

Breastfeeding rates in the Covid-19 era: The experience of a Greek “Baby Friendly Hospital”

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In December 2019 the first cases of COVID-19 infection were identified in Wuhan, China and soon after SARs COV2 spread worldwide [1]. Since the pandemic onset, (declared as such by WHO on March 11th 2020), more than 72.6 million confirmed cases of COVID-19 infection have been so far reported, and 1.62 million deaths occurred globally (World Health Organization [WHO]) [2].

Countries all over the world imposed lockdown measures and called for social distancing in an effort to minimize spread of the virus [3].

In Greece strict lockdown was imposed on March 23rd 2020. Commercial stores, theaters and cinemas were shut down, education by physical presence was discontinued, and national or international travelling was restricted. The “phase one” stage lockdown (lasted until May 4th 2020) was followed by a period where primary prevention strategies, aiming at training the population and limiting viral transmission (wearing masks, gloves, and keeping social distancing) were implemented.

Pregnant and breastfeeding women, similarly to other populations, encountered SARS-CoV-2 and little was known about their susceptibility to the virus, or about the risk of transmission of the virus to the fetus/ infant [4]. In line to quarantine measures, public perinatal health services adopted policies in order to protect pregnant and breastfeeding women; office visits were reduced only to emergency cases, antenatal birthing and breastfeeding classes were cancelled, paternal access to labor wards was banned, and no family visits were allowed in the maternal ward. Finally, hospital stay was minimized to that which offered safety to the mother without putting her or the neonate at risk.

It is well known that there is a relationship between maternal stress and feeding practices in their offspring during natural disasters [5]. In this respect, we aimed at investigating how the adopted measures to keep mothers and their offspring safe, along with the stress caused by isolation, the fear of contamination of their babies and the postpartum anxiety for the maternal role, might have affected the establishment of lactation and breastfeeding duration. Therefore, we compared breastfeeding rates in Aretaieio Hospital, one of the three “Baby-Friendly” Hospitals in Athens with approximately 800 live births/year, for 11 months in two consecutive years, namely 2019- pro Covid-19 and 2020- Covid-19 era. The number of births per month for the two study periods (January-November 2019 and a matched period of the respective months in 2020) and information related to breastfeeding were collected.

Statistical analysis was performed *via* the SAS 9.4 or Windows software. The descriptive statistics are reported as frequencies of births and mothers who were breastfeeding, as well as the relevant percentages (Table 1). Subsequently we compared the differences in breastfeeding between 2019 and 2020 *via* the Fisher exact test in two levels a) on a monthly basis in order to identify short-term effects and b) for the complete eleven months period from January to November. The statistical significance level was set to 0.05 and all tests were two sided.

Since lockdown was first applied (mid-March 2020) our results show decline in the breastfeeding percentages (*vs* same period of 2019), ranging from 10% (June) to 27 % (May) (Figure 1). Although June and July reduction rates were in the range of 10% and 12% respectively, it was not possible to confirm statistical significance (due to the relatively small number of newborns). Finally, the 11-month macro-view of the situation in the COVID-19 pandemic period, exhibited a decline in breastfeeding rate equal to 11% ($p < 0.0001$).

WHO standard guidelines call for initiation of breastfeeding within the first hour of birth, and skin-to-skin contact in order to facilitate lactation; this process can be inhibited by mother-infant separation.

At the onset of the pandemic, the risk of mother-to-neonate SARS-CoV-2 transmission peripartum or *via* maternal milk was unknown and became a source of great concern. As time passed by, this type of transmission was not supported by evolving data in the literature, and therefore, perinatal and pediatric scientific societies eventually re-assessed guidelines on the issue. In April 2020, in a positive SARS-CoV-2 case, AAP and CDC considered the option of mother-infant separation as the first choice, and encouraged expressing breast milk. Similarly, in China in confirmed cases of maternal Covid-19 infection, isolation of the neonate, was also the standard policy [6]. Several Societies as RCPCH, RCOG, UENPS, EBGOC WHO, UNFPA, UNICEF, re-evaluated these guidelines as early as June 2020 and were clearly oriented towards initiation of breastfeeding within the first hour of life, provided that all required measures to prevent horizontal transmission of the virus from mother -to-neonate were taken [6].

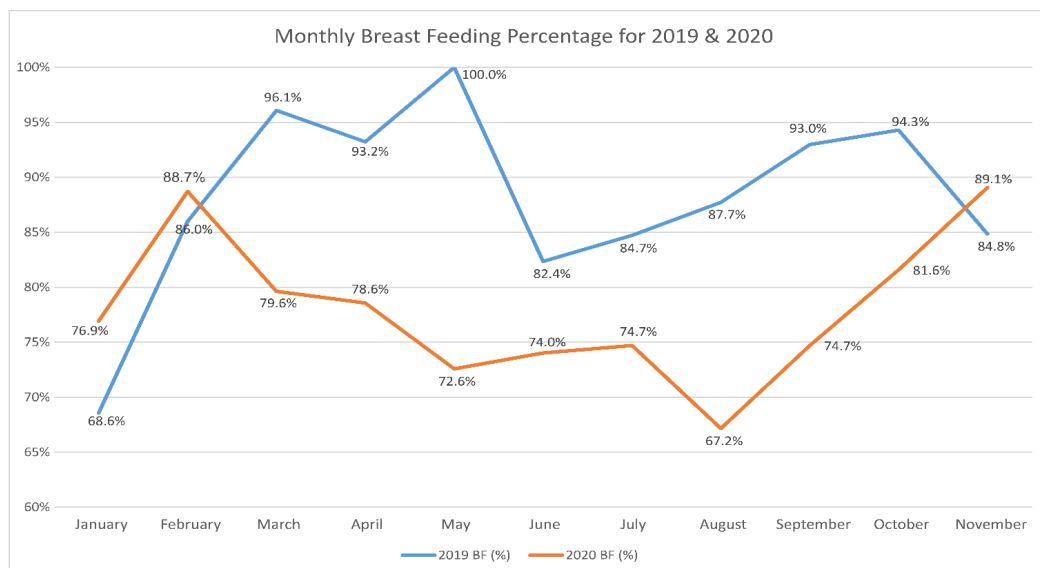
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Received: January 25, 2021; **Accepted:** February 12, 2021; **Published:** February 15, 2021

Table 1. Detailed monthly data and cumulative results for the 11-month period regarding number of newborns, number of breastfed and non-breastfed infants, along with the variation in the breastfeeding percentage and the corresponding p-value (bold entries indicate statistical significance).

Month	2019			2020			Variation in BF % **	p-value
	Total births	BF* (N, %)	Non BF (N, %)	Total births	BF (N, %)	Non BF (N, %)		
January	70	48, 68.6%	22, 31.4%	65	50, 76.9%	15, 23.1%	+12.2%	0.3357
February	50	43, 86%	7, 14%	62	55, 88.7%	7, 11.3%	+3.2%	0.7764
March	51	49, 96.1%	2, 3.9%	54	43, 79.6%	11, 20.4%	-17.1%	0.0156
April	59	55, 93.2%	4, 6.8%	56	44, 78.6%	12, 21.4%	-15.7%	0.0308
May	51	51, 100%	0, 0%	62	45, 72.6%	17, 27.4%	-27.4%	<0.00001
June	68	56, 82.4%	12, 17.6%	77	57, 74%	20, 26%	-10.1%	0.3158
July	72	61, 84.7%	11, 15.3%	87	65, 74.7%	22, 25.3%	-11.8%	0.1678
August	57	50, 87.7%	7, 12.3%	67	45, 67.2%	22, 32.8%	-23.4%	0.01
September	57	53, 93%	4, 7%	83	62, 74.7%	21, 25.3%	-19.7%	0.0064
October	70	66, 94.3%	4, 5.7%	76	62, 81.6%	14, 18.4%	-13.5%	0.0236
November	66	56, 84.8%	10, 15.2%	64	57, 89.1%	7, 10.9%	+5.0%	0.6048
Total	671	588, 87.6%	83, 12.4%	753	585, 77.7%	168, 22.3%	-11.3%	<0.00001

*: BF: Breastfeeding **: positive numbers correspond to increment of the BF percentage from 2019 to 2020, negatives for reduction

**Figure 1.** Graphical representation of monthly breastfeeding percentages for 2019 and 2020

As our knowledge about epidemiology of SARS-CoV 2 was enriched, it became clear to the scientific community and consecutively to the media, that the virus is not transmitted *via* maternal milk and therefore it is imperative to support lactation and continuation of breastfeeding. Since October 2020 it has been universally accepted that practices that facilitate breastfeeding (skin-to-skin contact, rooming-in and breastfeeding in the first hour of life) should be supported [7]. The declining breastfeeding rates from the pandemic outbreak in February 2020, including the lockdown period, could be partially explained by the initial lack of evidence for transmission of SARS-CoV-2 through breast milk. To our opinion, this decrease reflects other parameters as well, such as the fear of viral transmission to the infant, the lack of antenatal breastfeeding information, isolation from supporting family members during delivery and postpartum and culminating anxiety for the maternal role in these special circumstances. The gradual improvement in the ensuing months from August until November 2020, when breastfeeding rates exceeded the respective rates from November 2019, reflects the healthcare professionals' familiarization

with the outstanding infection control strategies, as well as knowledge that breastfeeding benefits outweigh the possibility of SARS-CoV-2 transmission through breast milk. These positive breastfeeding perceptions from healthcare professionals and mothers, were further triggered by media coverage, mainly favoring exclusive breastfeeding in these circumstances [7,8].

Conclusion

To our knowledge this is the first study assessing the impact of breastfeeding in the first 11-month pandemic era in Greece. Our study showed decreased breastfeeding rates during the covid-19 pandemic, in the setting of a dedicated “Baby Friendly Hospital” that is familiar with breastfeeding practices and promotes exclusive breastfeeding. A possible limitation of the study is the small number of mother-infant pairs when compared to the Greek population. As our Hospital is a University Hospital and serves mainly middle class population, usually prepared for the experience of delivery and breastfeeding in a “Baby Friendly” setting, we could hypothesize that the overall decrease in

breastfeeding rates is even higher in the general Greek population. On the other hand, careful evaluation of the current protocols, strict orientation to breastfeeding strategies and the fact that healthcare professionals working in our Neonatal Unit have not rotated in other departments, at least during the last two years, strengthen our results and pinpoint social factors, not directly related to our hospital, as the trigger factors for decreased breastfeeding rates.

Conflicts of interest

No potential competing interests are present.

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