Background

The COVID-19 pandemic has dominated global attention since 2020 and the accompanying infodemic (the overwhelming amount of information, both accurate and inaccurate), has presented challenges to the emergency response (1). While the infodemic exists both offline and online, the spread of information and misinformation on social media has been prolific. Development and release of COVID-19 vaccines were closely monitored, but exclusion of breastfeeding and pregnant women from initial clinical trials meant evidence-based advice for this group lagged and has at times been contradictory and confusing. Breastfeeding is an important public health issue with long lasting health benefits for infants and mothers (2,3), Health professionals were concerned that this confusion may impact poorly on breastfeeding decision-making and outcomes.

Methods

The CrowdTangle platform (a public insights tool from Meta) was used to source data from public Facebook pages. The search included all pages where administrators were based in Australia and included keywords for COVID-19, breastfeeding and vaccines. Posts published (n=656) between the 1st December 2020 to the 31st December 2021 were included. Analysis on community responses to the post (comments) was carried out on all posts that had more than 5 responses (n=29,530). The study received ethical approval from the Curtin University Human Research Ethics Committee (HRE2021-028).

Results

The majority of the original posts (959/656) were promoting, sharing or discussing reliable information about breastfeeding and COVID-19 vaccination. However, the topics of comments responding to these posts varied more widely (see Figure 1). Some comments were published as standalone statements whereas others became a dialogues between participants. While vaccine-related comments were still high, topics regarding safety efficacy and necessity were higher, and topic responses were more diverse. Narratives from the top four topics is outlined below.

- **Safety, efficacy and necessity:** Commonly expressed concerns related to potential correlations between the safety of COVID-19 vaccines to miscarriage and deaths of breastfed babies post maternal vaccination. The safety of the COVID-19 vaccine was frequently compared to thalidomide - a drug prescribed for morning sickness in the 1950s that resulted in birth defects. Safety concerns expressed ranged from genuine questions and concerns, to overly strong anti-vaccine stances. Conflicting advice from professionals and guidelines contributed to confusion. Narratives about necessarily not coming from not needing the vaccine as Australia had no or low COVID-19 case numbers, to strong support for the need as the COVID-19 outbreak intensified.

- **Development, provision and access:** Narratives referring to the lack of clinical trial data including pregnant and breastfeeding women were common. While some conversations focused on the implications for mothers, most were about the potential short- or long-term implications for infants. In terms of access, conversations intensified alongside the expansion of the COVID-19 outbreak within Australia. There was anger expressed at the lack of prioritisation of breastfeeding women for vaccine appointments, and for the Pfizer vaccine as Australia experienced supply issues. Women shared tips on how to secure a vaccine appointment, including travelling some distance, and shared petitions for prioritisation. There were also conversations about stopping breastfeeding in order to secure a vaccine and protect themselves and their families, including examples of women stating they had done so.

- **Vaccine positive comments:** These comments crossed a number of narrative areas, a common one was regarding the transmission of antibodies to babies if their mothers were vaccinated while pregnant or breastfeeding. There were numerous examples of women expressing relief and pride about their ability to offer their babies some protection. These conversations included women discussing extending breastfeeding, considering re-lactation, or discussing expressing and giving milk to older children to offer them some protection.

- **Other:** This topic included anything not directly related to vaccination and breastfeeding including people questioning others credentials, discussing COVID-19 case numbers, to strong support for the need as the COVID-19 outbreak intensified.

The information environment is important context to understand. From analysis of this content, it was evident that visuals were important, particularly emoji and gifs, but also photos and screenshots. Information voids were evident throughout and conflicting and outdated content from service providers, international agencies and within government websites contributed to confusion as well as expressions of overwhelm with information volume. Targeted anti-vaccination content was evident, as was confusion about scientific processes and understanding evidence.

**Recommendations from the findings:**

- Understand and anticipate information voids when pregnant and breastfeeding women are excluded from clinical trials, and plan for early identification and response action.
- Understand and anticipate how information regarding guidelines and advice crosses international boundaries, and how conflicting information contributes to confusion.
- Widen social listening understanding beyond misinformation to include broader dimensions and aspects of the information environment and incorporate social listening and infodemic monitoring into wider public health work.
- Broaden analysis from just textual content being shared and understand the importance and nuance with image-based content, including emoji, gifs, screenshots and photo sharing.
- Increase efforts to build scientific, digital and health literacy.

**References**


*Comments quoted have been changed slightly to protect privacy while retaining meaning.*