'I'm glad my bub has just weaned so I don't have to make that decision!': An online social listening study on breastfeeding and COVID-19 vaccine information

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Background

The COVID-19 pandemic has dominated global attention since 2020 and the accompanying infodemic (the overwhelming amount of information, both accurate and otherwise), 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.

Aim

This social listening study aimed to understand breastfeeding-related COVID-19 vaccine narratives on social media during the Australian vaccine roll-out and explore components of the information environment.
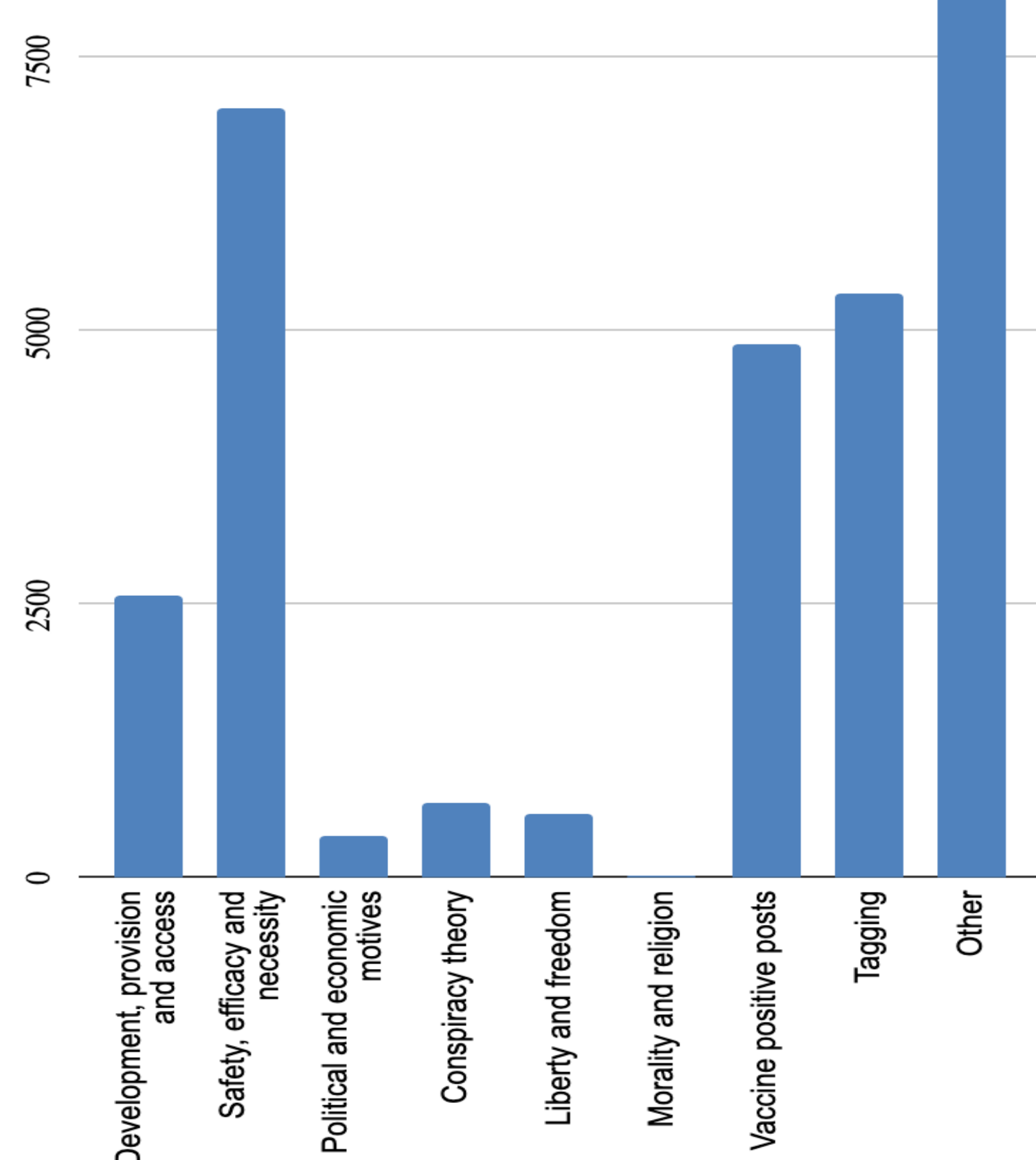
Figure

Figure 1. Topics of Facebook comments on posts (n=29,530)

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 comments). The study received ethical approval from the Curtin University Human Research Ethics Committee (HRE2021-0268).

Posts and comments were categorised to an adapted vaccine narrative taxonomy (4) and thematic analysis was used to identify key vaccine narratives within these categories. Topic categories were: Safety, efficacy and necessity; Development, provision and access; Conspiracy theory; Liberty and freedom; Morality and religion; Political and economic motives; Vaccine positive posts; and Other. We also added a header for tagging. While this does not add much in terms of content, it does signal users are expanding the conversation to others and we were interested in delineating the frequency of where and in what capacity this engagement was occurring.

> 'I was ready to get the vaccine but the comments have really scared me off 😩😩'

> 'I saw that, It put me off when I was told not to because there isn't enough research about it otherwise I would of done it already 😔 I will probably stop [breastfeeding] soon anyway. This covid thing is stressing me out!'

> 'Why do countries have different advice on giving this to pregnant women, if it's so black and white? How can you expect people to feel confident in their decision, when authorities across the globe can't reach a consensus?'

Results

The majority of the original posts (595/656) 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 positive 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 overtly strong anti-vaccine stances. Conflicting advice from professionals and guidelines contributed to confusion. Narratives about necessity changed 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 focussed 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 treatments, or where the context wasn't clear (replying to a comment that had since been deleted). A sizable amount of comments in this section were regarding a change in language on some official posts to offer more gender-inclusive terms.

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.

Conclusion

This research identified key narratives and topic areas for vaccine-related conversation on social media among this population group. The findings highlight the complexities in decision-making over this time. Facebook is widely used and comments varied in intensity, including emotive posts attempting to shame mothers, telling them their decisions were harming their children. There were instances where it appeared that standalone and dialogues of comments had negatively influenced people's decision to get vaccinated, or to continue breastfeeding - both important public health initiatives. This research reports on those who commented, but the wider audience, including those interacting with the post, will be much higher (5).

While there are limitations in social listening from digital sources only and integrating with other data, including offline data is important, this research raises interesting findings and outlines some recommendations. Pregnant and breastfeeding women continue to be a priority group for vaccination, yet there were gaps in data, evidence and information. Lessons from the COVID-19 pandemic demonstrate that understanding how to incorporate social listening and infodemic management into public health work is important (6). Using social listening to understand changes in narratives and the information environment on social media overtime will give important insight into how to engage with this group with vaccination and inform future health emergencies.

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 responsive 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.

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

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