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Effect of active covid infection on breast milk feeding

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Abstract

Background: *Breastfeeding is recommended in all babies despite COVID infection as there's no hazard of vertical transmission or through body fluid but breast milk production has not been assessed formerly nonetheless start of pandemic.*

Objectives: *To determine impact of COVID-19 infection on mother milk production in the course of pandemic COVID infection*

Method: *Informed consent was taken from patients after enrolling. Prior approval of health facility ethical committee was taken. Study was conducted from January 2020 till December 2021. All mother admitted with COVID infection have been assessed for good enough breast milk production in the course of infection.*

Results: *In our study total 79 infants and their COVID-19 PCR high-quality mothers were included. The mean age of infants was 4.6±0.9 months. There had been 43% males and 57% female baby. Most common eduction degree was graduation in mothers. Mean duration of isolation was 9.8±2.3 days and mean follow-up period for infants was 25.6±3.8 days. Total 30% mother observed inadequate breast feeding in infants in terms of decreased period of breast feeding or reduced frequency of feed per 24 hours. Moreover 8% toddler wanted supplemental formula feeding*

Conclusion: Decreased breast milk production is observed during active COVID infection in mothers.

Key phrases: *COVID infection, Breast feeding, inadequate production*

Introduction

Severe Acute Respiratory Syndrome Corona Virus 2 sickness (SARS-CoV-2; previously named 2019 novel corona virus) or COVID-19 is pandemic infection and has grown to be largest public health burden globally. Due to the fact that in beginning of 2020, the World Health Organization (WHO) announced new strain of coronavirus, the SARS-CoV-2, which provokes coronavirus disease 19 (COVID-19) became most studied disease. In January 2021, 12 months later, approximately 85 million cases had been confirmed, ensuing in more than 1.8 million deaths. all through the identical duration, about 140 million births had been registered. This led to global disaster in term care machine [1-3]

Outbreaks in particular an epidemic scenario conjures up worry associated behaviors amongst humans and there may be constantly an extended danger of intellectual fitness issues. [4] on this admire, being pregnant represents a susceptible time period, and this pandemic can negatively impact its results. Pregnant women can also, consequently, be a set requiring unique care with regards to the transmission of SARS-CoV-2. it has been mentioned that trying out for SARS-CoV-2 in breastmilk, amniotic fluid, or other body fluids has given negative results and COVID virus was not found in breast milk and amniotic fluid. [5] COVID-19 pandemic has caused concerns over mom-to-toddler transmission, together with through breastfeeding. [6] Lactating moms and newborns can be taken into consideration a excessive-hazard has been expected in the course of the COVID-19 pandemic due to the fact their vulnerability to acquire any infection is higher due to reduced immunity for the duration of this age group. [7]

Breast feeding has protective role in COVID-19 infection. Human milk contains an array of antimicrobial, immunomodulatory and anti-inflammatory compounds that confer long-time period advantages against infections years after lactation is terminated. It has been reported worldwide that children who were ever breastfed show lower blood levels of both ferritin and biomarkers that are severely increased during the cytokine burst (i.e., serum monocyte chemoattractant protein-1 or uric acid) than their formula fed peers. Theoretically, these characteristics might counterbalance the deranged biochemical pathways leading to multi-organ failure in COVID-19.. [8]

It has been reported that there are problems in establishing breastfeeding in COVID-19 mothers. this could be because of fear of transmitting virus to new born or some underlying unknown mechanism of reduced production of milk at some point of viral illness. One thing contributing to insufficient milk deliver is a put off in the attaining lactogenesis stage II, which starts with the production of copious amounts of breastmilk following transport. A delay in lactogenesis stage II is common in term infants, in particular if initiation of breastfeeding is not on time following delivery and has been related to reduced lactation success. [9] To overcome this phenomenon the World Health Organization released guidelines encouraging mothers with suspected or confirmed COVID-19 to breastfeed as the benefits of breastfeeding outweighs the possible risk of transmission. [10]

Till date there is no data regarding reduced productionof mother milk during active COVID-19 infection. A huge number of studies have been accomplished to establish safety of breast milk throughout COVID infection but amount of milk produced has not been assessed in any study. We aimed to conduct this study to have a look in adequacy of breast feeding throughout active COVID 19 infection as we observed decreased milk production for the duration of active infection but no properly designed study has been done to assess adequacy of breast feeding during active infection.

objective: To determine impact of COVID-19 infection on mother milk milk for the duration of active infection

MATERIALS AND METHODS

Study Design: Descriptive cross-sectional study

Study Setting: Department of Pediatrics

Study Duration: January 2020 till December 2021

Patient's selection: Total 79 mother and their infants aged 1 to 6 months admitted to unit with active covid infection were enrolled using convenient sampling technique. Only those infants were enrolled who were exclusive breast fed and breast feeding was fully established while infants using formula feed or infants started with weavening were excluded from study. Moreover, mother having moderate to severe COVID and requiring treatment were also excluded

DATA COLLECTION PROCEDURE:

After approval from hospital ethical board, patients fulfilling the inclusion criteria will be enrolled. A written informed consent was taken from mothers after explaining the purpose of study. Demographic data including age, gender and educational level of mother was noted. All COVID-19 PCR mother were kept in isolation ward along with their infants for breast feeding. Adequacy of breast feeding was assessed by interview with mother. Breast feed was labellled as adequate if infants received atleast 8 feed in 24 hours with 3 feed in night each lasting for 10 to 15 minutes from each breast with good latching and no hunger cry assessed by mother or baby maintaining previously established breast feeding pattern with no need for formula milk supplementation during illness. Confidentiality of data was ensured by masking name of mothers and infants. Any need for formula need or hunger cry more than previous normal routine was labelled as inadequate mother feed.

DATA ANALYSIS PROCEDURE:

Data was entered and analyzed by using SPSS version 22.0. Mean and standard deviation was calculated for quantitative variables. Frequency and percentage were calculated for categorical variables. Effect modifiers like age, gender and educational level of mother was addressed through stratification of data. Post stratification chi square was applied. P value ≤0.05 was taken as statistical significant.

RESULTS

In our study total 79 infants and their COVID-19 PCR positive mothers were included. The mean age of infants was 4.6±0.9 months. There were 43.1% males and 56.9% female patients. Most of mothers were having graduation degree. Mean duration of hospital stay was 9.8±2.3 days and mean follow-up period for infants was 25.6±3.8 days. Total 30% mother complaint of inadequate breast feeding in infants in terms of reduced duration of breast feeding or decreased number of feed per 24 hours. Further 8% infant needed supplemental formula feeding because mother feed was inadequate and they had inconsolable hunger cry. Inadequate mother feed was observed equally in young infants aged 1 to 3 months and 4 to 6 month infants, p-value 0.0123. Both male and female infants were equally (p-value 0.651) effected by inadequate milk production during active infection and 4 week of follow-up period. Mother having post-graduation education observed more inadequate milk production, p-value 0.023.

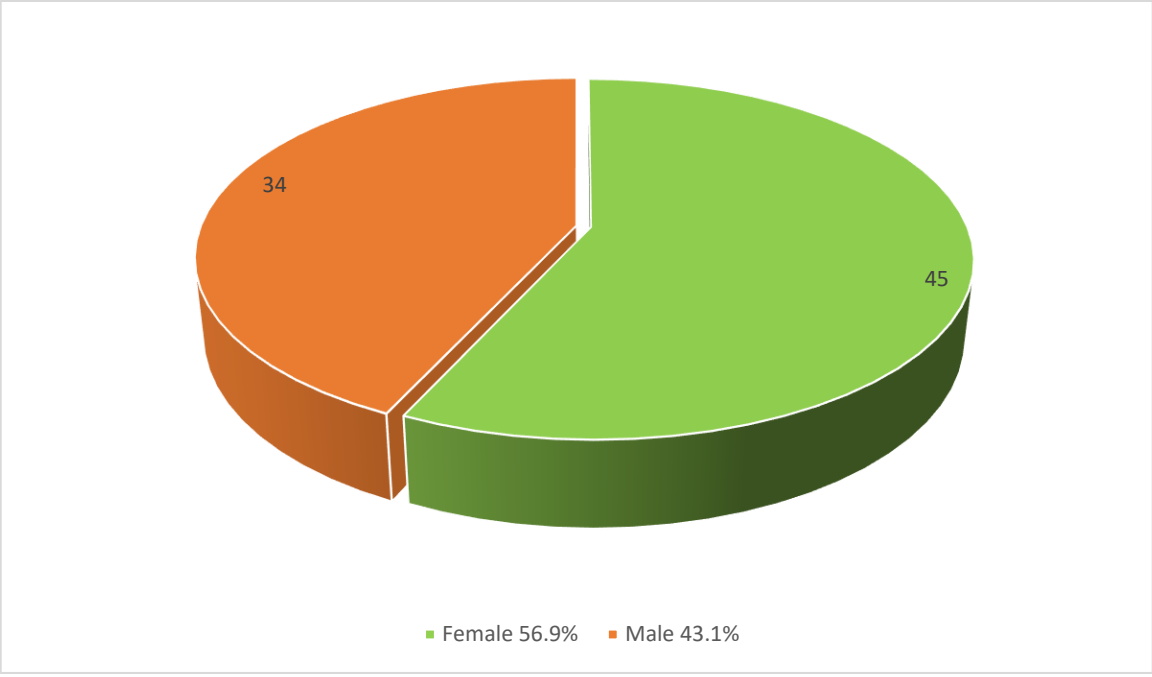
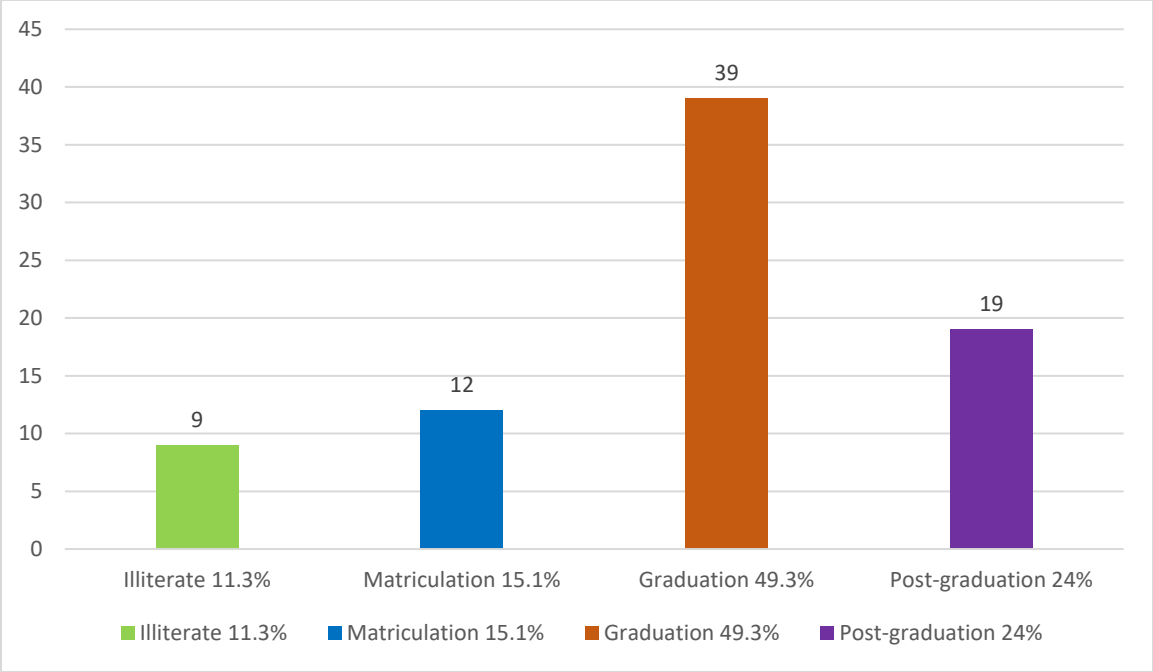


Figure 1: Gender distribution



Parent 2: Maternal training

Discussion

It is well established that viral transmission via human milk can occur. Different examples encompass human immunodeficiency virus and human T-cellular lymphotropic virus type 1. perhaps the most outstanding instance of mother-to-child viral transmission through breastfeeding is HIV infection, throughout which better milk and serum viral loads are associated with an extended threat of transmission. The risk of postnatal infection for breastfed infants of HIV+ mothers is ≈10–20% over the first 2 years of lifestyles without the usage of antiretroviral treatment plans. however, in comparison with blended feeding, distinctive breastfeeding is related to decrease threat of transmission of HIV infection to toddlers. in developed countries, breastfeeding is contraindicated in case of maternal HIV infection without or with maternal ART. Conversely, in low-and-middle-income countries, mortality from malnutrition and infectious disease may also outweigh the hazard of obtaining HIV via vertical transmission for the duration of breastfeeding. So, breastfeeding is usually recommended in these countries. [11, 12]

Covid 19 infection is novel respiratory virus which has emerge as pandemic effecting all age group starting from neonates to old age such as pregnant women. concern of breast feeding is maximum important for child increase through next life. There are mixed evaluations concerning guidance approximately greatest infant feeding practices (e.g., American Academy of Pediatrics, [13] centers for

disease control and Prevention, [14] World Health Organization, [15] United Nations Children's Fund,, [16]) and a consequent lack of confidence about best approaches to infant feeding in the face of this growing pandemic. Even when a mother is positive for COVID-19, the World Health Organization (WHO) recommends breastfeeding be initiated within 1 h of birth, exclusive breastfeeding be continued for 6 months and breastfeeding be continued for up to 2 years. They suggest use of appropriate respiratory hygiene, hand hygiene and environmental cleaning precautions. [15] The UNICEF recommends that COVID-19-positive mothers to continue breastfeeding at the same time as making use of precautions, along with masks and handwashing before and after feeding. [16] U.S. Centers for Disease Control and Prevention (CDC) neither recommends nor discourages breastfeeding however advises that choices be made by the mother and family in session with their health care providers. [14] They propose that in temporary separation (if necessary), mothers who intend to breastfeed must explicit their milk after use of proper hand hygiene and that the expressed milk should be fed to the newborn through a healthful caregiver. in addition, if a mother and newborn do share a romm and the mother needs to breastfeed, the CDC recommends that she should wear a facemask and exercise hand hygiene earlier than every feeding. [14]

the protecting role of breast feeding from exceptional illness together with respiratory, gastrointestinal and covid 19 infection has been studied in distinctive research. [17, 18, 19, 20]

but the production of breast milk during covid 19 infection has not been studied in any research. We performed a pilot observe to determine impact of covid 19 on milk production and found that breast milk production is reduced notably at some stage in this viral infection. In our study as much as 30% mom compliant of reduced milk production during infection peroid which resulted in supplementation with bottle feed. but our was based totally on subjective feeling of mother and actual percentage of decrease in milk production changed into no longer determined. This will serve as foundation for further studies for quantification of milk production during active COVID-19 infection.

Conclusion

COVID infection is multisystem disorder causing disturbance in various metabolic derangement. Breastfeeding is safe in active infection after use of precautions but the production of breast milk is reduced and adequate hydration and lactation support is wanted during active infection that allows mother to continue right breast feeding.

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