Assessment of Newly Mothers` Preventive Practices regarding COVID-19 Pandemic

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1.ABSTRACT

Background: Worldwide, coronavirus disease 2019 (COVID-19) has been announced as the most disturbing event that put people under major stress and added additional complexity to newly mothers. **Aim**: The study aimed to assess newly mothers` preventive practices regarding COVID-19 pandemic. **Method:** A descriptive cross sectional study was utilized. **Study subjects:** A convenient sample of 192 newly mothers attended at the Governmental Health Unit in Aga city, Dakahlia, Egypt, during the six wave of COVID-19 pandemic (July 2022 to September 2022). **Data collection tool**: A structured interview questionnaire was utilized. **Results:** The study result revealed that around two third of them reported that they didn`t wash hands before feeding the baby, didn`t sterilize the bottle for the baby and didn`t wear a face mask when breastfeeding baby. **Conclusion:** A bout half of the studied newly mothers had poor preventive practices regarding COVID-19 pandemic. **Recommendation:** Raising newly mothers` awareness regarding preventive practices during COVID-19 pandemic.

Keywords: COVID-19 Pandemic, Newly Mothers, Preventive Practices

2.Introduction

In December 2019, an unexplained pneumonia outbreak was found to be associated with a novel coronavirus (**Shi et al., 2020**). On Feb 11, 2020, WHO announced the pandemic disease as 2019- new coronavirus disease (COVID-19).

Coronavirus disease 2019 is the seventh corona virus identified to be contagious to humans (Antoun et al., 2020).

COVID-19 was caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) originated in Wuhan, China. The first cases were then reported from Thailand, Japan, and the Republic of Korea, and then spreading all over the world in a short period of time (Fikadu et al., **2021**). Although majority of people are asymptomatic, individuals with confirmed SARS-CoV-2 characterized by different signs and symptoms such as fever, dry cough, fatigue, myalgia, and dyspnea. It is a highly infectious disease that leads to numerous health problems such as pneumonia, multi- organs failure and even death (Omar et al., 2021). It can be transmitted through the respiratory droplet, close contact, fecooral and physical contact. It has an incubation period of 2-14 days (Ayele et al., 2021).

Newly mothers are the mothers who delivered recently for the first time during the first

forty days. They are considered a risky population for COVID-19 due to the physiological changes that occurred during the previous pregnancy period and in the current post-partum period such as immune- globulin suppression and increased oxygen consumption that make them more susceptible to virus (Adhikari et al., 2020).

Transition to motherhood especially primiparous women during the COVID-19 pandemic, is very challenged period for the newly mothers (Spinola, Liotti, Speranza, & Tambelli, 2020). This period can be safely pass if the newly mothers have adequate knowledge about preventive measures that had been developed by World Health Organization (WHO) (Diriba, Awulachew, & Getu, 2020).

Preventive measures recommended by WHO to prevent the wide spread of COVID-19 pandemic varied from wearing facemask, hand washing for at least 20 seconds, covering mouth and nose when cough or sneeze, avoiding touching eyes, nose and mouth with unwashed hands, use of disinfectants to clean hands when water and soap were not available for washing hands, physical distancing, disinfecting mobile phone, disinfecting surfaces and staying home when sick or when have a cold (**Guo et al., 2020**). In Egypt, these preventive measures have been adopted to prevent further spread of the virus in the country. The Egyptian government had engaged in media campaigns to disseminate information on these preventive measures to the general public (Elgendy, El-Gendy & Abdelrahim, 2020).

2.1Significance of the study

Newly mothers and breastfeeding women have to face the COVID-19 pandemic. They had several difficulties to recognize the preventive measures of COVID-19 especially with the recommended decrease of antenatal and post-natal visits. These difficulties may impact negatively on the wide spread on the COVID-19 among this group (Dol et al., 2021). In addition, newly mothers fear of COVID-19 exposure because they are more vulnerable to infection and when they become infected the symptoms may be more severe. Transmission may occur from mother to newborn in the postpartum period (Mascarenhas et al., 2020). Several preventive measures had been recommended to prevent the spread of the disease and its associated mortality (Rice & Williams, 2021).

2.2Study Aim

The present study aimed to assess newly mothers` preventive practices regarding COVID-19 pandemic.

2.3Research question

What are the reported COVID-19 pandemic preventive practices among newly mothers?

3. Methodology

3.1Study Design

A descriptive cross sectional study design was used to describe the newly mothers` preventive practices regarding COVID-19 pandemic.

3.2Study Setting

This study was conducted at the Governmental Health Unit in Aga City, Dakahlia, Egypt.

3.3Subjects:

The study subjects will include a convenient sample of 192 newly mothers attended the previous mentioned setting.

3.4Sample size calculation:

The previous study showed that considering power of study of 80%, Based on data from literature (**Guvenc et al., 2021**), to calculate the sample size with precision/absolute error of 5% and type 1 error of 5%: Sample size = $[(Z1-\alpha/2)2. P(1-P)]/d2$. Where, $Z1-\alpha/2$ = is the standard normal

variate, at 5% type 1 error (p<0.05) it is 1.96. P = the expected proportion in population based on previous studies. d = absolute error or precision. So, Sample size = [(1.96)2. (0.576).(1-0.576]/(0.07)2=191.5

Based on the above formula, the sample size required for the study is 192.

3.5Tool of data collection:

A structured interview questionnaire was designed by the researcher after reviewing related literatures (Adhikari et al., 2020; Oluklu et al., 2021). It consisted of three parts to measure the following:

Part (a) Socio demographic data; such as age, educational level, residence, marital status, occupation, family income.....etc.

Part (b) **Obstetric history:** place of birth, mood of delivery (normal or caesarean), history of miscarriage, type of feeding, medical health problems.... etc.

Part (c) COVID-19 pandemic reported preventive practices of the newly mothers: such as continuously washing hands well before feeding the baby, ventilating the room well before feeding baby, wearing mask while infant's feeding, breastfeeding the baby in a secluded place where there are no people, sterilizing the pacifier and bottle feeding at high temperatures for 10 minutes and breastfeeding the baby when had a cold or feeling unwell ... etc.

The scoring system: The total score will be classified into three categories as follows (El Mezayen, & Elhossiny Elkazeh, 2020):

- Good practices: > 70% of the total score.
- Fair practices: > 50 % 70 % of the total score.
- Poor practices: ≤ 50 % of the total score.

3.6Validity of the tool

The validity of the study tool was revised by a panel of 3 specialists in the field of obstetrics and gynecology nursing. Based on specialists' suggestions, minor modifications were done such as (changing in the ordering and sequences and paraphrasing of some sentences) and the final form was used for collecting the data.

3.7Reliability

The Cronbach's alpha value of the newly mothers' practices during COVID-19 pandemic was 0.887 that mean it was reliable.

3.8Pilot Study

The pilot study will be carried out on 10 % of the study sample (19 women) of the total sample

to evaluate the clarity and applicability of the study tool and will not be included in the sample size.

3.9Field work

It started from the beginning of July 2022 to the end of September 2022.

An official permission was obtained from the director of the Health Unit in Aga City to conduct the study to assess newly mothers' preventive practices regarding COVID-19 pandemic. The researcher attended four days a week, from 9 a.m. to 12 p.m.; in the previously mentioned setting till the predetermined sample size was obtained.

Each woman was individually interviewed for about 10-15 minutes to obtain data about sociodemographic data, obstetric history, COVID-19 pandemic reported preventive practices for the studied newly mothers.

3.10Data analysis:

Data analysis and presentation were accomplished using SPSS for windows version 20.0 (SPSS, Chicago, IL). Continuous data were normally distributed and were expressed in mean \pm standard deviation (SD). Chi-square test (or fisher's exact test when applicable) was used for comparison of variables with categorical data. Correlation co-efficient test was used to test for correlations between two variables with continuous data. The reliability (internal consistency) test for the questionnaires used in the study was calculated. Statistical significance was set at p<0.05.

3.11Ethical Considerations

• An official permission letter was taken from the Ethics Committee of the Faculty of Nursing, Mansoura University to conduct the study. The purpose of the study was clarified to the study subjects and written consent was obtained from the studied newly mothers to participate in the study. • The study's participation was entirely voluntary, and each participant had the ability to withdraw at any time. Throughout the study, anonymity, privacy, safety, and confidentiality were all guaranteed. The study participants were informed that the result will be used as an element of the necessary research for the Master study as well as for publication and education.

4.Result

Table 1 shows that 66.1% of the studied newly mother's ages ranged from 18 - < 25 with the mean age of 29.9 ± 3.2 , it's also obvious that (95.8%, 77.1%, 71.9, 61.5% & 42.2% respectively) of the studied newly mothers were married, had a monthly income less than 4000 pound, urban residence, were house wives, and lived in extended family and had higher education.

Table 2 presents that 63.5% of the studied newly mothers had caesarean section delivery, around 50% of the studied newly mothers gave birth in private hospitals / clinics and 89.1% were breastfeeding.

Table 3 represents that regarding reported breastfeeding preventive practices 67.2% of the studied newly mothers reported that they didn't wash hands before feeding the baby, 66.7% didn't sterilize the bottle for the child by boiling for 10 minutes, 63.5% didn't wear a face mask when breastfeeding baby, 59.4% didn't breastfeed the baby in a secluded place where there are no people and 56.3% didn't breastfeed baby if feeling symptoms of infection.

Table 4 shows that 100.0% of the studied newly mothers who had poor practices aged from 18-<25 and were rural residence. 51.6% of them were middle educated with highly statistical significant association (p=< 0.001). Also, 91.4% of the studied newly mothers who had poor practices were married with statistically significant association (p < 0.05).

Demographic data.	NO.	%
Age in years		
18 - < 25	127	66.1
25 - <35	65	33.9
Mean ±SD	29.9 ±3.2	
Marital status		
Married	184	95.8
Divorced	8	4.2

Table (1). Demographic data of the studied newly mothers

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Don't read and write	10	5.2	
Primary education	14	7.3	
Preparatory education	22	11.4	
Middle education	65	33.9	
Higher education	81	42.2	
Place of residence			
Rural	54	28.1	
Urban	138	71.9	
Monthly income (in pounds)			
Less than 4000	148	77.1	
From 4000 to 6000	41	21.3	
6000 to 10000	3	1.6	
Occupation			
Housewife	118	61.5	
Worker	40	20.8	
Student	34	17.7	

 Table (2). Obstetric history of the studied newly mothers.

(N=192)			
Obstetric history items	NO.	%	
Miscarriage history			
Yes	15	7.8	
No	177	92.2	
Type of delivery			
Normal	70	36.5	
Caesarean Section	122	63.5	
Place of birth			
Governmental Hospital	89	46.4	
Private Hospitals / clinics	95	49.5	
A health Unit	8	4.2	
Types of feeding			
Breastfeeding	171	89.1	
Artificial feeding	21	10.9	

Table (3). COVID-19 pandemic breastfeeding preventive practices among the studied newly mothers. N=192

COVID-19 pandemic breastfeeding preventive practices	Yes		No	
	NO.	%	NO.	%
Washing hands well before feeding the baby	63	32.8	129	67.2
Continuing breastfeeding baby if feeling symptoms of infection	84	43.8	108	56.3
Wearing a face mask when breastfeeding baby		36.5	122	63.5
Ventilating the room well before feeding baby		44.3	107	55.7
Eating fresh fruits and vegetables		42.2	111	57.8
Drinking plenty of water and warm fluids and sleep enough hours every day		38.0	119	62.0
Breastfeeding the baby in a secluded place where there are no people		40.6	114	59.4
Sterilizing the pacifier at high temperatures for 10 minutes (n=21)		47.6	11	52.4
For bottle feeding babies (n=21), Sterilizing the bottle for the child well by boiling for 10 minutes		33.3	14	66.7

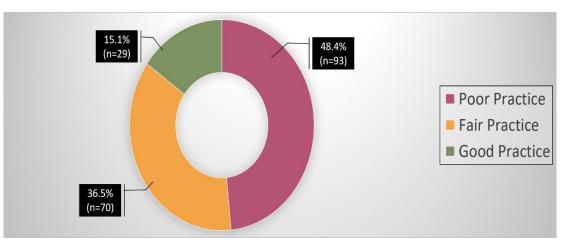


Figure 1. Total practices score among the studied newly mothers. (N=192)

Table 4. Association between socio demographic data and the total practices score

Socio demographic	Total practices score							
data	Poor (n=93)		Fair (n=70)		Good (n=29)		Chi – Square / Fisher's exact test	
	Ν	%	n	%	Ν	%	X ²	Р
Age in years								
18 - < 25	93	100.0	32	45.7	2	6.9		
25 - < 35	0	0.0	38	54.3	27	93.1	106.110	<0.001**
Marital status								
Married	85	91.4	70	100.0	29	100.0		
Divorced	8	8.6	0	0.0	0	0.0	8.886	0.011*
Educational level								
Don`t read and write	10	10.8	0	0.0	0	0.0		
Primary education	10	10.8	4	5.7	0	0.0		
Preparatory education	14	15.1	4	5.7	4	13.8		
Middle education	48	51.6	5	7.1	12	41.4		
Higher education	11	11.8	57	81.4	13	44.8	87.547	<0.001**
Place of residence			I		I			
Rural	93	100.0	35	50.0	10	34.5		
Urban	0	0.0	35	50.0	19	65.5	73.019	< 0.001**
Family type							•	
Nucleus	43	46.2	37	52.9	19	65.5		
Extended	50	53.8	33	47.1	10	34.5	3.364	0.186
Monthly income (in p	ounds)							
Less than 4000	73	78.5	51	72.9	24	82.8		
From 4000 to 6000	19	20.4	18	25.7	4	13.8		
6000 to 10000	1	1.1	1	1.4	1	3.4	2.554	0.635
Occupation								
Housewife	57	61.3	45	64.3	16	55.2		
Worker	19	20.4	14	20.0	7	24.1		
Student	17	18.3	11	15.7	6	20.7	0.780	0.941

5.Discussion

Corona virus disease -19 pandemic is a highly contagious coronavirus, due to its rapid spread and associated countermeasures, such as lockdowns, which have led to the deaths of millions of people in numerous countries

The present study was implemented to assess newly mothers` preventive practices regarding COVID-19 pandemic. The findings of the present study answered the research question. The present study finding revealed, around half of the studied newly mothers had poor preventive practices during the COVID-19 pandemic. As only one-third of the studied newly mothers washing hands well before feeding the baby, wearing a face mask when breastfeeding baby and only more than one- fifth of the studied newly mothers continue breastfeeding baby if feeling symptoms of infection. From researcher's point of view the poor preventive practices could be due to the study being conducted during the six wave of the pandemic when most of the newly mothers loss her feeling of fear and began to deal with it as a cold that he will take his time and go..

The present study finding was in the same line with Egyptian descriptive study conducted by **El-Ghany, Mustafa, & Hassan, (2022)** who assess the effect of precaution guidelines on breast feeding women during COVID-19 pandemic in Beni Suef City. The researchers found that more than half of studied newly mothers had unsatisfactory practices regarding preventive measures during COVID-19 pandemic.

The present study finding was matched with a cross-sectional study conducted by Thapa, Neupane, Ghimire, Joshi, & Thapa, (2022) to assess precautionary practices towards Covid-19 among postpartum women attending postnatal care in Nepal. The researchers found that nearly-half of the respondents had poor precautionary practice during the COVID-19 pandemic. This finding was supported by the finding of Feleke, Wale, & Yirsaw, (2021) who assess knowledge, attitude and preventive practice towards COVID-19 and associated factors at Debre Markos. They found that more than two-fifths of the studied participant had poor preventive practice

The present study finding was contradicted with a cross sectional study that was conducted by **Adhikari, Pariyar, Sapkota, Gurung, & Adhikari, (2020)** who found that majority of the study sample had a good practice about COVID-19 reported that almost all the participants followed proper hand hygiene after contact with objects or during breast-feeding, majority of the participants used face masks while in the hospital and majority of the mothers wore mask while breastfeeding their baby. This may be attributed to the study conducted in the beginning of pandemic where great fear from getting infected was obvious.

The present study finding revealed that there was association between level of education and the total practices score. This study finding supported by studies done in Ghana and Osogbo, Osun state by **Kabiri, Baffoe, Poku, Ofori, & Adusei,** (2021); Adegoke, Ajibade, & Rhoda, (2020). They found that there was statistically significant difference between education level of the women and practices of preventive measures towards COVID-19. This similarity could be attributed the higher level of education increase the odds of practicing COVID-19 preventive measures.

The present study finding showed that there was significant association between older age and good COVID-19 preventive practices. This study finding may be attributed to the older age primpara mothers have their precious baby and have more concerns and fear about neonatal health. This study finding was supported by **Kumbeni**, **Apanga, Yeboah, & Lettor, (2021)** who found that a positive correlation between the participants` age and the practicing of preventive measure during COVID-19 pandemic.

The present study finding revealed that, there was a significant association between residence and COVID-19 preventive practices as women living in urban areas had engaged in good COVID-19 preventive practices. This study finding was in the same line with **El Mezayen**, & **Elhossiny Elkazeh**, (2020) who revealed that, women living in urban areas, had higher odds of engaging in good covid-19 preventive practices compared to those in rural areas. This similarity may be attributed to high proportion of residence in urban area more than rural area.

6.. Conclusion

The study question was answered; the present study finding concluded that, about half of the studied newly mothers had poor preventive practices during the COVID-19 pandemic.

7.. Recommendation:

Based on the present study findings, the suggested recommendation is:

 Designing and implementing nursing educational programs to increase the newly mothers awareness about the importance of following preventive measures during pandemic.

• Educational platforms, virtual learning, consultations, and mobile applications, are crucial to enhance self-care practices during postpartum period in a time of crisis.

8. References

- Ayele, A. D., Mihretie, G. N., Belay, H. G., Teffera, A. G., Kassa, B. G., & Amsalu, B. T. (2021). Knowledge and practice to prevent COVID-19 and its associated factors among pregnant women in Debre Tabor Town Northwest Ethiopia, a community-based crosssectional study. BMC pregnancy and childbirth, 21(1), 1-12.
- Adegoke, J. I., Ajibade, B. L., & Rhoda, D. (2020). Knowledge, attitude and practice of preventive measures towards COVID-19 among pregnant women attending selected primary health centre's in Osogbo, Osun state. Int J Nursing Midwife Heal Relat Cases, 6(2), 29-45.
- 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), 10-14.
- Antoun, L., El Taweel, N., Ahmed, I., Patni, S., & Honest, H. (2020). Maternal COVID-19 infection, clinical characteristics, pregnancy, and neonatal outcome: A prospective cohort study. European Journal of Obstetrics & Gynecology and Reproductive Biology, 252, 559-562.
- Diriba, K., Awulachew, E., & Getu, E. (2020). The effect of coronavirus infection (SARS-CoV-2, MERS-CoV, and SARS-CoV) during pregnancy and the possibility of vertical maternal-fetal transmission: a systematic review and meta-analysis. European journal of medical research, 25(1), 1-14.
- Dol, J., Richardson, B., Aston, M., Mcmillan, D., Tomblin murphy, G., & Campbell-Yeo, M. (2021). Impact of COVID-19 restrictions on the postpartum experience of women living in Eastern Canada: A mixed method cohort study. *medRxiv*, 55(1), 178-186.
- El Mezayen, S. E., & Elhossiny Elkazeh, E. A. E. (2020). Public's Knowledge, Attitude and Practices regarding COVID-19 Pandemic in Al

Gharbia Governorate, Egypt. *Tanta Scientific Nursing Journal*, *19*(2), 31-50.

- Elgendy, M. O., El-Gendy, A. O., & Abdelrahim, M. E. (2020). Public awareness in Egypt about COVID-19 spread in the early phase of the pandemic. Patient education and counseling, 103(12), 2598-2601.
- 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), 31-53.
- Feleke, B. T., Wale, M. Z., & Yirsaw, M. T. (2021). Knowledge, attitude and preventive practice towards COVID-19 and associated factors among outpatient service visitors at Debre Markos compressive specialized hospital, north-west Ethiopia, 2020. *Plos one*, *16*(7), e0251708.
- Fikadu, Y., Yeshaneh, A., Melis, T., Mesele, M., Anmut, W., & Argaw, M. (2021). COVID-19 preventive measure practices and knowledge of pregnant women in Guraghe zone hospitals. International Journal of Women's Health, 13, 39.
- Guo, Y. R., Cao, Q. D., Hong, Z. S., Tan, Y. Y., Chen, S. D., Jin, H. J., ... & Yan, Y. (2020). The origin, transmission and clinical therapies on coronavirus disease 2019 (COVID-19) outbreak–an update on the status. Military Medical Research, 7(1), 1-10.
- Guvenc, G., Yesilcinar, İ., Ozkececi, F., Öksüz, E., Ozkececi, C. F., Konukbay, D., ... & Karasahin, K. E. (2021). Anxiety, depression, and knowledge level in postpartum women during the COVID-19 pandemic. *Perspectives in psychiatric care*, 57(3), 1449-1458.
- Kabiri, M., Baffoe, A., Poku, S. A., Ofori, E. K., & Adusei, K. O. (2021). Knowledge, Attitude and Practices of COVID-19 Prevention among Adults 18 Years and Above in Kintampo North Municipality. Ghana. J Infect Dis Epidemiol, 7, 228.
- Kumbeni, M. T., Apanga, P. A., Yeboah, E. O., & Lettor, I. B. K. (2021). Knowledge and preventive practices towards COVID-19 among pregnant women seeking antenatal services in Northern Ghana. *Plos one*, *16*(6), e0253446.

- Mascarenhas, V. H. A., Caroci-Becker, A., Venâncio, K. C. M. P., Baraldi, N. G., Durkin, A. C., & Riesco, M. L. G. (2020). Care recommendations for parturient and postpartum women and newborns during the COVID-19 pandemic: a scoping review. Revista latino-americana de enfermagem, 28.
- Oluklu, D., Goncu Ayhan, S., Menekse Beser, D., Uyan Hendem, D., Ozden Tokalioglu, E., Turgut, E., & Sahin, D. (2021). Factors affecting the acceptability of COVID-19 vaccine in the postpartum period. Human Vaccines & Immunotherapeutics, 17(11), 4043-4047.
- Omar, S. S., Dawood, W., Eid, N., Eldeeb, D., Munir, A., & Arafat, W. (2021). Psychological and sexual health during the COVID-19 Pandemic in Egypt: are women suffering more?. Sexual medicine, 9(1), 100295.
- Rice, K., & Williams, S. (2021). Women's postpartum experiences in Canada during the COVID-19 pandemic: a qualitative study. CMAJ open, 9(2), E556.

- Shi, S. U., Xiaocheng, L. I., Hua, H. A. O., Xiaoyan, W. A. N. G., Zhang, M., Hui, G. E. N. G., & Mao, M. A. (2020). Advances in research on SARS-CoV-2. Xi'an jiao tong da xue xue bao. Yi xue ban, (4), 479.
- Spinola, O., Liotti, M., Speranza, A. M., & Tambelli, R. (2020). . Effects of COVID-19 epidemic lockdown on postpartum depressive symptoms in a sample of Italian mothers. Frontiers in psychiatry, 11, 1177.
- Thapa, T., Neupane, S., Ghimire, A., Joshi, A., & Thapa, S. (2022). Precautionary practices towards Covid-19 among postpartum women attending postnatal care in Nepal: A cross-sectional study. *Population Medicine*, 4(March), 1-6.