

Breastfeeding Patterns and Stress Among Lactating Women in Pune During the COVID-19 Pandemic

Lactating mothers ($n=126$) residing in Pune, Maharashtra were interviewed to assess the prevalence of stress, rate of exclusive breastfeeding (EBF), and its association with different demographic factors. 75.4% mothers were found to be moderately stressed. Rate of EBF was 62.7%. Moderate stress and testing positive for COVID-19 were significantly negatively associated with EBF ($P<0.001$).

Keywords: Exclusive breastfeeding, Employment, Maternal well-being.

Published online: March 28, 2022; **PII:** S097475591600417

Prevalence of stress during and after pregnancy is directly related with breast milk synthesis and its expulsion, its composition and the desired duration of breastfeeding [1]. A pandemic like coronavirus disease (COVID-19), with the attendant lockdowns, may produce mental stress in mothers due to strictly advised social distancing, wearing masks and washing of hands frequently. Other possible reasons for stoppage of exclusive breastfeeding could also be delivery complications, hospitalization for delivery, and getting infected with the virus. Despite unequivocal encouragement from global as well as National healthcare stakeholders, there are many concerns regarding transmission from an infected mother to her infant, leading to increased perceived stress and subsequently to early cessation of breastfeeding [2]. During the early part of the current pandemic, there were questions on safety of breastfeeding, especially if the mother had severe acute respiratory syndrome coronavirus (SARS-CoV-2) [3]. Thus, the aim of this study was to assess the prevalence of stress caused by COVID-19 in lactating women, rate of exclusive breastfeeding, and its association with different demographic factors. For this cross-sectional study, mothers aged between 20-35 years having infants aged 0-12 month were enrolled through a maternity hospital in Pune by purposive sampling between May to July, 2021. Perceived stress scale (PSS) [4] was used to measure the level of perceived stress experienced in last one month by the mothers during a face-to-face interview with a single researcher (ZA). The mothers with stress identified during the study were counselled by the researcher and suggested relaxation therapies. Those who were not giving exclusive breastfeeding (EBF) to babies aged <6 months, were counselled regarding the importance and benefits of EBF. The demographic factors were studied using a questionnaire. Qualitative information was also collected using a semi-structured questionnaire.

Descriptive analysis was done and ordinal regression model was developed to analyze the data. The values were considered significant at the level of $P<0.05$.

A total of 126 lactating mothers were enrolled for the study [mean (SD) age 26 (3.7) year]. Of these, 54.8% were graduates; 30.2% had tested positive for SARS-CoV-2 by reverse transcriptase-polymerase chain reaction (RT-PCR) test; 46% of mothers were home makers and 33.3% full-time professionals; and 52.4% had delivered their baby via cesarean section. The rate of exclusive breastfeeding among mothers was 62.7%. Reasons for cessation of breastfeeding before six months were not enough milk supply (97.8%), and familial or social pressure (2.2%). Maximum mothers (75.4%) were moderately stressed and 20.6% were highly stressed; only 3.9% were 'little or not at all' stressed (**Table I**).

Demographic characteristics when measured against levels of perceived stress showed that being tested positive for SARS-CoV-2, being full-time employed, and cessation of EBF before 6 months were significantly associated with perceived stress levels. Housewives showed highest rates of EBF (34.1%), whereas rates of cessation of EBF was seen among full time professionals (17.4 %), which might be related to the post-partum stress arising due to less availability of time that the mothers dedicated for child care because of their work profiles. With respect to exclusive breastfeeding, against perceived stress levels it was observed that 3.9% had no stress, maximum women (57.1%) had moderate stress and only 1.5% reported high stress. Feeding techniques when analyzed against demographic factors and stress levels revealed that maximum of

Table I Characteristics of Lactating Mothers Enrolled in the Study (N=126)

Characteristics	No. (%)
<i>Mother's age</i>	
20-25	43 (34.1)
26-30	44 (34.9)
31-35	39 (31.0)
<i>Education level</i>	
Undergraduate	23 (18.3)
Graduate	69 (54.9)
Postgraduate	34 (27.0)
COVID-19 infection	40 (31.7)
<i>Employment status</i>	
House wife	58 (46.0)
Full time	42 (33.3)
Part time	12 (9.5)
Self employed	14 (11.1)
EBF for 6 mo	79 (62.7)
Cesarean section	66 (52.4)
<i>Perceived stress</i>	
No to little stressed	5 (4.0)
Moderately stressed	95 (75.4)
Highly stressed	26 (20.6)

the mothers (16.6%) who had tested positive gave formula feed by bottle, and those who had tested negative practiced latching of the baby directly at the breast. All the mothers who had little or no stress fed directly from the breast, whereas 21.3% mothers who were highly stressed fed formula feeds. On regression analysis, testing positive for SARS-CoV-2 infection ($P<0.001$) and moderate stress levels ($P<0.01$) were significant suppressants of practicing EBF among the mothers, whereas age, educational qualification and employment status did not have a significant effect.

The 2019-20 National Family Health Survey [5], reported the rate of EBF in Maharashtra as 71%, while in our study, which was carried out in urban Pune, it was 62.7%. The present study also reported high rates of perceived stress among mothers practicing EBF (58.6%), which is comparable to the findings of Sakalidis, et al. [6], who found that perceived stress was 62.6% amongst breastfeeding mothers living in Australian and New Zealand.

This study also found that those who tested positive for COVID-19 were more likely to cease EBF early. Testing positive for the virus was found to increase the chances of bottle feeds whereas those who tested negative fed their babies directly at the breast. Mothers perceived breastfeeding as a possible mode of transmission of the virus and hence may have resulted in early termination of EBF. This is despite the guidelines from Indian Academy of Pediatrics [7] and other bodies [8], recommending continued breastfeeding. Increased stress was also known to decrease the chances of having skin-to-skin contact and feeding the baby at the breast and as a consequence, babies were given formula feed by bottle. Since the baby is not being fed directly at the breast, this may result in early termination of EBF. Mothers also reported resuming with office work, having heavy work schedules and longer screen time acting as barriers to continue EBF. Hence these mothers used formula feeds and expressed breast milk while home-makers fed their babies directly at the breast.

Considering the adopted purposive sampling technique, the results of the present study cannot be generalized. Thus, the results direct towards a need to increase the awareness regarding the importance of breastfeeding during COVID-19 infection and

precautions to be taken while breastfeeding. However, extended support to lactating mothers from antenatal care, social and family should be encouraged to practice EBF and decrease stress levels.

Ethical clearance: Institutional Ethics Committee, Symbiosis International (Deemed University), Pune; No. SIU/IEC/285, dated May 14, 2021.

Contributors: ZA: data collection, data analysis and manuscript writing; AM: development of protocol, supervision of the study, data analysis and manuscript writing; SM: manuscript review. All authors approved the final version submitted.

Funding: None; *Competing interest:* None stated.

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