

SARS-COV-2 INFECTION AND BREASTFEEDING

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Breast milk provision is known to be the gold standard when infant nutrition is addressed, as it is a substance that surpasses basic nutrition. Not only does it promote adequate nutrition provision, but is also described to promote an effective immune system, develop brain function and enhance socialization.¹

The World Health Organisation (WHO) currently recommends that mothers establish and sustain exclusive breastfeeding for six months and continue for up to two years. This recommendation includes both HIV- reactive and non-reactive mothers, taking note that a HIV-reactive mother should be appropriately covered with antiretroviral treatment.² Guidelines surrounding breast milk provision however have come under scrutiny during the current COVID-19 pandemic.

At current recommendations surrounding breast milk provision is quite challenging as women who are pregnant or lactating are often excluded from trials and therefore well-sampled studies are often lacking.³ Another challenge surrounding COVID-19 and breast milk provision is that the reliability of virus testing in breast milk is still to be determined.⁴ Furthermore, the sad reality is that SARS-COV-2 transmission reduction is aimed at separation whereas breast milk provision is all about proximity and bonding.

A statement made by Calil *et al.* (2020) is however noteworthy and states that, "Given the fact that mothers infected with the coronavirus have probably already colonized their children, the benefits of breastfeeding for the health of the child and women, and the absence of scientific evidence on the transmission of COVID-19 and other respiratory viruses through breastfeeding, it is recommended that breastfeeding is maintained with the necessary precautions in case of infection by COVID-19".⁵

Certain principles do however apply when it comes to breast milk provision when mother is infected with SARS-COV-2 namely: ²

- **Mother** must want to breastfeed and be in a good clinical condition to do so.
- **Mother** should be well informed of risks and benefits
- **Mother** should be well-informed about the absence of data, so far, that proves vertical transmission and infection through breast milk
- **Mothers'** choice should be respected without reprimand
- **Choices** often reflect state of mind
- **Mother** should receive support from a multi-professional team

Breastfeeding however is not recommended by certain authorities and mothers are often educated not to provide breast milk until their breast milk tests negative, whereas, in some countries breast milk provision is allowed but not the act of breastfeeding.^{6,7} The reason for this statement is that suckling may increase risk of post-natal transmission due to the intimate contact between affected mother and neonate. Medication provided to SARS-COV-2 infected mothers has also been a point of concern as it is postulated that the medication may be harmful to the neonate. All medication however currently provided to SARS-COV-2 mothers are compatible with breastmilk provision.⁸ Despite warrants of avoidance of breast milk provision, evidence advocating for breast milk provision

outweighs counter arguments. It is very important to scrutinise the evidence as recommendations were largely based in developed countries and not developing countries like South Africa. SARS-COV-2 infection in breastfeeding mothers may result in a strong S IgA-dominant immune response as well as possibly promote an increased type-1 interferon production in infants who are breast fed.^{9,10}

In a systematic review that included 49 mother-infant dyads, where breastfeeding mothers tested positive for COVID-19, it was reported that 43 milk samples tested negative for COVID-19. Three milk samples tested positive, yet of those three samples only one infant tested positive for COVID-19. The route of transmission of COVID-19 to the infant could however not be identified.¹¹

Guidelines that promote the use of breast milk of COVID-19 positive mothers are tabulated in Table 1. When breastfeeding it is however recommended that mothers adhere to strict sanitary measures. These measures include: wearing a surgical/cloth mask whilst breastfeeding, washing of hands before and after touching infant, cleaning and disinfecting all surfaces touched, only using dedicated feeding cups or breast pumps as well as ensuring that all feeding equipment that is used is cleaned and heat disinfected between use.¹³

Table 1: Guidelines for breast milk provision to infants of COVID-19 positive mothers^{11,12,13}

CDC guidelines	WHO/UNICEF guidelines	South African Guidelines
<ul style="list-style-type: none"> Temporary separation of the newborn from a mother with confirmed or suspected COVID-19 (especially when the neonate is at high risk ie. Prematurity) If neonate tests positive, separation is not needed Encourages use of expressed breast milk fed by uninfected caregivers Expression done by a dedicated breast pump and appropriate hygienic measures 	<ul style="list-style-type: none"> Mothers with suspected or confirmed COVID-19 should be encouraged to initiate or continue to breastfeed⁹ Encourage skin-to-skin, rooming-in and exclusive breastfeeding If mother unwell expressed breast milk or donor milk can be provided 	<ul style="list-style-type: none"> All mothers are advised to continue breastfeeding or providing expressed breast milk As far as possible do not separate a COVID positive mother from her baby Breastfeeding should be promoted in mothers who are COVID 19 positive but are well Unwell mothers should not participate in the care of their newborn, an uninfected caregiver should be nominated to take care of newborn. Unwell mothers should be encouraged to express if possible.
Mothers who room-in should adhere to strict hand washing and use of masks.		

In conclusion it is important to take the following facts into consideration when deciding on appropriate feeding model, namely:^{4,9}

- Breast milk is the **Cleanest** and **safest** form of infant and young child nutrition
- Breast milk improves **survival** and provides **lifelong health and development** advantages to newborns and infants.
- Breast milk is **Readily available** without dependence on purchase of supplies
- Breast milk contains both **anti-inflammatory** factors as well as **anti-infective** factors
- **Limited data** on the presence of SARS-COV-2 in breast milk

Lastly, “Recommendations on 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.”¹¹

References

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