Knowledge, attitude, and practice of breastfeeding and weaning among mothers of children under 2 years of age in a village in Assiut Governorate, Egypt

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Aim
This study aims to assess the knowledge, attitude, and practice of mothers of infants and young children (0–23 months) in a rural area in Upper Egypt regarding breastfeeding (BF), complementary feeding, and weaning and to find the relation between knowledge and attitude of mothers and exclusive breastfeeding (EBF) practice.

Subjects and methods
A crosssectional study was conducted on 308 rural mothers who attended the Rural Health Unit of Bany-Semaiae village, Abou-Teeg District, Assiut Governorate, seeking health care for themselves or for their children and accompanying a child aged less than 2 years.

Results
The study revealed that most of the studied mothers knew that BF is the best nutritive source for the baby in the first 6 months and had good knowledge about the benefits of BF for child. Regarding weaning, most of the mothers defined weaning as BF cessation. Most of the mothers agreed that BF protects child from infection, 96.6% agreed that it is the best milk to child's health, 37% agreed that breast milk may alter body shape of the mother, and 31.5% agreed that BF should be stopped during mother's illness. Overall, 39.6% initiated BF immediately after delivery, and 74.4% of the mothers offered prelacteal feeds to baby in the first 3 days after delivery. Regarding knowledge level, 24.4% of mothers had good knowledge. Concerning mother's attitude toward feeding children, 70.1% of mothers had a positive attitude. EBF in the first 6 months was 44.2% and continued BF at 1 year was 60.6% of study children. It was found that mother's attitude level is significantly associated with EBF but not associated with knowledge level.

Conclusion
The study concluded that mothers' feeding practice of their children was less satisfactory, and there is a need for enhancing EBF through launching health education campaigns targeting the concerned mothers and their families.

Keywords:
attitude, breastfeeding, complementary feeding, knowledge, practice

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Introduction

The first 1000 days from conception to 2 years of age are very important to the child's health. Giving children good nutrition will increase their chances of surviving, developing, learning, and making contributions to their families, and communities throughout their lives [1].

Breastfeeding (BF) is able to reduce the risk of malnutrition among infants. BF is not only strongly protective against infections and reduces the risk of mortality, but also protects against later obesity, as well as noncommunicable diseases such as diabetes [2].

Breast milk is the natural first food for babies, it gives all the energy and nutrients that the infant needs for the first months of life, and it satisfies up to half or more of a child's nutritional needs during the second half of the first year, and up to one-third during the second year of life [3].

In accreditation of this, the World Health Assembly has set a goal of increasing the rate of exclusive BF to at least 50% by 2025 [4].

WHO and UNICEF recommend early initiation of BF within the first hour of life; exclusive BF – that is the infant only receives breast milk without any additional food or drink, not even water; BF on demand – that is as often as the child wants, day and night; no use

of bottles, teats, or pacifiers; and introduction of nutritionally adequate and safe complementary (solid) foods at 6 months together with continued BF up to 2 years of age or beyond [4,5].

Complementary feeding means giving infants other foods and fluids in addition to breast milk needed to fill the gap between the total nutritional needs and the amounts provided by breast milk [6].

BF prevalence varies greatly due to differences in cultural and religious beliefs [7–9]. Delayed initiation of BF, giving prelacteal foods, and inappropriate weaning practices are commonly found around the world [1].

The present study aims to identify the feeding patterns of infants and young children in a village in Upper Egypt; explore knowledge, attitude, and practice of mothers regarding feeding of their children; and identify misconceptions and false feeding practices among them.

Subjects and methods

A crosssectional study was conducted in the Rural Health Unit of Bany-Semaiae village, Abou-Teeg District, Assiut Governorate. First of all, one district from Assiut Governorate districts was selected by a simple random technique, which was Abou-Teeg District. Then, by the same technique, Bany-Semaiae village was selected out of Abou-Teeg District's villages. By examining the relevant birth records of Bany-Semaiae village, it was found that the number of live children less than 2 years (eligible children) comprised 1120 children; from them, we recruited the predetermined sample size (288), which was increased to be 308 to avoid dropouts. The sample size was calculated using EPI INFO EPI info Version 3.5.4, 2012 Epi Info is statistical software for epidemiology developed by Centers for Disease Control and Prevention (CDC) in Atlanta, Georgia (US) software based on the prevalence of BF at the age of 2 years in Egypt, which was 25% [10], with confidence interval of 95% and power of 80%.

Data collection was done during the vaccination days per week (Saturday and Tuesday) in a separate room to ensure privacy and confidentiality during the interview with eligible mothers who welcomed to participate in the study. A verbal consent was obtained from the mothers after explaining the research objectives to them before the interview, and they had the free choice to participate in the study without any pressure. The study was conducted from July to October in 2019.

Reviewing and approving the proposal was carried out before starting data collection via Ethics Review Committee of Assiut Faculty of Medicine with International registration plan (IRP) No. 17101871.

Data were collected through interviews with participating mothers using a semi-structured questionnaire designed by the research team, which covered the sociodemographic characteristics such as mother's age, education, and work; knowledge, attitude, and practice of participating mothers about optimal BF; and complementary feeding toward their infants.

Statistical methods

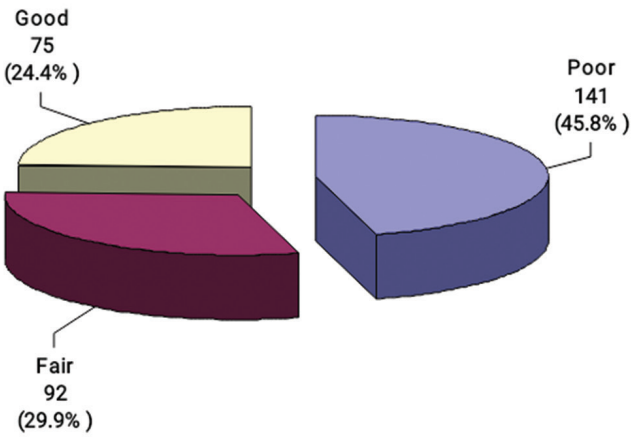
Data entry, cleaning, and analysis were done using SPSS, version 22 (Statistical Package for the Social Sciences, SPSS Inc., Chicago, II., USA). Data were presented as number and percentage, mean, and SD. χ^2 and Fisher exact tests were used to compare qualitative variables. *P* value was considered statistically significant when *P* less than 0.05 (Figures 1–3).

Results

The mean age of the studied mothers was 27.37 ± 5.66 years. Overall, 41.9% were illiterates or could read and write, 26.9% had basic education, and 31.2% had secondary or university education. Regarding the work status of the participating mothers, only 3.6% were not working for cash.

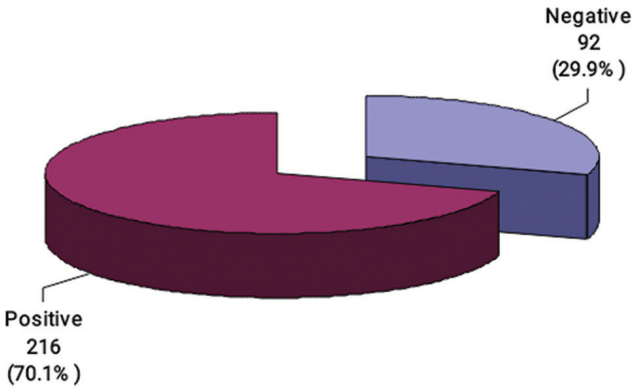
Regarding the sex of the studied children, males constitute 57.5% compared with 42.5% females. Nearly half of participating mothers had poor knowledge, more than 70% of them had positive attitude, and about two-thirds of participating mothers had inadequate practice regarding feeding children.

Figure 1



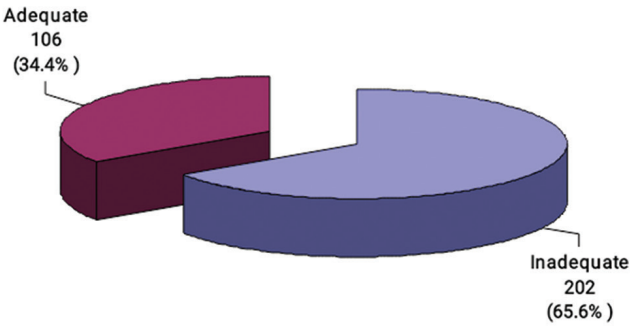
Mother's knowledge level regarding feeding.

Figure 2



Mother's attitude toward feeding children.

Figure 3



Mothers' practice level regarding feeding their children.

As shown in Tables 1 and 2, 96.4% of the mothers knew that BF is the best nutrition for the children in the first 6 months, 93.2% knew that colostrum is beneficial for the baby, and 79.5% of the mothers knew that the correct time of initiation of BF is immediately after labor. Regarding the mother's knowledge about complementary feeding of children, 97.4% of mothers defined weaning as BF cessation. The source of knowledge about child feeding was the friends and family among 95.1% of the mothers.

Table 3 shows that 97.1% of the mothers believed that mother's milk protects child from illness and infections. Mother's milk may be not enough to the child, mother's milk may be light, BF improves a mother and baby loving relationship, and stopping BF prevents the possibility of BF again were believed by 94.2, 93.8, 91.6, and 72.7 of the mothers, respectively.

Tables 4–7 presents that 39.6% of mothers initiated BF immediately, and 93% of the mothers introduced herbs to their children in the first 3 days.

Table 1 Mother's knowledge about breastfeeding in Bany-Semaiae village, Abou-Teeg District, Assiut Governorate, 2019

Mother's knowledge about breastfeeding	*n*=308 [*n* (%)]
Best nutritive source for the baby in the first 6 months	
Breastfeeding only	297 (96.4)
Artificial milk only	6 (1.9)
Cow milk diluted with water or not diluted	16 (5.2)
other type of food or drink	26 (8.4)
Do not know	4 (1.3)
Breastfeeding is useful for child	
Yes	296 (96.1)
I do not know	12 (3.9)
Benefits of breastfeeding to the child (*n*=296)≠	
Improves child immunity	133 (44.9)
Decreases disease occurrence	147 (49.7)
Decreases obesity occurrence in the future	2 (0.7)
Helps in child growth	130 (43.9)
Increases child intelligence	42 (14.2)
Is breastfeeding useful for mother?	
Yes	191 (62.0)
No	46 (14.9)
Do not know	71 (23.1)
Benefits of breastfeeding to the mother (*n*=191)≠	
Protects from tumors	51 (26.7)
Cheap	140 (73.3)
Strengthens the mother–child bond	131 (68.6)
Decreases postpartum hemorrhage	4 (2.1)
Used as a natural contraceptive method	16 (8.4)
Is colostrum beneficial for the baby?	
Yes	287 (93.2)
Do not know	21 (6.8)
Correct time of initiation of breastfeeding	
Immediately after labor	245 (79.5)
When the mother is ready	63 (20.5)
Proper duration of breastfeeding	
12 months	36 (11.7)
18 months	94 (30.5)
24 months	172 (55.8)
Do not know	6 (1.9)

Discussion

Regarding mothers' knowledge about feeding children, the present study found that 24.4% of participating mothers had good knowledge in comparison with 65.3% in a study a Saudi Arabia. This difference may be attributed to high percentage of illiteracy (34.1%) among mothers in Bany-Semaiae village compared with 2.5% in the study in Saudi Arabia [11].

The present study documented that vast majority of mothers (96.4%) knew that BF is the best nutritional source for a baby. This is nearly in agreement with a study conducted by Mohammed *et al.*[12] in Al-Minia Governorate, which reported 100%. This may be explained by that BF is a social norm in rural Egyptian communities.

Regarding the correct time of initiation of BF, 79.5% of participating mothers knew that it should be started immediately after labor. This is nearly in agreement with an Al-Minia study, which found

that 79.8% of mothers knew the correct time of BF initiation, and in contrary with the finding of an Al-Azhar University study, which reported 32% of the mothers knew the correct time of BF initiation [12,13].

The present study found that 93.2% of the mothers knew that colostrum is nutritious for the baby in comparison with 87.6% in an Al-Minia study, 89.2% in an India study and 65.5% in an Al-Azhar University study [12–14].

It was found that only 1.6% of mothers defined the weaning correctly, in comparison with 4.2% in an Al-Minia study, 46.5% in urban Assiut, and 48.3% in a Suez study. This difference may be owing to geographical variation [12,15,16].

The current study found that more than half of the mothers (55.8%) knew that proper duration of BF is 2 years in comparison with 50.2% in an Al-Minia study and 45.4% in an India study [12,14].

The present study greatly agreed with an Al-Minia study in many aspects. This might be attributed to the coordinated efforts done by the health education administration programs in Upper Egypt region by providing advice to mothers about BF during antenatal care visits.

Regarding mothers' attitude toward feeding children, the present study found that 70.1% of participating mothers had positive attitude in comparison with 82.6% in a rural Ghana study and 82.6% in a Uganda study [17,18].

The current study showed that vast majority of the mothers (91.6%) agreed that BF improves mother–baby loving relationship, compared with 95.8% in a Minia study, 94.5% in a Kuwait study, 98% in a Saudi Arabia study, and 76.3% in an Italy study [12,19–21].

The current study found that 94.2% of the mothers believed that mother's milk may be not enough to the child, in comparison with 82% in an Al-Alzhar University study and 29.1% in a Kuwait study [13,19].

On the contrary, the mothers' attitude was lower than the previous studies; this may be due to the specific

Table 2 Mother's knowledge about complementary feeding of children

Mother's knowledge about complementary feeding of children	*n*=308 [*n* (%)]
Weaning means	
Breastfeeding cessation	300 (97.4)
Addition of food beside breastfeeding	5 (1.6)
Do not know	3 (1.0)
Appropriate age to start weaning	
Less than 4 months	45 (14.6)
From 4 to 6 months	172 (55.8)
More than 6 months	90 (29.2)
Do not know	1 (0.3)
Source of knowledge about child feeding≠	
Health care providers	55 (17.9)
Friends and family	293 (95.1)
Media	17 (5.5)
Usual food items used as complementary foods for the child≠	
Juice	99 (32.1)
Vegetables	94 (30.5)
Fruits	60 (19.5)
Commercially prepared readymade mashed cereals	38 (12.3)
Egg yolk	82 (26.6)
Meat	1 (0.3)
Dairy products	218 (70.8)
Any other type of food	17 (5.5)
Is the amount of water and food should be increased during and after child illness?	
Yes	110 (35.7)
No	104 (33.8)
Do not know	94 (30.5)

Table 3 Mother's attitude towards feeding children

Mothers' attitude towards feeding their children	Agree [*n* (%)]	Disagree [*n* (%)]	Do not know [*n* (%)]
1. Breastfeeding protects the child from illness and infections	299 (97.1)	1 (0.3)	8 (2.6)
2. Breastfeeding improves mother–baby loving relationship	282 (91.6)	3 (1.0)	23 (7.5)
3. Breast milk is the best milk to child's health	282 (91.6)	6 (1.9)	20 (6.5)
4. Breastfeeding should be stopped during mother's illness	97 (31.5)	188 (61.0)	23 (7.5)
5. Breastfeeding should be stopped during child's illness	35 (11.4)	259 (84.1)	14 (4.5
6. Mother's milk is not adequate to the baby's needs in the first 3 or 4 days	251 (81.5)	48 (15.6)	9 (2.9
7. Breastfed child needs to drink water in hot weather	234 (76.0)	26 (8.4)	48 (15.6)
8. Mother's milk may be not enough to the child.	290 (94.2)	11 (3.6)	7 (2.3)
9. Mother's milk may be light	289 (93.8)	10 (3.2)	9 (2.9)
The mother cannot take any drug while lactating	162 (52.6)	63 (20.5)	83 (26.9)
If the mother stopped breastfeeding, she cannot breastfeed again	224 (72.7)	15 (4.9)	69 (22.4)
As the mother is breastfeeding, it is impossible to get pregnant	81 (26.3)	179 (58.1)	48 (15.6)
Breastfeeding is embarrassing[a]	106 (34.4)	186 (60.4)	16 (5.2)
Breastfeeding limit the ability to perform home duties[a]	139 (45.1)	158 (51.3)	11 (3.6)
Breastfeeding may alter body shape of the mother[a]	114 (37.0)	117 (38.0)	77 (25.0)

[a]Negative statement.

Table 4 Mothers' practice regarding feeding their children

Mothers' practice regarding feeding their children	*n*=308 [*n* (%)]
The time of initiating of breastfeeding	
Immediately after birth	122 (39.6)
Within hours	167 (54.2)
Within days	19 (6.2)
Type of food other than breast milk introduced to the child (*n*=229)	
Herbs	213 (93.0)
Formula	23 (10.0)
Water with sugar	13 (5.7)
Mother stopped breastfeeding of child at age	
<6	27 (40.9)
6-12	16 (24.2)
>12	23 (34.8)
Child age at introduction of complementary foods	
<6 months	120 (55.0)
≥6 months	98 (45.0)
Types of complementary foods given to the child the day before the interview≠	
Grains, roots and tubers	166 (76.1)
Legumes and nuts	20 (9.2)
Dairy products	124 (56.9)
Flesh foods	93 (42.7)
Eggs	13 (6.0)
Vitamin-A rich fruits and vegetables	3 (1.4)
Other fruits and vegetables	68 (31.2)
Unhealthy foods (red palm oil containing products)	60 (27.5)

Table 5 Relationship between mother's personal data and her knowledge level regarding feeding children

Mother's personal data	Mother's knowledge level			*P*
	Good [*n* (%)]	Fair [*n* (%)]	Poor [*n* (%)]	
Mother's age (years)				
<25	22 (20.0)	36 (32.7)	52 (47.3)	
25-30	30 (25.2)	31 (26.1)	58 (48.7)	0.461
>30	23 (29.1)	25 (31.6)	31 (39.2)	
Mother's education				
Illiterate/read and write	25 (19.4)	37 (28.7)	67 (51.9)	
Basic education	20 (24.1)	27 (32.5)	36 (43.4)	0.245
Secondary/university	30 (31.3)	28 (29.2)	38 (39.6)	
Mother's working status				
Working for cash	5 (45.5)	2 (18.2)	4 (36.4)	0.243
Not working for cash	70 (23.6)	90 (30.3)	137 (46.1)	

cultural beliefs. These beliefs do not encourage early initiation of BF, so creating higher opportunities to give artificial feed to the newborn.

It is expected that a combination of poor nutritional knowledge and low levels of positive attitude toward nutrition would be translated into bad nutritional practices.

Regarding mothers' practice of feeding children, the present study found that 34.4% of participating mothers had adequate practice, in comparison with 91% in a Nigerian study and 50% in a Uganda study [18,22].

Table 6 Relationship between mother's personal data and her attitude level toward feeding children

Mother's personal data	Mother's attitude level		*P*
	Positive [*n* (%)]	Negative [*n* (%)]	
Mother's age (years)			
<25	68 (61.8)	42 (38.2)	
25-30	85 (71.4)	34 (28.6)	0.027*
>30	63 (79.7)	16 (20.3)	
Mother's education			
Illiterate/read and write	94 (72.9)	35 (27.1)	
Basic education	47 (56.6)	36 (43.4)	0.005*
Secondary/university	75 (78.1)	21 (21.9)	
Mother's working status			
Working for cash	8 (72.7)	3 (27.3)	1.000
Not working for cash	208 (70.0)	89 (30.0)	

*Statistical significant difference ($P < 0.05$)

Table 7 Relationship between mothers' personal data and their practice level regarding feeding children

Mothers' personal data	Mothers' practices level		*P*
	Adequate [*n* (%)]	Inadequate [*n* (%)]	
Mothers' age (years)			
<25	33 (30.0)	77 (70.0)	
25-30	46 (38.7)	73 (61.3)	0.387
>30	27 (34.2)	52 (65.8)	
Mothers' education			
Illiterate/read and write	47 (36.4)	82 (63.6)	
Basic education	28 (33.7)	55 (66.3)	0.802
Secondary/university	31 (32.3)	65 (67.7)	
Mothers' working status			
Working for cash	2 (18.2)	9 (81.8)	0.342
Not working for cash	104 (35.0)	193 (65.0)	

The present study illustrated that only 39.6% of mothers initiated BF immediately after delivery, compared with 83.7% in an Al-Minia study, 47.2% in a rural Suez study, and 49.5% in an Al-Alzhar University study [12,13,16].

Prelacteal feeding was a common malpractice among the participating mothers of the current study, as 47.4% of them gave prelacteal feed (drinks/formula), compared with 42.7% in an Al-Minia study and 72.5% in a rural Suez study [12,16].

In the present study, 44.2% of mothers breastfed their infants exclusively for 6 months, compared with 35.5% in an Al-Alzhar University study, 32% in an Al-Minia study, 12.8% in a rural Suez study, 14.5% in an Iraqi study and 33% in an Italy study [12,13,16,21,23].

The Egyptian Ministry of Health dispenses artificial milk free of charge to infants in the first 6 months who really need it; however, 63.1% buy it from the pharmacy. The presence of low-price milk substitutes encourages mothers to introduce artificial milk inappropriately [24].

The present study found that there is a statistically significant difference between mother's age and mother's attitude level toward feeding children, which is in contrast with another similar study in Saudi Arabia [20].

Conclusion and Recommendations

Based on the findings of this study, it was concluded that ~46% of mothers had poor knowledge and 70% had positive attitude toward feeding their children. Concerning mothers' feeding practice of their children, the study concluded that it was less satisfactory.

Emerging from the study findings, the researchers recommend extending the coverage of the project for the first 1000 days of a child's life to cover all mothers and children in low socioeconomic status regardless of the number of children in families. Encouraging education among rural girls who will be mothers in the future, hoping to be aware enough to feed their children correctly.

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Conflicts of interest

There are no conflicts of interest.

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