

Factors Influencing the Sustainability of Human Milk Donation to Milk Banks: A Systematic Literature Review

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1. Background

Donor human milk is the recommended alternative for vulnerable infants (for example premature infants) when their feeding needs are not met by their mothers' own milk.¹ It offers protection from severe complications compared to infant formulas.² However, more than 500,000 vulnerable infants born before 32 weeks lack access to donor human milk from milk banks every year worldwide.³

The literature review presented here constitutes the first phase of a PhD thesis.

2. Objective

To conduct a systematic literature review to identify factors that influence the sustainability of milk donation to human milk banks.



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3. Methods

Sustainability is defined here as the ability to maintain donation at a certain quantity of donor milk.

The study protocol is available on PROSPERO (#CRD42021287087). The systematic review retrieved articles published until December 2021 through eight databases.

- ❑ COVIDENCE and validated tools were used to select, collect, and critical appraise included studies.
- ❑ GRADE and CERQual were used to assess the level of confidence in the evidence.

4. Results

10 studies were included (7053 participants, 5 countries; Fig. 1):

- ❑ 2 qualitative and 8 quantitative
- ❑ Quality varied : 2 weak, 3 moderate and 5 good

The 30 factors identified as influencing the sustainability of the donations to milk banks were:

- ❑ Categorized as related to: (1) donors, (2) donors' infant health, (3) milk bank factors and systems.
- ❑ Organised by micro/meso/macro levels in Figure 2.
- ❑ Assessed for confidence levels of findings: low and very low.
- ❑ Most commonly associated with sustainability: frequency, duration and quantity of donation.

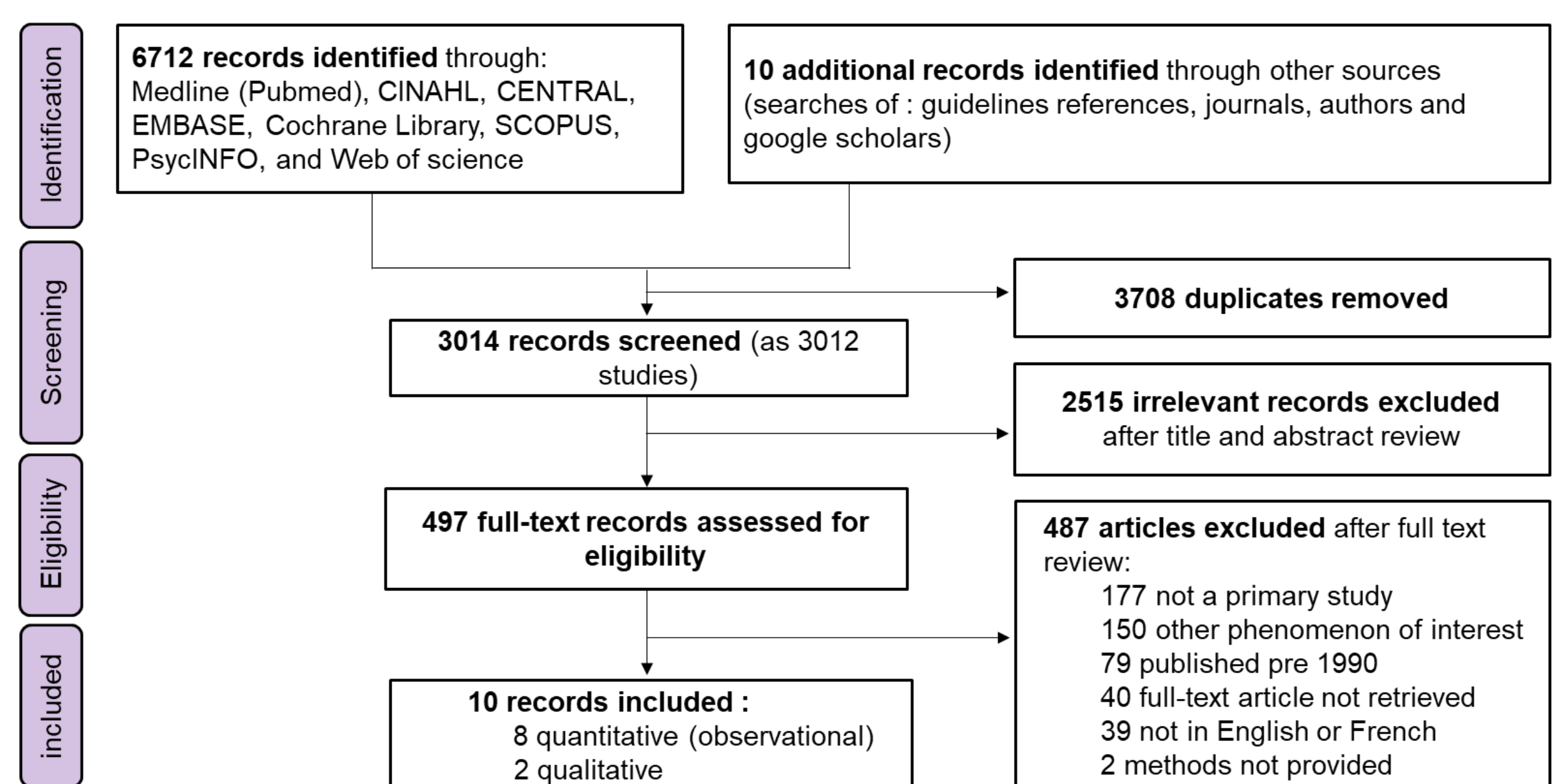


Figure 1: Flow diagram of the study selection



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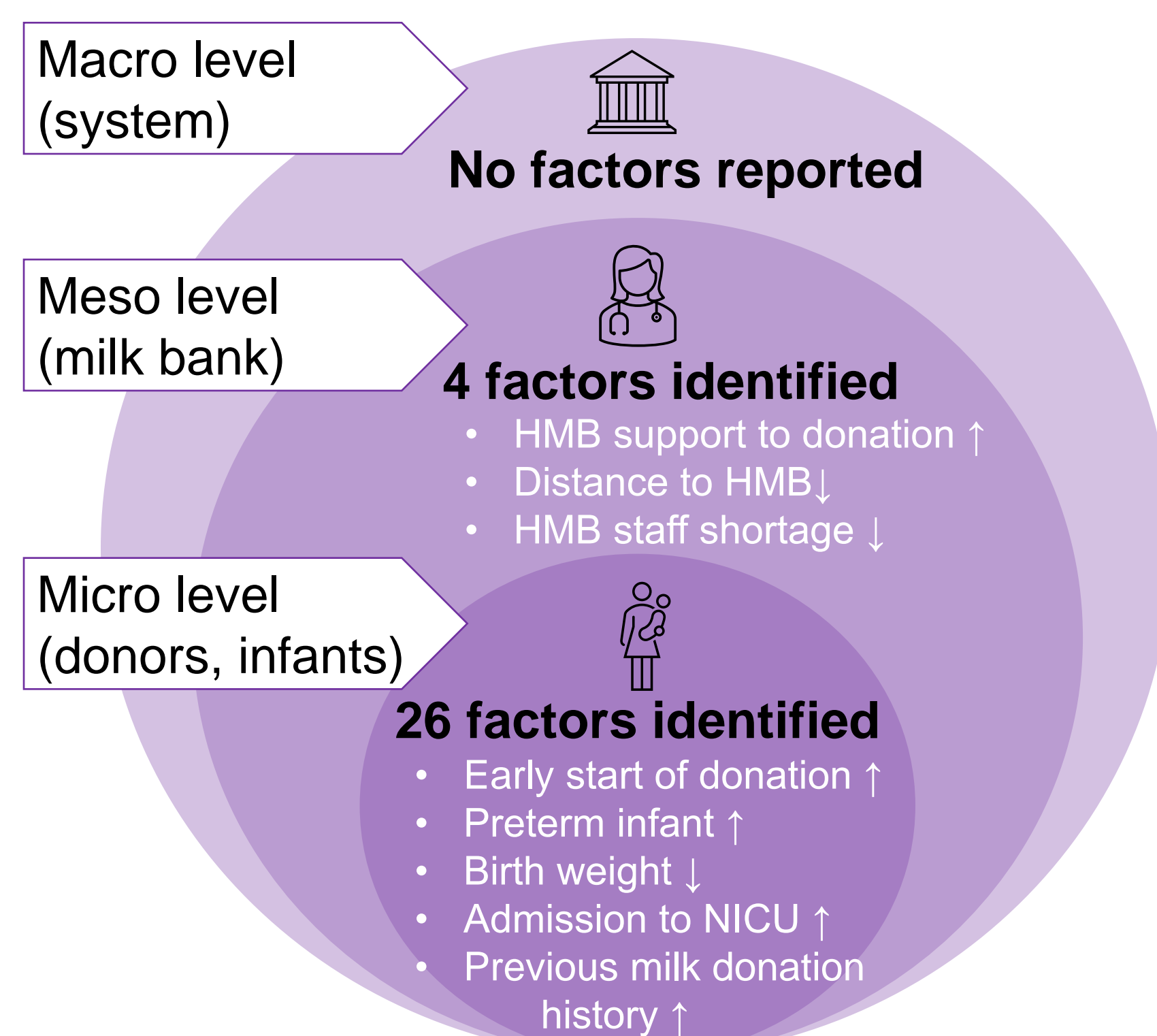


Figure 2: Major factors and their reported impacts on donation sustainability (↑ increase, ↓ decrease) at the micro, meso, and macro levels

KEY MESSAGES

The evidence suggests that sustainable milk donations are associated with :

- ✓ repeat donors
- ✓ longer periods of donation
- ✓ early donation
- ✓ donors whose infant was of smaller gestational age and/or weight

5. Conclusions

- ❑ Supporting and encouraging early and repeat donation and recruiting donors with infants of low birth weight and gestational age may increase volumes of donor human milk.
- ❑ The scarcity of the literature on sustainability, demonstrates the need for more research, specifically to identify sustainable factors at both meso and macro levels.

Christelle Kaech is a PhD scholar at the University of Queensland, Australia.

References:

1. WHO, Global strategy for infant and young child feeding [Internet]. 2003. Available from: <https://apps.who.int/iris/bitstream/handle/10665/42590/9241562218.pdf;jsessionid=68147361CB9C858CEA3F189429EF1B3C?sequence=1>
2. Quigley M, Embleton ND, McGuire W. Formula versus donor breast milk for feeding preterm or low birth weight infants. Cochrane Database of Systematic Reviews [Internet]. 2019;(7). Available from: <https://www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD002971.pub5/full>
3. Shenker, N. Maintaining Safety and Service Provision in Human Milk Banking: A Call to Action in Response to the COVID-19 Pandemic. Lancet Child Adolesc. Health 2020, 4, 484–485.



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