

Knowledge, Practices and Attitude of Post-Partum Mothers regarding Breast Feeding during COVID-19

Yasmeen Khairy Mohamed Selim⁽¹⁾, Samah Abd-Elhaliem Saeed⁽²⁾, Hemmat Mostafa El-Banna⁽³⁾ and Mai Mahmoud Hassan⁽⁴⁾

(1) B.S.C. in Nursing (2013), Faculty of Nursing- Benha University, Nursing Specialist at Bahtim Hospital.(2,3) Assistant Professor of Obstetrics and Gynecological Nursing, Faculty of Nursing- Benha University .(4) Lecture of Obstetrics and gynecological Nursing, Faculty of Nursing Benha University.

Abstract

Background: Breastfeeding is the cornerstone of infant and young child survival, nutrition, development and also, for maternal health. **Aim:** The research aimed to assess knowledge, practices and attitude of post-partum mothers regarding breast feeding during COVID-19. **Research design:** A descriptive design was utilized. **Setting:** This study was conducted at postnatal unit of Obstetrics & Gynecological Department in Benha University hospital. **Sampling:** A purposive sample included 240 breast feeding mother. **Tools of data collection:** Four tools: were used First Tool: A structured interviewing questionnaire which consisted of three parts: Socio-demographic characteristics of mothers, obstetric history and history related to breastfeeding, Second tool: Mother's knowledge regarding breast feeding during COVID-19. Third tool: Observational checklist to assess the practice of mothers regarding breast feeding during COVID-19. Fourth tool: Modified Likert Scale to assess the attitude of mothers regarding breast feeding during COVID-19. **Results:** More than one half of the studied mothers had poor knowledge regarding breast feeding during COVID-19, more than one half of the studied mothers had satisfactory practices regarding breast feeding during COVID-19, while about two thirds of the studied mothers had positive attitude regarding breast feeding during COVID-19. **Conclusion:** More than one half of the studied mothers had poor knowledge regarding breast feeding during COVID-19 and more than one half of the studied mothers had satisfactory practices regarding breast feeding during COVID-19. Also, about two thirds of the studied mothers had positive attitude regarding breast feeding during COVID-19. Also, there was a highly positive statically significant correlation between total knowledge, total practices and total attitude regarding breast feeding during COVID-19, so the study results answered the study questions. **Recommendation:** Developing training programs for mothers to improve their knowledge and maintain optimal breastfeeding practice.

Keywords: Attitude, Breast Feeding, COVID-19, Knowledge, Post-Partum Mothers, Practice.

Introduction

The novel corona virus, COVID-19, a disease caused by SARS-CoV-2 has become a significant global health problem. With the number of infected cases and affected countries escalating rapidly, on March 11 the World Health Organization (WHO), 2020 declared COVID-19 a pandemic. Although

,majority of people are asymptomatic individuals with confirmed SARS-CoV-2, develop clinical symptoms of fever, cough and shortness of breath (Cheema et al., 2020).

post-partummothers are considered high-risk group and deserve our great attention because of the physiological changes during pregnancy and an associated

immunocompromized state that make them more susceptible to virus. Good knowledge is a prerequisite for overall practice of preventive measures aimed to reduce the disease burden, forming positive attitude and promoting positive practice to disease (**Dimopoulou et al., 2020**).

As the virus transmission occurs through respiratory droplets and mainly in close contact, amongst the proposed global health measures to reduce spread are the ,implementation of lockdowns, confinement and social distancing. Such measures have resulted in the separation of mothers and infants after birth, particularly in cases of suspected or confirmed COVID-19 positive mothers, preventing mother-baby close contact including breastfeeding. COVID-19 related policies (e.g., separation of the mother-infant) are expected to negatively impact ,maternal mental health outcomes representing a critical challenge for the development of recommendations within the maternal health care services (**Wu &McGoogan., 2020**).

Vaccines of COVID-19 teach immune systems how to fight the virus that causes COVID-19. This is still possible to get COVID-19 after vaccination. But the symptoms will likely be much less severe, helping to avoid hospitalization and death. During pregnancy, important to get corona virus vaccine to protect the pregnant women and baby, As the pregnant women at higher risk of getting seriously ill from COVID-19 and also, If get COVID-19 late in pregnancy, the baby could be at risk (**Sallam ., 2021**).

Breastfeeding has been the most globally recommended method for infant feeding. Nonetheless, breastfeeding practices differ across cultures, with exclusive and continued breastfeeding presenting higher rates in low and middle-income countries and

formula being most common in Western Europe, Australia, and North America (**Chen et al., 2020**).

The pandemic COVID-19 has also intensified the concerns of mothers regarding breastfeeding. The fear of vertical transmission through breastfeeding is currently a core concern of new mothers, and the evidence is still conflicting(**Caparros et al., 2020**) Whereas a recent study that . included a sample of six women infected with COVID-19 showed no evidence of the virus in breast milk samples(**Chen et al., 2020**), Also, recent review of 26 global and governmental guidelines reports that contrary to the initial measures adopted early in 2020, the overall current consensus recommends breastfeeding or expressed milk, including when mothers are infected(**Dimopoulou et al., 2020**).

In the specific case of mothers who tested positive for COVID-19, three possibilities should be considered: the use of formula or donor milk when the mother or the infant is too ill, the use of expressed breast milk, or the adoption of breastfeeding with precautions (e.g., use of surgical mask (**Dashraath et al., 2019**), Despite the risks . the World Health Organization supports the continuation of breastfeeding as well as postpartum skin-to-skin contact as long as the necessary precautions are adopted These . general guidelines should then inform shared decisions to be taken by parents and discussed ,with their perinatal health providers outweighing the risk of transmission and the advantages of breastfeeding (**Chandrasekharan et al., 2020**).

Nurses can play a vital role in dispelling the doubts and misconceptions among pregnant and lactating mothers regarding breast feeding. Moreover assisting mothers to receive necessary support which enable mothers to maintain optimal breastfeeding and managing common breastfeeding difficulties including

Knowledge, Practices and Attitude of Post-Partum Mothers regarding Breast Feeding during COVID-19

necessary precautions for infection prevention and control (IPC) measures (**Abdelglil et al., 2022**).

In addition nurses provide health education for mother-infant contact and breastfeeding must be based on a full consideration of not only of the potential risks of COVID-19 infection of the infant, but also the risks of morbidity and mortality associated with not breastfeeding, the inappropriate use of infant formula milks, as well as the protective effects of skin-to-skin contact (**Tomori, et al, 2020**).

Significance of study:

The mothers with known or suspected COVID-19 should adhere to standard and contact precautions during breastfeeding and comply with the recommended hygiene measures to avoid the risk of transmission through milk droplets (**Brown & Shenker, 2021**), the World Health Organization (WHO) declared the COVID-19 outbreak as a global pandemic with exponential spread worldwide. In December 2021, there was over 265,713,467 people globally affected by COVID-19 with over 5,260,888 deaths reported worldwide, and rising (**Scobie et al., 2021**).

As of the December 2021, there were 364,033 affirmed cases of COVID-19 and 20770 deaths in Egypt. The 2020 coronavirus widespread in Egypt is a portion of a continuous around the world coronavirus widespread. The primary cause of COVID-19 in Egypt was affirmed on 14 February 2020 (**Khaton, 2021**).

Post-partum mothers must adhere to preventive behaviors, which is mostly influenced by knowledge, attitudes and practices, in order to curtail spread of infection. It is also known that knowledge and attitude of public towards infectious diseases affect their

emotions and panic reactions can impede preventive attempts to control spread of infection. postpartum women form a special vulnerable group due to unique changes post-delivery placing them at a higher risk for contracting severe infection (**Goldfarb et al., 2020**). Awareness knowledge, practices among postpartum women regarding breast feeding during COVID-19 is inadequately studied (**Hegazi.,2019**), so the aim of this study was to evaluate KAP of post-partum mothers Regarding breast feeding during COVID-19.

Aim of the study:

This study aimed to assess Knowledge, practices and attitude of post-partum mothers regarding breast feeding during COVID-19.

Research study Question:

- 1-What is the knowledge level of mothers regarding breast-feeding during COVID-19?
- 2-What is the practice level of mothers regarding breast-feeding during COVID-19?
- 3-What is the attitude level of mothers regarding breast-feeding during COVID-19?

Study design:

A descriptive study design was utilized.

Study setting:

The study was conducted at Obstetrics & Gynecological department at Benha University hospital.

Sampling:

type: A Purposive sample .

Size: All post-partum mothers who attended in the Obstetrics and Gynecological Department in previous mentioned setting at the time of data collection for six months and meet inclusion criteria, total number was (240) post-partum mothers.

Inclusion criteria:

- 1- Post-partum mothers who start breast-feeding immediately after delivery.

- 2- Free from any disease that prevent breast-feeding.

Exclusion criteria:

-Post-partum mothers use artificial feeding

Tools of data collection:

Three tools were used for data collection.

Tool (I): A structured interviewing Questionnaire Sheet:

It was designed by the researcher after reviewing the related literature It was adapted from

(**Abirami et al., 2020**), and written in a simple

Arabic language and consisted of four parts:

Part (1): Socio-demographic characteristics of mothers it was contain 5 questions such as age, level of education, residence, occupation status and type of family.

Part (2): Obstetric history which contain (**4 questions**) such as type of delivery, the number of births, complication during delivery and complications after childbirth.

Part (3): History related to breastfeeding which contain (**4 questions**) such as previous breastfeeding before, time of starting breast-feeding, maternal lactation, and sources of information about breastfeeding.

Part (4): Mothers knowledge regarding breast feeding during COVID-19 which contain (**22 questions**) such as definition of COVID-,19 what Other viruses belong to the coronavirus COVID-19 family, the virus is mutating rapidly, effect of weather on COVID-19 , how is COVID-19 passed on, what are the common symptoms of COVID-19, Symptoms appear within, what are Complications of COVID-19, what dose should be done if hands touch the sink, the use of water-free sanitizers containing alcohol is encouraged for what type of patient, what are the benefits of rubbing hands with alcohol when hands are not visibly dirty, How to avoid transmit of COVID-19 to the infant, breastfeeding is not recommended for mothers who have COVID-19, Benefits of breastfeeding for the mother, what are the benefits of breastfeeding for infant, at what age can a child rely on breast milk without other

additives, what positions are used during breastfeeding, prefer one of a certain position while breastfeeding, what should you do before starting breastfeeding, what should you do after breastfeeding, does a mother infected with novel (Covid-19) stop breastfeeding and is novel (Covid-19) transmitted from breastfeeding mothers to the infant.

Scoring system of knowledge::

The correct answer was scored as a (1) point and the incorrect answer was scored as a (zero) point. These scores was summed and converted into a percent score.

Total score: It was classified into 3 categories:

- **Good** knowledge score $\geq 70\%$.

- **Average** knowledge score from 50 - 70%.

- **Poor** knowledge score $<50\%$.

Tool (II): Practice observational checklist: It was adapted from (**McIntosh et al., 2020**) it was used to assess the practice of mothers regarding breast feeding during COVID 19 it was contain (**19 questions**) such as frequently washed hands with soap and water, used alcohol as a hand sanitizer, especially before touching the child ,clean the breast and nipple from front to back before breastfeeding, clean all parts of the feeding bottle before using it, sat relaxed and comfortable while breastfeeding the child ,the child's body is adjacent to the mother, put the baby face to face while breastfeeding, gave him both breasts alternately, squeeze the breast by placing the thumb on the areola above the nipple and the forefinger on the areola below nipple, moved fingers from time to time on infant cheek to alert him, let the baby automatically put his mouth away ,scratched the baby after breastfeeding ,wore a medical mask during any contact with a child, replace medical masks as soon as they become wet and dispose immediately ,covered nose and mouth while sneezing and coughing ,follow the rules of distancing 6 feet between the child and visitors, avoided reusing face masks or touching from front, wear disposable gloves when

Knowledge, Practices and Attitude of Post-Partum Mothers regarding Breast Feeding during COVID-19

touching infant and do not put the medical mask on the child to avoid the risk of suffocation.

Scoring system:

Each item was given a score (1) for done and score (Zero) for not done

Total practice Scoring system:

- Satisfactory practice score $\geq 60\%$.
- Unsatisfactory practice score $< 60\%$.

Tool (III) : Modified Likert Scale :

It was adapted from (Pariyar et al.,2020) to assess the attitude of mothers regarding breast feeding during COVID 19 it was contain (18 questions).

Scoring system of attitude:

Each statement was given a score according to mother's responses as follow, responses were (1) for "agree", (2) for "sometimes", (3) for "disagree". The scoring was reversed for negative statements; the scores of the items were summed up and converted into a percentage score.

Total attitude Score:

- Positive attitude score $\geq 60\%$.
- Negative attitude score $< 60\%$.

Tools validity:

Tools of data collection were reviewed by three panel expertise of obstetrics and gynecology in nursing faculty of nursing Benha University to test content validity, Clarity, relevance and applicability. No modifications were done.

Tool reliability:

was applied for testing the internal consistency of the tools by administration of the same subjects under similar conditions on one or more occasions through Cronbach's Alpha test, the internal consistency of knowledge assessment questionnaire was 0.96, the internal consistency of attitude assessment was 0.87 and the internal consistency of practices was 0.89.

Ethical considerations: -

- The study approval was obtained from Scientific Research Ethical Committee at Faculty of Nursing, Benha University before starting the study.
- Each mother was informed about the study aim then a written consent was obtained before starting the data collection.
- No harm or any physical, social or psychological risk for participants.
- Confidentiality was ensured throughout the study process, and the mothers were assured that all data was used only for research purpose.
- Each mother was informed that participation is voluntary and freedom to withdraw from the study at any time.

Pilot study:

The pilot study was conducted on 10% of the study time (3weeks) which consisted of 24 mother to test the content, and estimate the time required to fill in the questionnaires. Based on the results of the pilot study, There is no modification was required. So, mothers included in the pilot study were included in the total sample size.

Field work:

The study was carried out from the beginning of June, 2021 till the end of November, 2021 covering six months. An ethical approval from directors of Benha Hospital University was taken Then, the researcher visited the previous mentioned setting for three days per week (Sunday, Tuesday, and Thursday started from 9 am to 2 pm.

Preparatory phase:

The preparatory phase was the first phase of the study and included reviewing of related past, current, local and international literatures as well as theoretical knowledge of various aspects of the study using books, articles, internet, and magazines to develop tools of

data collection. During this phase, the researcher visited the selected study settings. Development of the tools of data collection were done under supervisors' guidance and experts' opinions were considered.

Implementation phase:

- At the beginning of the interview the researcher greeted and introduced herself to each mother.
- The researcher was explained the purpose and aim of study briefly to each mother and written consent obtained from each mother to participate in the study.
- A Structured interviewing questionnaire used to collect socio- demographic data, and obstetric history of breast feeding and knowledge of mother regarding Covid -19, which took about 20 minutes.
- An observational checklist was used to assess the practice of mothers regarding breast feeding during COVID 19. This phase took about 10 minutes.
- Then the researcher assessed attitude of breast feeding mother regarding breast feeding during COVID-19 using modified likert scale which took about 10 minutes.
- Total time of data collection for each mother ranged from 30-40 minutes.
- The researcher interviewed about 3 to 4 breastfeeding mothers per day at pre mentioned study setting.

Statistical analysis:

Collected data were coded, computed and statistically analyzed by using Statistical Package of Social Sciences version 25 SPSS program. Data were presented as frequency and percentages (qualitative variables) and mean and standard deviation (quantitative continuous variables). Correlation coefficient was calculated between knowledge, attitude and practice scores. A statistically significant difference was considered at p-value ($P \leq 0.05$), and a highly statistically significant

difference was considered at p-value ($p \leq .001$).

Limitations of study:

- The researcher suffered from noise and the presence of many people around the mothers, some post-partum mothers were tired, which required more time to fill questionnaire.
- But the researcher overcame the limitations of the study by providing a quiet place for interview with the help of nursing staff ,and permits to one of the relatives to help mother to during fill questionnaire .

Results:

Table (1): Shows that, less than half of the studied mothers 45.4% were in age ≥ 30 years old with the mean age of 30.44 ± 6.08 years. More than two fifth of the studied mothers 41.3% had secondary education. Regarding occupation, more than two thirds of the studied mothers 67.1% were house wife. More than half of the studied mothers 57.5% and 51.3% were living in rural area and had extended family type respectively.

Table (2): Shows that, less than two thirds 64.6% of the studied mothers had normal vaginal delivery. Less than half 46.6% of the studied mothers had 1-2 births. Less than one quarters 23.7% of the studied mothers had complication during delivery and less than two thirds of them 61.4% had a hemorrhage during delivery. More than one quarters of the studied mothers 26.7% had complications after childbirth and more than two thirds 67,2% of them had Postpartum hemorrhage complication.

Table (3): Illustrates that, more than three quarters of the studied mothers 84.2% had breastfeed before, less than half of them started breastfeeding within the first hour of delivery and more than half of them 52.5% breastfed for $>12 - 18$ month.

Table (4): Reveals that, more than half (55.4%, 52.5%, 51.3%, 53.7, 58.7 and 57.1%) of the studied mothers reported correct answer

Knowledge, Practices and Attitude of Post-Partum Mothers regarding Breast Feeding during COVID-19

regarding to avoid transmission COVID-19 to the infant, benefits of breastfeeding for mother, benefits of breastfeeding for infant, age can a child rely on breast milk without any other addition, done before starting breastfeeding and done after breastfeeding respectively. On other hand, about two thirds (64.2%, 61.7%, 62.9% and 63.7%) of the studied mothers reported incorrect answer regarding viruses belong to the coronavirus COVID-19, is the virus mutating rapidly, weather factors seem to affect the novel coronavirus COVID-19 and complications of COVID19 respectively.

Figure (1): Shows that more than half 55.4 of studied sample had poor knowledge about breast feeding during COVID-19.

Figure (2): reveals that 59.2 had satisfactory practice regarding breast feeding during COVID-19 .

Figure (3): Reveals that 60.4 had positive attitude and 39.6 of studied sample had negative attitude about breast feeding during COVID-19

Table (5): Illustrates that, there was highly positive statistically significant correlation between total knowledge, total practice and total attitudes scores.

Table (1): Distribution of the studied mothers according to socio-demographic characteristics (n=240).

Socio-demographic characteristics	No	%
Age (years)		
20 > 25	56	23.3
25 > 30	75	31.3
≥ 30	109	45.4
Mean ±SD		30.44±6.08
Educational level		
Illiterate	17	7.1
Basic education	67	27.9
Secondary education	99	41.3
University education	57	23.7
Occupation		
House wife	161	67.1
Employee	79	32.9
Residence		
Rural	138	57.5
Urban	102	42.5
Type of family		
Nuclear	117	48.7
Extended	123	51.3

Table (2): Distribution of studied mothers according to obstetrical history (n=240).

Obstetrical history	No	%
Type of delivery		
Normal vaginal delivery	155	64.6
Caesarean section	85	35.4
Number of births		
1-2	112	46.6
3-4	99	41.3
>4	29	12.1
Complications during delivery		
Yes	57	23.7
No	183	76.3
Type of complications during delivery (n=57)		
Fetal malpresentation	22	38.6
Hemorrhage	35	61.4
Post-partum complications		
Yes	64	26.7
No	176	73.3
Type of the post-partum complications (n=64)		
Postpartum hemorrhage	43	67.2
Puerperal sepsis	21	32.8

Table (3): Distribution of studied mothers according to history of breastfeeding (n=240).

Breastfeeding history	No	%
Previous breastfeeding		
Yes	202	84.2
No	38	15.8
Time of starting breastfeeding (n=202)		
Immediate after delivery	31	15.3
Within first hour	88	43.6
After two hours	83	41.1
Maternal Lactation Period (n=202)		
≤6 months	17	8.4
>6 – 12 month	55	27.2
>12 – 18 month	106	52.5
>18 – 24 month	24	11.9

Knowledge, Practices and Attitude of Post-Partum Mothers regarding Breast Feeding during COVID-19

Table (4): Distribution of studied mothers' according to their knowledge about breast feeding during COVID-19 (n=240)

Knowledge Items	Correct answer		Incorrect answer	
	No	%	No	%
Definition of COVID-19	95	39.6	145	60.4
viruses belong to the coronavirus COVID-19	86	35.8	154	64.2
The virus mutating rapidly	92	38.3	148	61.7
Weather factors seem to affect the novel coronavirus COVID-19	89	37.1	151	62.9
COVID-19 passed on	101	42.1	139	57.9
The common symptoms of COVID-19	111	46.3	129	53.7
COVID-19 symptoms appear within	103	42.9	137	57.1
The complications of COVID19	87	36.3	153	63.7
Precautions done when hands touch the sink What should done	96	40.0	144	60.0
Use of alcohol-based waterless antiseptic is encouraged for which types of clients	116	48.3	124	51.7
The benefits alcohol-based hand rub	99	41.3	141	58.7
Avoid transmission COVID-19 to the infant	133	55.4	107	44.6
Breastfeeding is not recommended for mothers who have	95	39.6	145	60.4
Exclusive breastfeeding important	114	47.5	126	52.5
The benefits of breastfeeding for mother	126	52.5	114	47.5
The benefits of breastfeeding for infant	123	51.3	117	48.7
The age can a child rely on breast milk without any other addition	129	53.7	111	46.3
Positions are used during breastfeeding	108	45.0	132	55.0
Principle before starting breastfeeding	141	58.7	99	41.3
Principle after breastfeeding	137	57.1	103	42.9
The mother with Covid-19 should stop breastfeeding	109	45.4	131	54.6
The emerging corona virus (Covid-19) in breastfeeding mothers transmitted to the infant	107	44.6	133	55.4

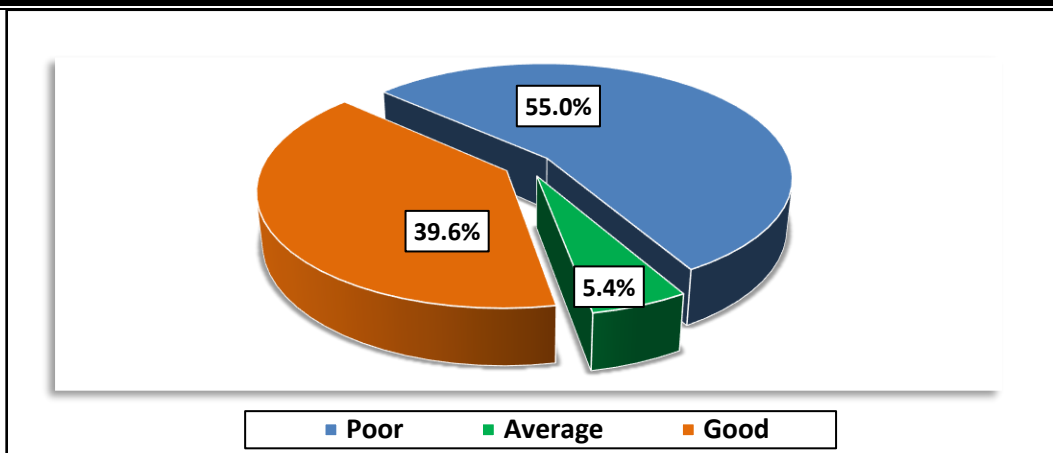


Figure (1): Percentage Distribution of studied mothers' regarding total knowledge about breast feeding during COVID-19 (n=240)

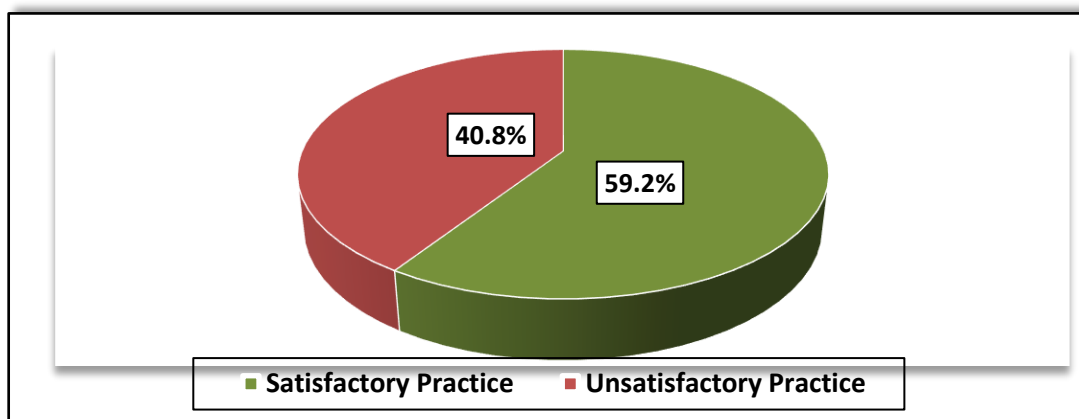


Figure (2): Percentage Distribution of studied mothers total practices regarding breast feeding during COVID-19 (n=240)

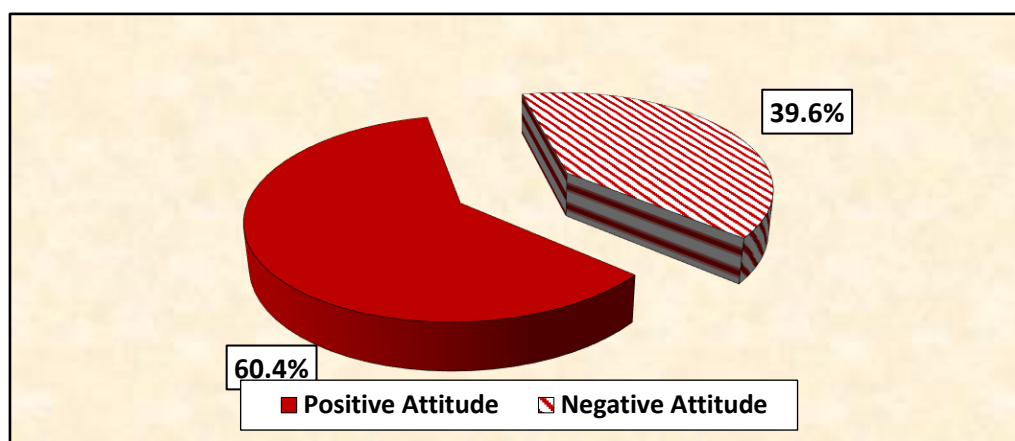


Figure (3): Percentage Distribution of studied mothers' total attitude regarding breast feeding during COVID-19 (n=240)

Table (4): Correlation between total knowledge score, total practices score and total attitude scores among studied mothers (n=240).

Variables		Total practices	Total attitude
Total knowledge	r	0.73	0.71
	p-value	0.000**	0.000**
Total practices	r		0.97
	p-value		0.000**

Discussion

The pandemic of COVID-19 is disrupting normal life globally, every area of life is affected. The pandemic demands quick action and as new

information emerges, reliable synthesizers and guidelines for care are urgently needed. Breastfeeding protects mother and child; Breastfeeding have health benefits and are

Knowledge, Practices and Attitude of Post-Partum Mothers regarding Breast Feeding during COVID-19

undisputed and based on evidence. To plan and support breastfeeding within the current pandemic (Ayalew., 2020).

Regarding socio demographic characteristics, the present study results showed that less than half of studied mothers aged more than and equal to 30 years old with the mean age 30.44 ± 6.08 years. This finding was in same line with Zahra et al., (2021) who conducted a study titled as " Impact of COVID 19 pandemic on knowledge, practice and mental health of breastfeeding women: experience of Souissi maternity hospital of Rabat, Morocco" and reported that mean age of the studied women was 27.42 ± 5.3 years old .from researcher point of view, this result might be due to increase age of marriage among Egyptian women.

Regarding the level of education, the present study revealed that more than two fifths of the studied mothers had secondary education. conversely, this outcome contracted with • Aduloju et al., (2020) in study entitled " Knowledge, attitude and practice of preventive measures against coronavirus disease 2019 among pregnant women in a tertiary health facility in southwest Nigeria" and reported that less than two thirds of the studied sample had university education .this is may be due to some women in Egypt culture prefer marriage than education.

Regarding occupation, the present study results displayed that about more than two thirds of the studied mothers were housewives, this outcome matched with study by Kandeel et al., (2018) who conducted a study titled as "Determinants of exclusive breastfeeding in a sample of Egyptian infants" and showed that less than two thirds of the studied mother were housewives. On of the hand, this finding disagreed with Temesgan et al., (2022) they conducted study titled as " Breastfeeding practice and factors associated with exclusive

breastfeeding among mothers in Horro District, Ethiopia" and showed that only less than ten percent of the studied mother were housewives. This is may be due to different of study sittings and samples.

Concerning the type of family; the current study revealed that more than half of the studied mothers had extended family. From the researcher point of view; this result might be due to more than half of the studied sample in study living at rural areas. This study matched by Hassan et al., (2019) in study entitled " Breast Feeding Knowledge and Practices Among Primiparous Women with Caesarean Section" and reported that more than half of studied women were from extended families. however, this finding contradicted with Aneesha et al., (2019)) in study " Knowledge regarding breast engorgement among primi postnatal mothers admitted in Amala Institute Medical Sciences, Thrissur" and mentioned that half of studied women belong to nuclear family. This is may be due to most rural family like to live in extended family.

As regard residence, the present study reported that most of the studied sample were living in rural area. This result may be due to location of Benha University Hospital which is surrounded by large rural areas, and therefore, the majority of women who attend are from the rural.

Additionally related to obstetric history, the current study revealed that less than half of the studied mothers had 1-2 births. Less than one quarters of the studied mothers had complication during delivery and less than two thirds of mothers had a hemorrhage as post-partum complication. These results supported by the study conducted by Adhikari et al., (2020) titled as "Evaluation of knowledge, attitude, practice and hospital experience regarding COVID- 19 among post-

partum mothers at a tertiary care center: A cross-sectional Study" stated that less than one fifth of studied mothers suffered from postpartum complication. From researcher point of view, this result might be due to compliance of mothers with physician instructions during follow-up.

Concerning previous breastfeeding, the present study showed that the majority of the studied mothers had breastfeed before, This may be due to previous parity which help increasing awareness of the studied mothers about importance of breast feeding for infant and for mothers . This outcome supported with study by **Yu et al., (2022)** titled as " The impact of the Covid-19 pandemic on maternal delivery experiences and breastfeeding practices in China" and illustrated that most of the studied mothers had breastfeed before,

Regarding to time of starting breastfeeding, the current study showed that, less than half of the studied mothers started breastfeeding within the first hour of delivery. On other hand, this result contracted with study by **Tsegaw et al., (2021)** entitled " Exploring the determinants of exclusive breastfeeding among infants under-six months in Ethiopia using multilevel analysis" and found that more than two thirds of the studied mothers initiate breastfeeding after birth immediately. From the researcher point of view, this difference may be due to lack of anticipatory guidance and support to initiate breastfeeding immediately after delivery, in addition to the pain resulted from caesarian section and episiotomy among the studied women who had vaginal delivery. This is may be attributed to delay in establishing breastfeeding.

Also, related to lactation period, the current study detected that more than half of mothers breastfed for more than 12 – 18 month. .This result disagreed with study by **Thomas, et al., (2016)** about" an Assessment of the Breastfeeding Practices and Infant Feeding

Pattern among Mothers in Mauritius and reported that more than quarter of mothers were found to breastfeed up to two years. from researcher point of view, This may be due to around two thirds of studied mothers had secondary and university education which had good knowledge about benefits.

On investigating knowledge of studied mothers about breast feeding during COVID-19, the present study revealed that, more than half of the studied mothers reported correct answer regarding "How to avoid transmission of COVID-19 to the infant, benefits of breastfeeding for mother, and infant, age in which a child can rely on breast milk without any other addition, and principles before and after starting breastfeeding". These findings were in same line with a study conducted by **Temesgan et al., (2022)** entitled " Adherence to COVID-19 preventive practice and associated factors among pregnant women in Gondar city, northwest Ethiopia, 2021" and found that less than two thirds of the studied sample had adequate knowledge about "Avoid transmission COVID-19 to the infant, benefits of breastfeeding for mother, and infant, age in which a child can rely on breast milk without any other addition and principles before and after starting breastfeeding".

Regarding total knowledge about breastfeeding during COVID-19, the present study illustrated that more than half of the studied mothers had poor knowledge, This outcome matched with study by **El-Ghany et al., (2022)** who conducted study Titled as " Effect of Precaution Guidelines on Breast Feeding Women during COVID-19 Pandemic in Beni Suef City" and reported that more than two thirds of the studied mothers had bad knowledge about breast feeding during COVID-19. On other hand, this finding disagreed with study by **Manikpuri et al., (2022)** who conducted study titled as "A Study to Assess the effectiveness of Planned

Knowledge, Practices and Attitude of Post-Partum Mothers regarding Breast Feeding during COVID-19

Teaching Program on Knowledge and Attitude Regarding COVID-19 Pandemic Among Pregnant Women Attending Antenatal Clinic at Saheed Hospital Dallirajhara" and showed that less than three quarters of the studied mothers had average of knowledge Regarding COVID-19.

Concerning total practices of studied mothers regarding breast feeding during COVID-19, the present study illustrated that more than half of the studied mothers had satisfactory practice regarding breast feeding during COVID-19. This result agreed with **Khaton, (2021)** who conducted study titled as " Awareness and Practices of Rural Mothers Regarding COVID-19 Prevention and their Role in Protecting their Families" and showed that is more than half of the studied mothers had good practice regarding breast feeding during COVID-19 .From the researchers' point of view, this result might be related to the mother gave birth more than once.

In relation to studied mothers' total attitude regarding breast feeding during COVID-19, the present study displayed that less than two thirds of the studied mother had positive attitude toward breast feeding during COVID-19, this outcome came in same line with study by **Bhadouria, and Anil, (2021)** entitled " A Study to Assess the Knowledge, Practices and Attitude of Mothers on Newborn Care during COVID-19 Pandemic" and reported that more than one third of the studied mother had positive attitude toward breast feeding during COVID-19.

Regarding Correlation between total knowledge score, total practices score and total attitude scores among studied mothers, the present study Illustrated that, there was positive statistical correlation between total knowledge, total practice and total attitudes scores . This outcome was in accordance with study conducted by **Setyowati et al.,**

(2022)and titled as " The Health Education Packages using Android Applications to Improve Knowledge and Attitudes in Pregnant, Post-partum and Lactating Women in Preventing COVID-19 Transmission and Self-Care" and showed that positive statistical correlation between total knowledge, total practice and total attitudes scores among studied women. Moreover, this result supported with **Abd Alfataha et al., (2022)** in study entitled "assessment of knowledge and practice regarding breast feeding among working and non-working mothers" and showed that positive statistical correlation between total knowledge, total practice and total attitudes scores among studied women.

Conclusion:

More than **one** half of the studied mothers had poor knowledge and more than **one** third of the studied mothers had unsatisfactory practices. Finally, there was a highly positive statically significant correlation between total knowledge, total practices and total attitude. The present of the study answered the research questions and achieve the aim of the study.

Recommendations:

- Training programs to breast feeding mothers about breastfeeding guidance during COVID19 pandemic according to WHO is very essential to increase level of knowledge and maintain optimal breastfeeding practice.
- Well-designed brochures about the recommended breast feeding practices during COVID-19 should be designed and distributed among breast feeding mothers to increase their level of awareness.

Further studies to be performed:

- Replication of present study on a large sample in different setting for generalizing the findings.

References:

- Abd Alfataha, A. R., Mohamady, S. H., & Farg, D. S. S. (2022).** Assessment of knowledge and practice regarding breast feeding among working and non-working mothers. *ASSESSMENT*, 5(2),P: 33-54.
- Abdelgilil, A. A., Mohamed, H. I., & Elfeshawy, N. I., (2022).** Assessment of Nurse's Knowledge and attitude regarding WHO breastfeeding guideline during COVID-19. *Tanta Scientific Nursing Journal*, 24(1),P: 339-359.
- Abirami, M., Abishek, B., Gayathri, K., Amudha, S., Suvetha, P., & Joseph, V. M., (2020).** A Descriptive Study to Assess the Paternal Knowledge and Attitude towards Exclusive Breastfeeding in a Selected Tertiary Care Setting, Kanchipuram District, Tamil Nadu, India. *Medico Legal Update*, 20(2), P:90-94.
- Adhikari, S. P., Pariyar, J., Sapkota, K., Gurung, T. K., & Adhikari, S. R., (2020).** Evaluation of knowledge, attitude, practice and hospital experience regarding COVID-19 among post-partum mothers at a tertiary care center: A cross-sectional study, *Kathmandu University Medical Journal*, 18(2), P:10-14.
- Aduloju, O. P., Okunola, T. O., Adefisan, A. S., & Aduloju, T., (2021).** Knowledge, attitude and practice of preventive measures against coronavirus disease 2019 among pregnant women in a tertiary health facility in southwest Nigeria, *Int J Clin Obstet Gynaecol*, 5(3), P:101-7.
- Amsalu, E., (2021).** Exploring the determinants of exclusive breastfeeding among infants under-six months in Ethiopia using multilevel analysis. *Plos one*, 16(1), P: 245034.
- Aneesha V., Baby M., Neena K., Sunny R., and Souparnika P., (2019).** Knowledge regarding breast engorgement among primi postnatal mothers admitted in Amala Institute Medical Sciences, Thrissur. *Journal of Midwifery, Women Health and Gynaecological Nursing*, 2019, 2(1), P:26-33
- Ayalew, T. (2020).** Exclusive breastfeeding practice and associated factors among first-time mothers in Bahir Dar city, north West Ethiopia, removed: a community based cross sectional study. *Heliyon*, 6(9), P: 4732.
- Bhadouria, N., & Anil, M., (2021).** A Study to Assess the Knowledge, Practices and Attitude of Mothers on Newborn Care during COVID-19 Pandemic. *Annals of the Romanian Society for Cell Biology*, 25(6), P:11828-11841.
- Brown, A., & Shenker, N. (2021).** Experiences of breastfeeding during COVID-19: Lessons for future practical and emotional support, *Maternal & child nutrition*, 17(1), p:13088.
- Chandrasekharan, P., Vento, M., Trevisanuto, D., Partridge, E., Underwood, M. A., Wiedeman, J., & Lakshminrusimha, S. (2020).** Neonatal resuscitation and post resuscitation care of infants born to mothers with suspected or confirmed SARS-CoV-2 infection, *American journal of perinatology*, 37(08), P: 813-824.
- Cheema, R., Partridge, E., Kair, L. R., Kuhn-Riordon, K. M., Silva, A. I., Bettinelli, M. E., & Blumberg, D. (2020).** Protecting breastfeeding during the COVID-19 pandemic. *American journal of perinatology*, 9(2), P:160.
- Chen, H., Guo, J., Wang, C., Luo, F., Yu, X Zhang, W. & Zhang, Y., (2020).** Clinical characteristics and intrauterine vertical transmission potential of COVID-19 infection in nine pregnant women: a retrospective review of medical records. *The lancet*, 395(10226), 809-815
- .Dashraath, P., Wong, J. L. J., Lim, M. X ,K., Lim, L. M., Li, S., Biswas, A., ... & Su L. L. (2020).** Coronavirus disease 2019

Knowledge, Practices and Attitude of Post-Partum Mothers regarding Breast Feeding during COVID-19

(COVID-19) pandemic and pregnancy. American journal of obstetrics and gynecology, 222(6):P:531-521

Dimopoulou, D., Triantafyllidou, P & Daskalaki, A., Syridou, G Papaevangelou, V. (2020). Breastfeeding during the novel coronavirus (COVID-19) pandemic: guidelines and challenges. The Journal of Maternal-Fetal & Neonatal MedicineP:7-1

El-Ghany, A., Mustafa, G., & Hassan, L. A. A. (2022). Effect of Precaution Guidelines on Breast Feeding Women during COVID-19 Pandemic in Beni Suef City. Tanta Scientific Nursing Journal, 24(1), P:31-53.

Goldfarb, L. A., Dykens, E. M., & Gerrard, M. (2020). The Goldfarb fear of fat scale. Journal of Personality Assessment, 49(3),P: 329-332.

Gonzalez, Caparros, R. A., Pérez, Morente, M. A., Hueso, Montoro, C., Álvarez-Serrano, M. A., & de la Torre-Luque, A. (2020). Congenital, intrapartum and postnatal maternal-fetal-neonatal SARS-CoV-2 infections: A narrative review. Nutrients, 12(11),P: 3570.

handrasekhara Cn., Trevisanuto, D ,Partridge, E., Underwood, M. A ,Wiedeman, J. & Lakshminrusimha S.,(2020). Neonatal resuscitation and postresuscitation care of infants born to mothers with suspected or confirmed SARS-CoV2 infection. American journal of perinatology, (37)08, P:813-824.

Hassan, H. E., EL-Kholy, G. A., Ateya, A. A., & Hassan, A. A., (2019). Breast Feeding Knowledge and Practices Among Primiparous Women with Caesarean Section: Impact on Breast Engorgement in Upper Egypt. International Journal of Health and Biological Sciences, 2(3), P:16-41.

Kandeel, W. A., Rabah, T. M., Zeid, D. A., El-Din, E. M. S., Metwally, A. M., Shaalan,

A. & Shaaban, S. Y., (2018). Determinants of exclusive breastfeeding in a sample of Egyptian infants, Open access Macedonian journal of medical sciences, 6(10), P:1818 .

Khaton, S. (2021). Awareness and Practices of Rural Mothers Regarding COVID-19 Prevention and their Role in Protecting their Families, Tanta Scientific Nursing Journal, 20(1), P:255-276.

Manikpuri, P., Bishwal, A., Santosh, S., & Pillai, S. (2022). A Study to Assess the Effectiveness of Planned Teaching Programme on Knowledge and Attitude Regarding COVID-19 Pandemic Among Pregnant Women Attending Antenatal Clinic at Saheed Hospital, Dallirajhara International Journal of Recent Advances in Multidisciplinary Topics, 3(5), P: 213-215.

McIntosh, K., Hirsch, M. S., & Bloom, A., (2020). Coronavirus disease 2019 (COVID-19): Epidemiology, virology, and prevention, Lancet, Infect. Dis, 1, 2019-2020.

Ministry of health and population Egypt“mohp” (2021) .COVID-19 in Egypt :Available at <https://www.care.gov.eg/EgyptCare/index>.

Pariyar, J,Sapkota,K, Gurung ,T,K,& Adhikari,S.R. , A., (2020) Evaluation of Knowledge attitudes and practice of hospital experience regarding COVID 19 among post-partum mothers at tertiary care center, Kethmand University Medical Journal 18(2), P:10-14.

Sallam M. , (2021). COVID-19 vaccine hesitancy worldwide: a concise systematic review of vaccine acceptance rates. Vaccines, 9(2), P:160.

Scobie, H. M., Johnson, A. G., Suthar, A. B., Severson, R., Alden, N. B., Balter, S., & Silk, B. J. (2021). Monitoring incidence of COVID-19 cases, hospitalizations, and deaths, by vaccination status—13 US jurisdictions, April

4–July 17, 2021. Morbidity and Mortality Weekly Report, 70(37),p: 1284.

Setyowati, S., Afiyanti, Y., Nurahmawati, I., & Sari, E. P., (2022). The Health Education Packages using Android Applications to Improve Knowledge and Attitudes in Pregnant, Post-partum and Lactating Women in Preventing COVID-19 Transmission and Self-Care, available at [https://doi.org /10.21203/rs.3.rs-1165938/v1](https://doi.org/10.21203/rs.3.rs-1165938/v1)

Temesgan, W. Z., Aklil, M. B., Yacob, H. S., Mekonnen, E. T., Tegegne, E. D., Tesfa, E. B., ... & Seyoum, T., (2022). Adherence to COVID-19 preventive practice and associated factors among pregnant women in Gondar city, northwest Ethiopia, 2021: Community-based cross-sectional study. *PloS one*, 17(3), P: 264237.

Thomas, J. V., (2016). Barriers to exclusive breastfeeding among mothers during the first four weeks postpartum18(2), P:10-14.

Tomori, C., Gribble, K., Palmquist, A. E., Ververs, M. T., & Gross, M. S. (2020). When separation is not the answer: Breastfeeding mothers and infants affected by COVID-19, *Maternal & Child Nutrition*, 16(4), P:13033.

Tsegaw, S. A., Ali Dawed, Y., & Tadesse Wu, Y., Liu, C., Dong, L., Zhang, C., Chen Y., Liu, J. & Huang, H., (2020). Coronavirus disease2019 among pregnant Chinese women: case series data on the safety of vaginal birth and breastfeeding, *BJOG An : & International Journal of Obstetrics Gynaecology*, 127(9) P: 1115-1109

Wu, Z., & McGoogan, J. M. (2020). Characteristics of and important lessons from the coronavirus disease 2019 (COVID-19) outbreak in China: summary of a report of 72 314 cases from the Chinese Center for Disease Control and Prevention. *Jama*, 323(13), P:1239-1242.

Yu, J., Gao, M., Wei, Z., Wells, J. C., & Fewtrell, M., (2022). The impact of the Covid-

19 pandemic on maternal delivery experiences and breastfeeding practices in China: data from a cross-sectional study, *BMC pediatrics*, 22(1), P:1-11.

Zahra Laamiri, F., Barich, F., Slaoui, A., Hasswane, N., Kharbach, A., Aguentaou, H., & Barkat, A., (2021). Impact of covid 19 pandemic on knowledge, practice and mental health of breastfeeding women: experience of souissi maternity hospital of Rabat, Morocco. In *E3S Web of Conferences Vol. (319)*, P: 1040. EDP Sciences.

معلومات وممارسات واتجاهات الامهات بعد الولادة فيما يتعلق بالرضاعة الطبيعية خلال جائحة كورونا

ياسمين خيرى محمد - سماح عبد الحليم سعيد - همت مصطفى البنا - مي محمود حسن

الرضاعة الطبيعية هي حجر الزاوية لبقاء الرضع وصغار الأطفال وتغذيتهم ونموهم وكذلك لصحة الأم. لذا هدفت الدراسة إلى تقييم معلومات وممارسات واتجاهات الأمهات بعد الولادة فيما يتعلق بالرضاعة الطبيعية أثناء كوفيد-19. حيث تم استخدام تصميم وصفي. وقد أجريت هذه الدراسة في قسم أمراض النساء والتوليد بمستشفى جامعة بنها علي عينة هادفة في الدراسة اشتملت 240 من الأمهات المرضعات. واطهرت النتائج بأن أكثر من نصف الأمهات الخاضعات للدراسة لديهن معلومات ضعيفة بالرضاعة الطبيعية خلال كوفيد-19 ، أكثر من نصف الأمهات الخاضعات للدراسة كان لديهن ممارسات مرضية فيما يتعلق بالرضاعة الطبيعية خلال كوفيد-19 ، بينما كانت حوالي ثلثي الأمهات الخاضعات للدراسة إيجابية الاتجاه فيما يتعلق بالرضاعة الطبيعية أثناء كوفيد-19. كما ان أكثر من نصف الأمهات الخاضعات للدراسة لديهن معلومات ضعيفة بالرضاعة الطبيعية خلال كوفيد-19 وأكثر من نصف الأمهات الخاضعات للدراسة كان لديهن ممارسات مرضية فيما يتعلق بالرضاعة الطبيعية خلال كوفيد-19. أيضاً ، كان لدى حوالي ثلثي الأمهات الخاضعات للدراسة اتجاه إيجابي تجاه الرضاعة الطبيعية خلال كوفيد-19. أيضاً ، كانت هناك علاقة ارتباط ذات دلالة إحصائية موجبة للغاية بين المعلومات الكلية والممارسات الكلية والاتجاه الكلي فيما يتعلق بالرضاعة الطبيعية أثناء كوفيد-19 ، لذلك أجابت نتائج الدراسة على أسئلة الدراسة. واوصت الدراسة تطوير برامج تدريبية للأمهات لتحسين معلوماتهن والحفاظ على ممارسة الرضاعة الطبيعية المثلى.