:** Providing a pamphlet in a simple Arabic language to educate mothers about the importance of early initiation and exclusive breastfeeding.

Key words: *Attitude, Early Initiation, Exclusive Breastfeeding, knowledge, Mothers, Self-Efficacy.*

Introduction

Exclusive breastfeeding is the first and most important step toward healthy infants and communities. EBF has evidence-based and well-known short- and long-term benefits for mothers and infants. Breastmilk contains easily digested proteins and endogenous peptides, which help enhance immunity, cognitive development, and gut maturation, promote infant development, and support healthy microbial colonization. Long-term benefits of breast milk include decreased risk for asthma, gastrointestinal infections, and adult diabetes. For mothers, breastfeeding helps rapid weight loss, delayed pregnancy, and decreases the risk of diabetes, cardiovascular diseases, elevated blood cholesterol, and some types of cancers ***(Al-Thubaity et al.,2023).***

The desire to provide an infant with the best start in life is universal, regardless of where the first breath is taken. The first hours and days following birth represent some of the most critical and high-risk periods for a newborn. Early initiation of breastfeeding provides an essential defense during this time. The greatest gift a mother can offer to the infant is health, which can be achieved through early and adequate breastfeeding. Globally, only 2 out of 5 newborns are placed at the breast within the first hour of life. Therefore, initiating breastfeeding is an evidence-based intervention that significantly improves neonatal survival ***(Rukindo et al.,2021).***

Early initiation of breastfeeding within an hour after birth is an irreplaceable measure in averting neonatal and infant morbidity and mortality by regulating the body temperature through skin-to-skin contact, stimulating breast milk production and enhancing the uterine workforce. EIBF within an hour has benefits not only for the infant, but also for the

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mother. EIBF helps mothers to be able to profitably initiate lactation, sustain EBF over the long term, reduce the incidence of postpartum hemorrhage and maintain favorable breastfeeding intention and behavior ***(Terefe et al.,2024).***

The World Health Organization and UNICEF recommend EBF for infants, with no other food or drink provided except breast milk, medications, vitamin or mineral supplements, and oral rehydration solutions during the first 6 months of life. Exclusive breastfeeding should continue alongside the introduction of supplementary foods up to 2 years of age. The potential impact of EBF is particularly significant in developing countries where there is a high burden of disease and limited access to clean water and adequate sanitation. Promoting EBF is considered the most effective child health intervention currently available for low-income populations (***Luo et al.,2021).***

Knowledge means the ability of pursing and using information by understanding, learning experience, and identifying the studying technologies. Attitude indicates the result of making reactions via some ways in some situations, observed and explained according to the result of reaction or combine into one point of view. Whereas, attitude toward breastfeeding is defined as a perspective that encompasses feelings, moods, and emotions, and is strongly linked to breastfeeding knowledge. Mothers' good knowledge and positive attitude play key roles in the process of breastfeeding. Mothers with higher knowledge of EBF were 5.9 times more likely to practice EBF than other counterparts. ***(Dukuzumuremyi et al., 2020).***

Exploring attitudes toward breastfeeding and identifying infant characteristics are important for evaluating the necessary interventions to promote breastfeeding. One of the essential roles of health care provider is to promote, protect, and support breastfeeding as the ideal method of infant feeding, encourage the EIBF, support continued lactation for the first six months, and ensure knowledge of the basics of lactation, as well as the physiological and psychological benefits of breastfeeding for both mother and infant ***(Elalfy et al., 2022).***

Exclusive breastfeeding self-efficacy refers to the perceived ability to breastfeed exclusively and serves as a significant variable influencing breastfeeding duration. This concept predicts the decision to breastfeed, the level of effort invested, the presence of self-enhancing or self-defeating thought patterns, and the emotional response to EBF challenges. Higher self-efficacy increases the likelihood of choosing EBF, persisting through difficulties, employing self-encouraging thoughts, and reacting positively to perceived challenges ***(Gonzales et al., 2021).***

Confidence and expectations regarding knowledge and skills in breastfeeding significantly influence success and determine the duration of breastfeeding. Low confidence increases the risk of interrupting breastfeeding by 3.1 times compared to individuals with high self-efficacy. Ensuring that puerperal mothers receive confidence-building support, guidance, and encouragement is crucial for sustaining breastfeeding ***(Müller, 2020).***

Pediatric nurses have an important role in promoting and supporting EBF. This can be accomplished through initiatives aimed at positive attitudes, enhanced education and advocacy. Nurses have to practice pre and postnatal family centered interventions to encourage greater support for breastfeed mother ***(SS et al.,2022).*** As mangers, nurses are involved in: developing and implementing policies and protocols that support EBF. There is a need for national level policies to provide a supportive environment at health facilities. These policies should include clinical guidelines and protocols for the successful initiation of breastfeeding following caesarean delivery. Interventions like the BFHI have already demonstrated how training and knowledge transfer interventions support appropriate breastfeeding practices in hospitals in low- and middle-income countries ***(Raihana et al., 2021).***

Significance of the study

Globally, it is estimated that 13% of child deaths among those under 5 years of age could be prevented each year if all infants aged 0 to 23 months were optimally breastfed. Currently, only 50% of newborns are breastfed within the first hour of birth, and approximately 44% of infants aged 0 to 6 months receive exclusive breastfeeding ***(Hajela et al.,2023).***

Non-exclusive breastfeeding is estimated to be the cause of 1.4 million deaths worldwide in the first 6 months of life and contributes to 10% of the disease burden in under-five children. There is an increased risk of neonatal morbidity

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and mortality due to hypothermia, infection, respiratory problems and immaturity of vital organs, especially amongst the high-risk newborns. ***(Rynjah et al., 2021).***

Breastfeeding, early initiation and skin to skin contact directly after delivery can lead to 22% reduction in mortality of infants in the first month of life ***(World Health Organization, 2019).*** According to ***(UNICEF, 2022),*** Reduced rates of exclusive breastfeeding contribute to malnutrition, which is recognized as the leading cause of two-thirds of deaths among Egyptian children under the age of five. Mothers play the essential role in early initiation and exclusive breastfeeding. So, this study was carried out to assess mothers' knowledge, attitude and self-efficacy regarding early initiation and exclusive breastfeeding.

Aim of the study

The aim of this study was to assess mothers' knowledge, attitude and self-efficacy regarding early initiation and exclusive breastfeeding

Research Questions

1- What are the mothers' knowledge and attitude level toward early initiation and exclusive breastfeeding?

2- What are the mothers' self-efficacy level regarding early initiation and exclusive breastfeeding?

3- Is there a correlation between mean score of the mothers' knowledge, attitude and self-efficacy?

Subject and Methods

The subjects and methods for this study were represented under four designs as follows:

I- Technical design.

II- Operational design.

III- Administrative design.

IV- Statistical design.

I. Technical design:

The technical design includes research design, setting, subject and tools for data collection.

Research design:

A descriptive research design was used to achieve the aim of this study.

Research setting:

The study was conducted in the Pediatric Departments at Bab Al-Shariya University Hospitals affiliated to Al-Azhar University Hospitals. Bab Al-Shariya Hospitals is located at Bab Al-Shariya, Cairo, Egypt. The Medical Pediatric Department is on the 5th floor and the 6th floor with 60 cases at maximum capacity. On the 7th floor is located the Surgical Pediatric Department with 40 cases at maximum capacity. The Medical Pediatric clinic in the emergency building, open daily. Pediatric surgery clinic on the second floor of the outpatient building.

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Sample:

A purposive sample composed of 146 mothers who have infants aged ranged from birth to 6 months who agreed to participate in the study at previously mentioned setting with the following criteria:

-Mothers who were aged 18 years or older, with infants aged 6 months or younger at the time of the study. According to exclusion criteria, mothers with infants who received special care or who had an anomaly or malformation. Mothers with very preterm infant less than 32 weeks of gestation. Mothers or infant with problems which prevented them from breastfeeding.

Sample size: Stephen Thompson equation (n) was used to determine the sample size:

Sample equation $(n) = \frac{N \times p(1-p)}{[N-1 \times (d2 \div Z2)] + P(1-P)}$

Where: **N= 235** **Z= 1.96** **P= 0.5** **1-P= 0.5** **d= 0.05**

So, sample size (n) = (146).

Tools for data collection

Three tools were used in this study as the following:

1st Tool: Structured Interviewing Questionnaire:

It was developed by the researcher after reviewing the recent related literatures. It was written in a simple Arabic language for gathering data and include the following parts:

Part one: Characteristics of studied mothers:

It included; age, educational level, employment status, residence and type of delivery.

Part two: **Characteristics of neonates and infants:**

It included age, gender, birth order, gestational age and birth weight**.**

Part three: **Mothers' knowledge toward early initiation and exclusive breastfeeding:**

This tool was adapted from ***Luo et al (2021)*** according to the Food and Agricultural Organization (FAO) guidelines. It was modified by the researcher after an extensive reviewing of the related literature such as rephrasing of some sentences to match the culture in Egypt, including: right time of early initiation, definition of colostrum, dealing with colostrum, pre lacteal role, definition of exclusive breastfeeding, duration, frequency, breastfeeding at night, importance of colostrum, exclusive breastfeeding benefits for mother and infant and advantage of breast milk. It consisted of 12 closed questions and 4 open questions.

Scoring System:

The scoring for the responses for the questions on the importance of colostrum and exclusive breastfeeding were scored as complete correct answer scored 2, incomplete correct answer scored 1 and don't know scored zero. While the closed questions were scored as either correct 1 score and incorrect or don't know scored zero. The total possible score was 20 points. The total score was then converted into a percentage, and the results were categorized as follows:

- Satisfactory knowledge: When the mother's score was ≥ 70% equal ≥ 14.
- Unsatisfactory knowledge: When the mother's score was < 70% equal < 14.

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2nd Tool: Studied mothers' attitude Likert scale toward early initiation and exclusive breastfeeding:

It was adapted from ***Luo et al., (2021)*** and used by the researcher to assess mothers' attitude toward early initiation and exclusive breastfeeding. It was translated into Arabic language and modified by the researcher to match the culture in Egypt and to have broader study about mothers' attitude. The scale consisted of 14 statements from three-point which include attitude of mothers toward: Early initiation, colostrum, artificial feeding, breastfeeding and caring of the family, breastfeeding and psychological bond, breastfeeding in public places, time of complementary foods initiation, exclusive breastfeeding increases breastmilk production most of the time, breastfeeding boosts mothers' beauty and advising mothers to breastfeed exclusively. Responses to each statement use a three-point Likert scale, rated from 1-3 with (1) for disagree, (2) for neutral and (3) for agree for positive statements numbered (1,4,6,7,9,11,12,13,14). While, the negative statements numbered (2,3,5,8,10): score (1) for agree, (2) for neutral and (3) for disagree responses.

Scoring System:

The total score ranged from 14 to 42, which was classified as the following:

- Positive attitude: When the mother's score was ≥ 30.
- Negative attitude: When the mother's score was 14 < 30.

3rd Tool: Breastfeeding Self-Efficacy Scale to Measure Exclusive Breastfeeding (BSES-EBF):

It was developed by ***Boateng et al., (2019)*** to assess Exclusive Breastfeeding Self-Efficacy. It was modified by the researcher to match the culture in Egypt and used to measure the cognitive and functional domains of mothers' self-efficacy. The tool included 12 items; each item answered by using 3-point Likert scale, that was rated from 1-3 with (1) for not confident response, (2) for sometimes confident response and (3) for confident response.

Scoring System:

The total score ranged from 12 to 36 points which categorized as the following:

- High self-efficacy: When the mother's score was ranged from 27 to 36.
- Moderate self-efficacy: When the mother's score was ranged from 17 to 26.
- Low self-efficacy: When the mother's score was ranged from 12 to 16.

Tool validity:

The data collection tools were reviewed by a panel of two experts of obstetric nursing at Helwan University and one expert of pediatric nursing at Benha University to measure the content validity of the tools to ensure applicability, comprehensiveness, understanding and ease of implementation of the tools.

Tool reliability:

Reliability of the tools were tested to determine its consistency over time and the extent to which the questioner items were related to each other. The reliability was done by Cronbach's Alpha coefficient test to assure homogeneity of tools. The confidence interval was set to 95% and the margin of error accepted was set to 5%. So, it was for knowledge questions 0.903, attitude was 0.81 and self-efficacy was 0.826.

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II- Operational design

Preparatory phase:

Preparatory phase included reviewing of related literature and theoretical knowledge of various aspects of the study using books, articles, papers, periodicals and magazines to develop tools for data collection.

Pilot study:

A pilot study was conducted on 10% (15) mothers of the entire sample to test the feasibility, availability of the study sample, the applicability of the study tools to evaluate the simplicity, feasibility and clarity of the developed tools, also to find out the possible obstacles and problems that might face the researcher and interfere with data collection and to estimate the required time to fill the questionnaire sheet and evaluate the suitability of setting to perform the study. No necessary modifications were done and mothers who participated in the pilot study were included in the current study.

Field work:

This study was carried out in the Pediatric Departments (Medical, Surgical and Outpatient). The process of data collection was carried out over the period 3 months started from the beginning of March 2024 to the end of May 2024. The researcher visited the study setting 2 days per week (Monday and Tuesday) at morning shift (8 am. - 2 pm.) to collect data using the previously mentioned tools. The researcher firstly met the studied mothers as a group, explained the purpose of the study after introducing herself. The researcher conducted interviews with mothers to fill in the questionnaire, which took approximately 20 to 30 minutes. Of this time, fifteen minutes were spent on gathering information about the mothers' characteristics and knowledge, while the attitude section took about five minutes, and the self-efficacy section took around ten minutes. There were slight variations in the time spent for each section depending on the individual mother.

III- Administrative design

An official permission to conduct the study was obtained from the responsible authorities, written approval letter was obtained from the Dean of the Faculty of Nursing, Helwan University to the Manager of Bab Al-Shariya University Hospitals for conducting the study and ensure cooperation. The approval letter included the aim of the study and the expected benefits. It was ensuring confidentiality of the information obtained.

Ethical consideration:

An official permission to conduct the study was obtained from the Scientific Research Ethics Committee, Faculty of Nursing, Helwan University. Informed consent was obtained from mothers prior to data collection, who were informed about the purpose and the expected outcomes of the study. Mothers should be assured that; the study was harmless and their participation was voluntary and they had the right to withdraw from the study at any time without giving any reason. The mothers also were assured that, anonymity and confidentiality would be guaranteed, as well the gathered data would be used for the research purpose only. Ethics, values, cultures and beliefs were respected.

IV- Statistical design

The collected data was organized, tabulated and analyzed using the suitable statistical test. Upon completion of data collection, data was computed and analyzed using Statistical Package for the Social Science (SPSS), version (28). Quantitative data were expressed as mean± standard deviation (SD). Qualitative data were expressed as frequency and percentage.

Results

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Table (1): Distribution of the Studied Mothers According to their Characteristics (n=146).

Characteristics	No.	%
Age/ years		
<20	10	6.8
20-<25	35	24.0
25-<30	56	**38.4**
30-<35	26	17.8
35-<40	13	8.9
≥ 40	6	4.1
Mean ±SD	**28.06±5.644**	
Educational level		
Can't read or write	10	6.9
Primary school	12	8.2
Preparatory school	24	16.4
Secondary school	53	**36.3**
High education	47	32.2
Employment status		
Working	32	21.9
Not working	114	**78.1**
Residence		
Rural	71	48.6
Urban	75	**51.4**

Table (1): Shows that, less than two fifths (38.4%) of the studied mothers were aged ranged from 25 < 30 years old with mean **28.06±5.644**. As regard educational level, more than one third (36.3%) of the mothers had secondary school. Moreover, more than three quarters (78.1%) of the studied mothers weren't working. Also, more than half (51.4%) of the studied mothers were from urban areas.

Table (2): Distribution of the Studied Mothers Regarding their Knowledge about Early Initiation and Exclusive Breastfeeding (n=146).

Items	Correct answer		Incorrect answer	
	No.	%	No.	%
Right time to give BM after birth	18	12.3	128	**87.7**
Definition of colostrum	46	31.5	100	**68.5**
Dealing with colostrum	87	**59.6**	59	40.4
Pre-lacteal feeding needed for an infant before starting breast milk	30	20.5	116	**79.5**
Concept of exclusive breastfeeding	29	19.9	117	80.1
Foods or fluids recommended to under 6 months' infant	33	22.6	113	77.4
Duration of exclusive breastfeeding	35	24.0	111	76.0
Right time to start complementary foods	34	23.3	112	76.7
Exclusive breastfeeding promotes strong bonding between infant and mother	34	23.3	112	76.7
Frequency of breastfeeding	34	23.3	112	76.7
Breastfeed at night	28	19.2	118	80.8
Frequent breastfeeding increases breast milk production	21	14.4	125	**85.6**

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Table (2): Demonstrates that, more than two thirds (68.5%) of the studied mothers hadn't correct answer about definition of colostrum. Also, more than three quarters (79.5%) believed that pre-lacteal feeding is needed for an infant before starting breastfeeding. While the majority (87.7%, 85.6 % & 80.1%) of the studied mothers didn't know the right time to give BM after birth, definition of EBF and frequent breastfeeding increases breast milk production respectively. And more than three quarters of the participants (76.0%) didn't know the duration of exclusive breast feeding.

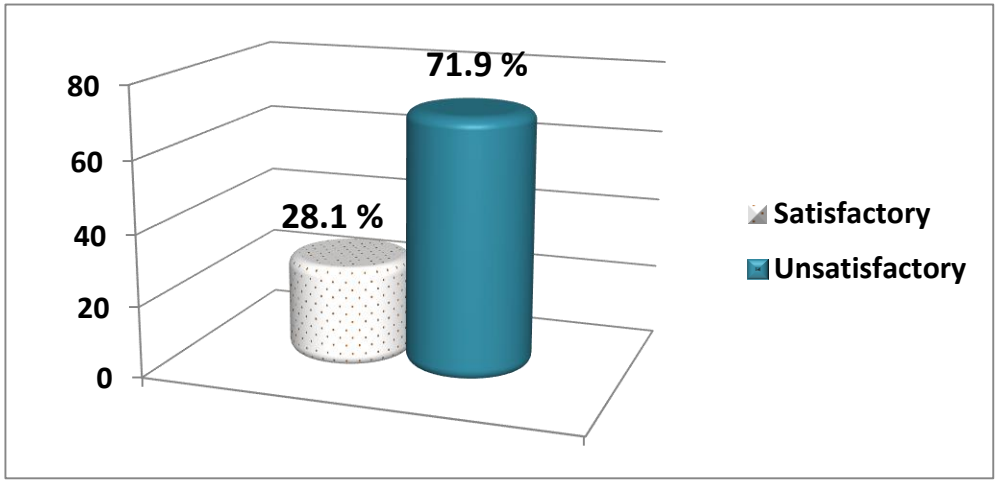

Figure (1): Percentage Distribution of the Studied Mothers' Total Knowledge Regarding Early Initiation and Exclusive Breastfeeding.

Figure (1): Illustrates that, less than three quarters (71.9%) of the studied mothers had unsatisfactory level of total knowledge, while more than one quarter (28.1%) of them had satisfactory level of total knowledge regarding early initiation and exclusive breastfeeding.

Table (3): Distribution of the Studied Mothers Regarding their Knowledge about benefits of Early Initiation and Exclusive Breastfeeding (n=146).

Items	Correct answer		Incomplete answer		Do not know	
	No.	%	No.	%	No.	%
Importance of Colostrum for newborn	39	26.7	80	**54.8**	27	18.5
Benefits of exclusive breastfeeding for an infant	46	**31.5**	85	58.2	15	10.3
Benefits of exclusive breastfeeding for the mother	42	28.8	71	**48.6**	33	22.6
Advantages of breast milk in exclusive breastfeeding	82	**56.2**	54	37.0	10	6.8

Table (3): Demonstrates that, more than half of studied mothers (54,8%) weren't fully aware of the colostrum importance. Also, only less than one third of the studied mothers (31.5%) were knowledgeable about the benefits for the infant. On the other hand, less than half of the participants (48.6%) had incomplete knowledge about the benefits of exclusive breastfeeding for mothers. While, more than half (56.2%) of the studied mothers had complete correct answer about advantages of breast milk in exclusive breastfeeding

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Table (4): Distribution of the Studied Mothers' attitude towards early initiation and Exclusive Breastfeeding. (n=146).

Items	Agree		Neutral		Disagree	
	No.	%	No.	%	No.	%
Breast milk for a newborn immediately within an hour after birth is important	64	43.8	42	28.8	40	27.4
Colostrum avoidance until white milk starts is very important for neonate's health	13	8.9	7	4.8	126	**86.3**
Discarding the first milk or colostrum	10	6.8	4	2.8	132	**90.4**
Breastfeeding is better than artificial feeding	139	**95.2**	5	3.4	2	1.4
Breastfeeding mothers find it difficult to take care of their family.	9	6.2	23	15.7	114	78.1
Breastfeeding increases mother-infant psychological bond	139	**95.2**	3	2.1	4	2.7
Breastfed infants are healthier than formula-fed ones	131	89.7	13	8.9	2	1.4
Mothers avoid breastfeeding in public places	59	40.4	51	34.9	36	24.7
Breast milk is the ideal food for infant	129	88.4	13	8.9	4	2.7
Complementary foods could start before 6 months	10	6.8	15	10.3	121	82.9
Feeding the infant breast milk alone for the first 6 months	126	86.3	11	7.5	9	6.2
Exclusive breastfeeding increases breast milk production most of the time	64	43.8	63	43.2	19	13.0
Breastfeeding boosts mothers' beauty	68	46.6	32	21.9	46	31.5
Advising mothers to breastfeed exclusively	135	**92.4**	9	6.2	2	1.4

Table (4): Clarifies that, the most (95.2%, 95.2% & 92.4%) of the studied mothers agreed that breastfeeding is better than artificial feeding, breastfeeding increases mother-infant psychological bond and advising mothers to breastfeed exclusively respectively. While, the most (90.4%) of the studied mothers disagreed about discarding the first milk or colostrum. Moreover, the majority (86.3 %) of the studied mothers disagreed about colostrum avoidance until white milk starts is very important for neonate's health.

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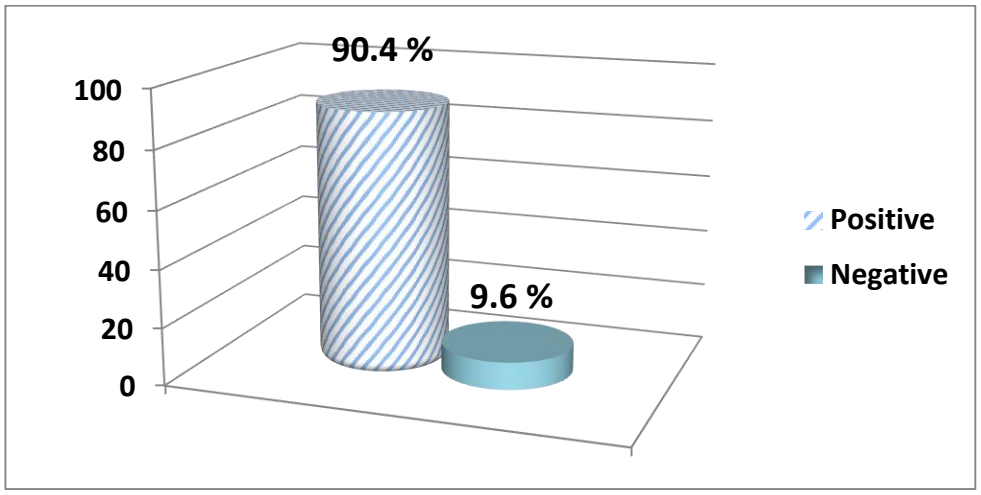

Figure (2): Percentage Distribution of the Studied Mothers' Total Attitude Towards Early Initiation and Exclusive Breastfeeding.

Figure (2): Illustrates that, the most (90.4%) of the studied mothers had positive attitude toward early initiation and exclusive breastfeeding. While only (9.6%) of them had negative attitude toward early initiation and exclusive breastfeeding.

Table (5): Distribution of the Studied Mothers Regarding their Self-Efficacy about Exclusive Breastfeeding (n=146).4

Items	Confident		Sometimes confident		Not confident	
	No.	%	No.	%	No.	%
Give the infant only breast milk without using animal milk, formula, or other liquids or foods as a supplement	63	43.2	37	25.3	46	31.5
Continue exclusive breastfeeding for as long as wanted	52	35.6	81	**55.5**	13	8.9
Can always exclusively breastfeed without the infant receiving even a drop of water or any other liquid	50	34.3	31	21.2	65	44.5
Can always stop anyone from attempting to feed the infant liquids or foods other than breast milk.	27	18.5	36	24.7	83	**56.8**
Ensure that the infant is properly latched on for the whole feeding	108	**74.0**	28	19.2	10	6.8
Determine that the infant is getting enough milk	88	60.3	44	30.1	14	9.6
Be satisfied with the breastfeeding experience	105	**71.9**	33	22.6	8	5.5
Deal with the fact that breastfeeding can be time-consuming	82	56.2	45	30.8	19	13.0
Comfortably breastfeed with the present of family members	51	34.9	54	37.0	41	28.1

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Finish feeding the infant on one breast before switching to the other breast	68	46.5	56	38.4	22	15.1
Continue to breastfeed the infant for every feeding	97	66.4	41	28.1	8	5.5
Manage to keep up with the infant's breastfeeding demands	99	67.8	36	24.7	11	7.5

Table (5): Demonstrates that, less than three quarters (74.0% & 71.9%) of the studied mothers had confident ensure that the infant is properly latched on for the whole feeding and be satisfied with the breastfeeding experience respectively. Also, more than half (55.5%) of the studied mothers had sometimes confident that continue exclusive breastfeeding for as long as wanted. While more than half (56.8%) of the studied mothers didn't confident that can always stop anyone from trying to feed the infant liquids or foods other than breast milk.

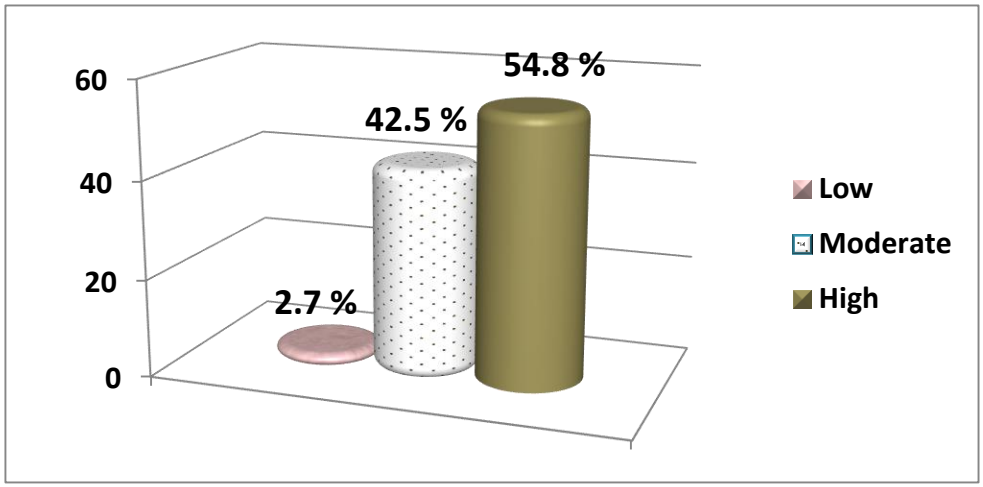

Figure (3): Percentage Distribution of the Studied Mothers' Total Self-Efficacy Regarding Exclusive Breastfeeding.

Figure (3): Illustrates that, more than half (54.8%) of the studied mothers had high level of self-efficacy, more than two fifths (42.5%) of them had moderate level of self-efficacy regarding exclusive breastfeeding. While, the minority (2.7%) of the studied mothers had low level of self-efficacy regarding exclusive breastfeeding.

Table (6): Correlation between total knowledge, attitude and self-efficacy among the studied mothers regarding early initiation and exclusive breastfeeding.

Scale	Total attitude		Total knowledge	
	R	p- value	r	p- value
Total knowledge	0.204	0.014*	-	-
Total self-efficacy	0.349	0.000*	0.377	0.000*

Pearson Correlation Coefficient, * Statistically significance p≤ 0.05

Table (6): Shows that, there were statistically significant positive correlation between total knowledge, attitude and self-efficacy.

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Discussion

Exclusive breastfeeding is defined as giving breast milk alone to the infant, without any additional food or drink, not even water in the first six months of life, with the exception of mineral supplements, vitamins, or medicines. The WHO and the UNICEF recommend initiation of breastfeeding within the first hour after birth; exclusively breastfeed for the first six months of age and continuation of breastfeeding for up to two years of age or beyond in addition to adequate complementary foods ***(Paudel et al.,2022).***

Regarding to the characteristics of the studied mothers, the finding of the current study (Table 1) revealed that, less than two fifths of the studied mothers were aged 25<30 years old. These results were similar with the result of study performed by **Lemina et al., (2023)** entitled "Knowledge, Attitude and Practice on Exclusive Breastfeeding among Mothers of a Private Hospital at Sarawak, Malaysia" who found that, less than one third of the maternal age were between 26 to 30 years old.

In relation to the educational level and occupation of the studied mothers, it was found that, more than one third of the mothers had secondary school. While, more than three quarters of the studied mothers were not working. This finding was matched with **Wulandari et al., (2022)** who conducted a study in Indonesia entitled "Relationship of Mothers' Characteristic, Attitude, and Self Efficacy Toward Exclusive Breastfeeding Practice in Work Area of Tigaraksa Public Health Centre" revealing that, there were more than half of studied mothers had secondary education. Furthermore, this study in the same line with **Pardeshi et al., (2019)** who conducted a study in India about "Assess Knowledge Regarding Breast Complication during Puerperium among Postnatal Mothers" showed that, more than half of the studied mothers had secondary education and the most were housewives. These results were in disagreement with **Ahmed et al., (2022)** who conducted study in Egypt entitled "Relationship Between Exclusive Breastfeeding Self-Efficacy and Mothers' Practices" which found that, the less than two-thirds of lactating mothers are working from 6-8 hours/day.

According to levels of total knowledge about early initiation and exclusive breastfeeding, the current study (Fig 1) revealed that less than three quarters of studied mothers had unsatisfactory level of total knowledge. While more than one quarter had a satisfactory level of total knowledge regarding early initiation and exclusive breast feeding. These results were approved with the study performed by **Mohammed et al. (2021)** who conducted study in Egypt entitled "Assessment of mothers' knowledge and practice regarding exclusive breastfeeding" and found that, less than two thirds of the studied mothers had unsatisfactory total level of knowledge regarding EBF and more than one third of them had satisfactory total level of knowledge regarding EBF. The present study was inconsistent with **Mogadishu., (2023)** who conducted study entitled "Knowledge, Attitude and Practice of Exclusive Breastfeeding among Mothers Attending SOS Hospital Benadir Region, Somalia: A Cross-Sectional Study" and revealed that, more than three quarters of mothers showed good knowledge and less than one quarter had poor knowledge about breastfeeding. From the researcher's point of view, this result may be due to lack of information that many mothers may not receive adequate information about the importance of early initiation and exclusive breastfeeding. Furthermore, cultural norms and beliefs may influence perceptions of breastfeeding practices. Misconceptions surrounding breastfeeding could lead to misinformation or reluctance to practice exclusive breastfeeding.

According to total attitude level about early initiation and exclusive breastfeeding, the present study result (Fig 2) illustrated that most of the studied mothers had a positive attitude toward early initiation and exclusive breastfeeding. These results were in the same line with **Khasawneh et al., (2020)** who conducted a study in Jordan entitled "Knowledge, Attitude, Motivation and Planning of Breastfeeding: A Cross-Sectional Study among Jordanian Women" and found that, less than three quarters of the studied group had a positive attitude towards breastfeeding. The present study was also inconsistent with the study conducted by **Khan et al., (2022)** in Pakistan entitled "Knowledge, Attitude and Practice regarding Exclusive Breastfeeding among Mothers Attending Tertiary Care Hospital". This study revealed that, less than three quarters had a negative attitude toward breast feeding. From the researcher's point of view, these results may be due to the cultural and religious beliefs, also in Egypt, breastfeeding is deeply rooted in tradition. Most of the studied mothers believed that breastfeeding is traditionally viewed as a beneficial practice. Hence, mothers have a positive attitude towards early initiation and exclusive breastfeeding not due to knowledge but because of inherited norms and traditions.

According to total Self-Efficacy level regarding exclusive breastfeeding the current study finding (Fig 3) illustrated that more than half of the studied mothers had high level of self-efficacy, about two fifths had moderate level of self-efficacy

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regarding exclusive breastfeeding. While, the minority of the studied mothers had low level of self-efficacy regarding exclusive breastfeeding. This study result was in agreement with **Habib et al., (2021)** who carried out a study in Saudi Arabia entitled "Factors Affecting Mothers' Self Efficacy and Breastfeeding Practices" and found that, more than half of the studied mothers had a high level, more than one third had a medium level and less than tenth had a low level of self-efficacy. However, these results were inconsistent with the study done by **Kavuluru et al., (2022)** who carried out a study in India entitled "A Study to Assess the Breastfeeding Self-Efficacy among Mothers" and found that, nearly more than half of subjects comes under moderately adequate efficacy while less than half subjects had high efficacy. From the researcher's point of view this result may be due to various factors, such as increasing awareness about the importance of exclusive breastfeeding, access to healthcare services promoting breastfeeding, and support from healthcare professionals and family members. Additionally, the emotional nature of Egyptian mothers, who are often deeply invested in their children's well-being, may cause feelings of stress or doubt when facing obstacles to exclusive breastfeeding.

The present study (Table 6) indicated that there was a highly statistically significant positive correlation between the studied mothers' total knowledge, attitude and self-efficacy. This result was in same line with study conducted by **Amin et al., (2022)** entitled "The Effectiveness of an Interactive Digital-Based Educational Program in Improving Breastfeeding Knowledge, Attitudes and Self-Efficacy among Primiparous Women in Egypt" and reported that, the total self-efficacy score of the experimental group had a statistically significant positive correlation with the total breastfeeding knowledge and total breastfeeding attitude before the program implementation. As well, the current study was on the contrary with **Tawfilis et al., (2023)** who conducted a study with the title "Knowledge, Attitude, And Practice of Breastfeeding and Weaning among Mothers of Children under 2 Years of Age in a Village in Assiut Governorate, Egypt" reporting that, there was no statistically significant relationship between mother's attitude level and knowledge level. From the researcher's point of view, increased knowledge equips mothers with the tools to make informed decisions, which fosters more positive attitudes. In turn, positive attitudes enhance self-efficacy, strengthening mothers' confidence in their abilities. Self-efficacy is influenced by both knowledge and attitude, creating a reinforcing cycle.

Conclusion

Based on the findings of the current study, it could be concluded that:

Less than three quarters of the studied mothers had unsatisfactory level of total knowledge. Also, most of them had positive attitude towards early initiation and exclusive breastfeeding. Furthermore, more than half of the studied mothers had a high level of self-efficacy. Finally, there was a highly significant correlation between total knowledge, attitude and self-efficacy.

Recommendations

In the light of the findings of the current study the following recommendations can be suggested:

- Providing a pamphlet in a simple Arabic language to educate mothers about the importance of early initiation and exclusive breastfeeding.
- Offer free, accessible content through websites, social media, and apps to give mothers information about early initiation and exclusive breastfeeding, including video tutorials, success stories, and expert advice.
- Develop materials and training programs for mothers about the early initiation and exclusive breastfeeding especially during their stay in the hospital after delivery.
- Replication of the study on a large number sample focusing on working mothers.

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