

## INTRODUCTION

- ❖ Perinatal period: **Challenging time** for parents
  - Experience stress, anxiety and depression
- ❖ **Mobile application-based interventions** can improve parents’ psychosocial well-being appropriately and flexibly
- ❖ **Close ties** established between parents’ (1) Parenting self-efficacy, (2) Depression, (3) Anxiety, (4) Stress, (5) Sense of social support and (6) Parent-child bonding
  - These 6 outcomes should be analysed concurrently to obtain a **holistic understanding** of parents’ perinatal well-being

## AIMS

- To analyse the effect of mobile application-based perinatal interventions among parents in improving:
- Parenting self-efficacy, Anxiety, and Depression (**primary outcomes**), AND
  - Stress, Social support, and Parent-child bonding (**secondary outcomes**)

## METHODOLOGY

- ❖ **Seven electronic databases** were searched from their respective inception dates till August 2021: PubMed, Embase, CINAHL, PsycINFO, Web of Science, Scopus, and ProQuest Thesis and Dissertations
- ❖ Studies were selected based on the eligibility criteria in Table 1
- ❖ **Customised data extraction table** was used to obtain included studies’ data
- ❖ Quality appraisal → **Cochrane Risk of Bias-2 tool**
- ❖ Two independent reviewers conducted: Article screening, Data extraction, and Quality appraisal. Disagreements were resolved via discussions.
- ❖ Analysis method → **Narrative synthesis**
  - Rationale: **High heterogeneity** of interventions and participant types across the included studies

Criteria	Inclusion	Exclusion
Population	✓ Parents ≥ 18 years during the perinatal period	✗ Parents who undergone abortion, miscarriage or stillbirth
Intervention	✓ Explicitly designed maternity and/or parenting mobile apps ✓ Can include non-face-to-face components	✗ Mobile apps not designed for maternity and/or parenting purposes ✗ Include in-person components ✗ Formal counselling conducted by professionals via apps
Comparison	✓ Any control group that does not use mobile apps to deliver perinatal care	✗ Any control group that uses mobile apps to deliver perinatal care
Outcomes	✓ Assess pre- and post-intervention measurements for at least 1 of the 6 outcomes: Parenting self-efficacy, Depression, Anxiety, Stress, Social support and Parent-child bonding	✗ Did not assess any of the six outcomes at pre- and post-intervention timepoints
Study design	✓ Randomised controlled trials ✓ Cluster randomised controlled trials ✓ Clinical controlled trials	✗ One group pretest-posttest studies, One group posttest only studies, Two group posttest only studies, Crossover design studies, Non-experimental studies, Qualitative studies, Review papers
Language and Publication type	<u>English language:</u> ✓ Peer-reviewed published journal articles ✓ Grey literature (unpublished dissertations and conference papers with full texts)	✗ Studies with abstract only, Books, Book chapters review, Letters, Editorials, Commentaries

## RESULTS

- ❖ Of the 6164 articles retrieved, **12 studies** were finally included after undergoing the selection process (Figure 1)
- ❖ **12 included studies:** 3 controlled clinical trials (CCTs) + 9 randomised controlled trials (RCTs)
  - Some characteristics are presented in Figure 2a-2c
- ❖ **Studies’ overall risk of bias:** Some concerns (n = 2), and High (n = 10)
- ❖ Mobile application-based interventions → **Acceptable and promising** ways to improve parents’ overall well-being during the perinatal period
- ❖ Need to **further explore** the:
  - Sustainability of mobile application-based interventions’ effect on parental well-being
  - Interventions’ effect on fathers

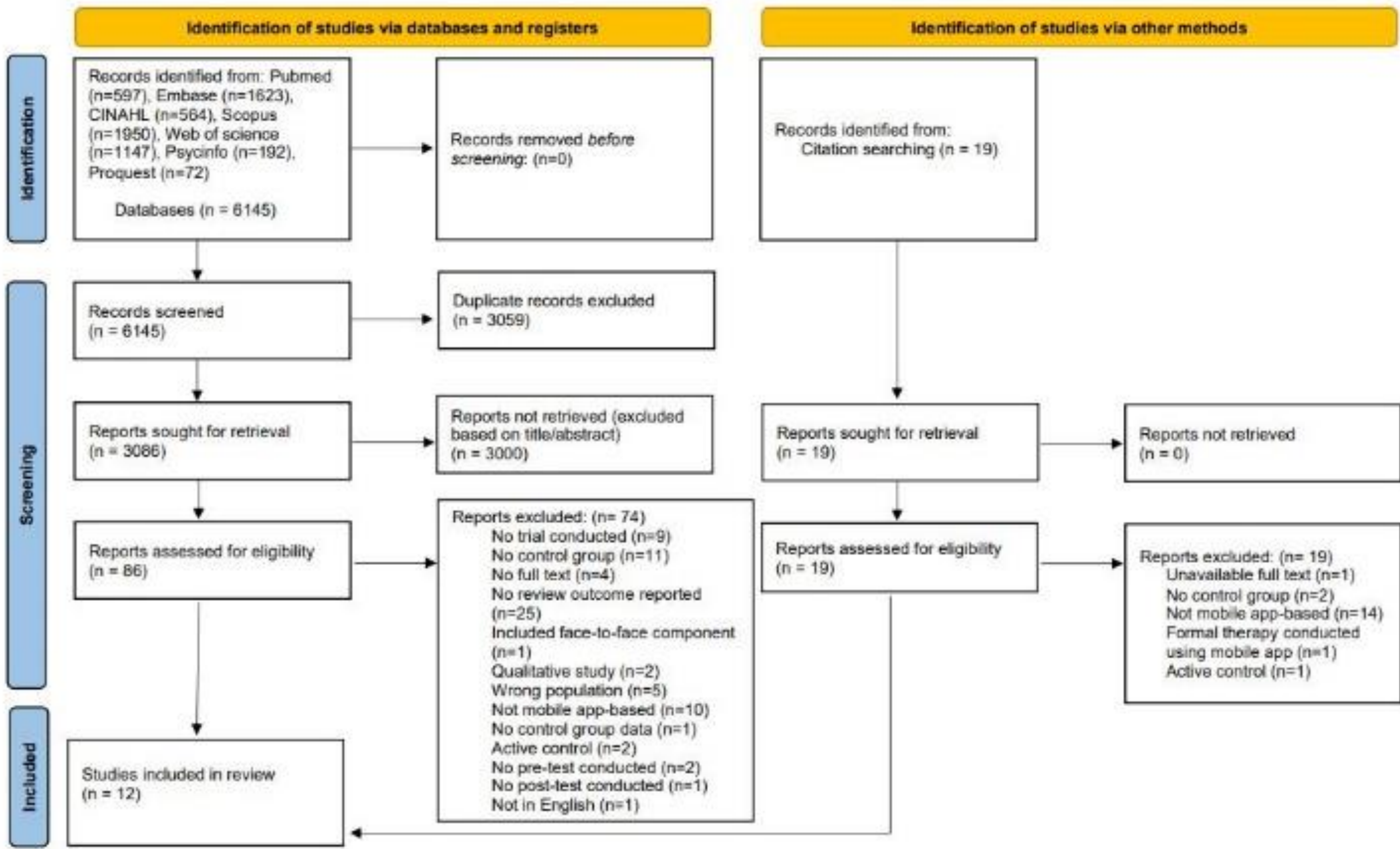


Figure 1.

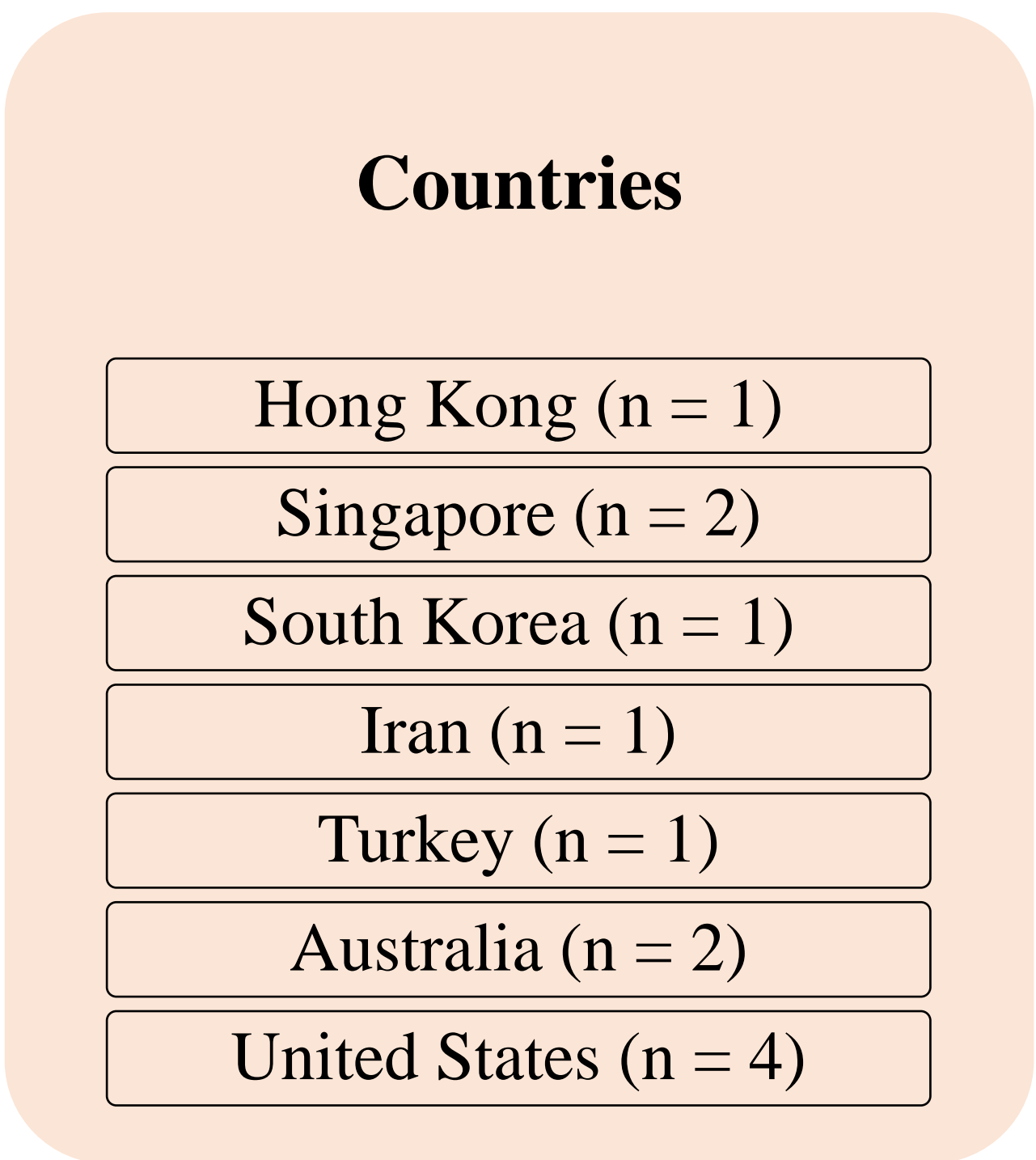


Figure 2a.

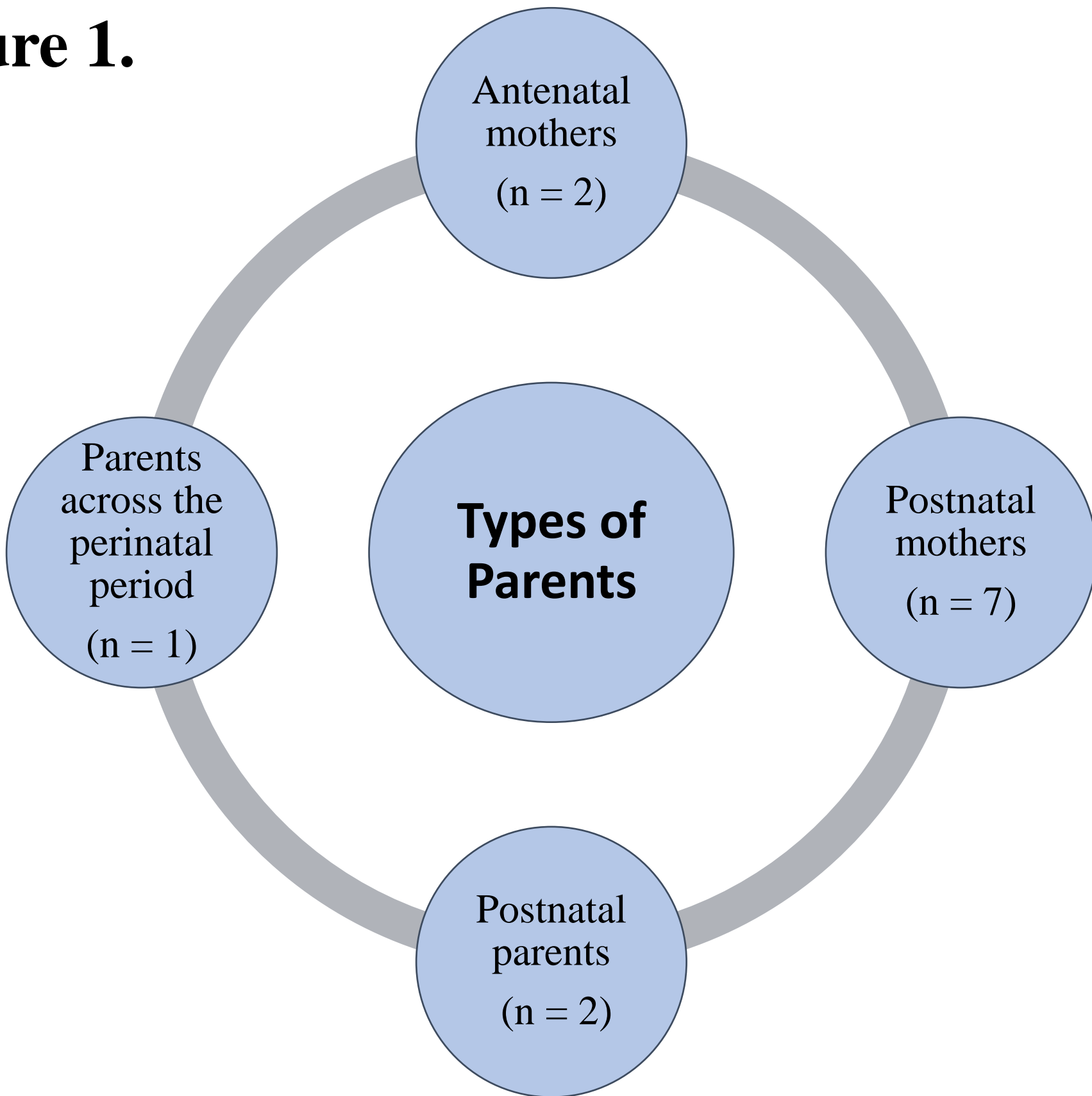


Figure 2b.

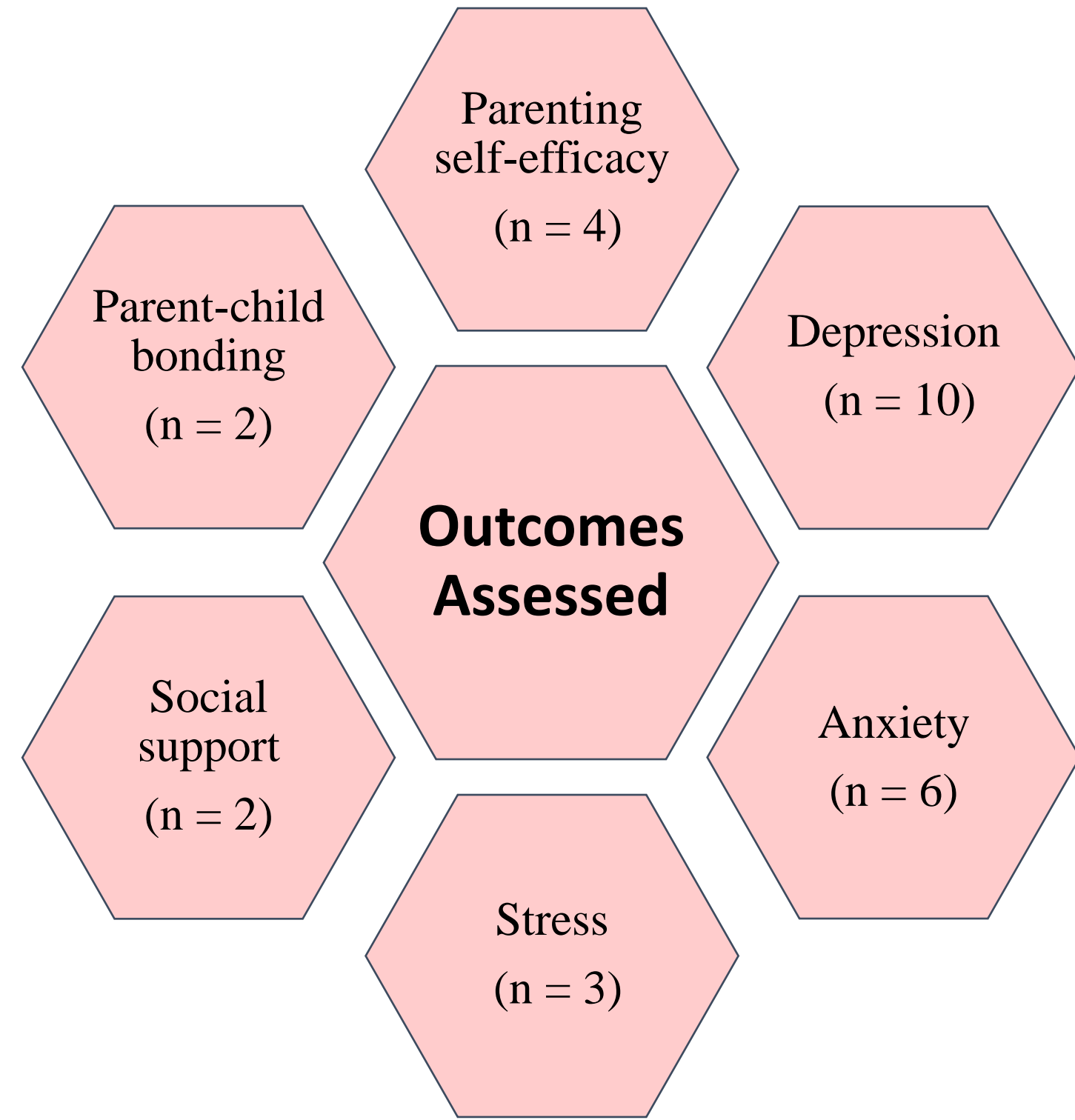


Figure 2c.

## CONCLUSIONS

- ❖ **Components** of mobile application-based interventions that can improve parental well-being:
  - ✓ Educational resources on relevant maternal and child care
  - ✓ Psychotherapy
  - ✓ Support from peers and healthcare professionals
- ❖ To **holistically** evaluate the interventions’ effect: Assess **interrelated** parenting outcomes (Parenting self-efficacy, Stress, Anxiety, Depression, Social support, and Parent-child bonding)
- ❖ **Experiential learning methods** (computer animations and virtual reality) could ↑ parents’ engagement
- ❖ **Recommendations for future studies**
  - Engage both mothers and fathers
  - Compare the interventions’ effects between mothers and fathers
  - Include parents from more diverse cultural backgrounds

## PRESENTATION AND PUBLICATION DETAILS

### Previous presentation:

Chua, J. Y. X., & Shorey, S. (2023). Effectiveness of mobile application-based perinatal interventions in improving parenting outcomes: A systematic review. (Ed.),<sup>^</sup>(Eds.). 26th East Asian Forum of Nursing Scholars (EAFONS2023), The University of Tokyo, Japan

### Published in:

Chua, J. Y. X., & Shorey, S. (2022). Effectiveness of mobile application-based perinatal interventions in improving parenting outcomes: A systematic review. *Midwifery*, 114, 103457. <https://doi.org/10.1016/j.midw.2022.103457>

## SCAN TO VIEW ARTICLE

