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# Feasibility, Engagement and Effectiveness of Digital Health Interventions for Postpartum Weight Management: A Systematic Review

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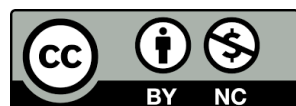
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## ABSTRACT

**Background:** Postpartum weight retention contributes to long-term obesity and cardiometabolic risk. Digital health interventions have emerged as potential weight-management strategies. This review characterise digital postpartum weight-management interventions and synthesise evidence on feasibility, acceptability, engagement, user perceptions, weight-related outcomes, and cardiometabolic outcomes among postpartum women with overweight or obesity.

**Methods:** A systematic search was conducted in Scopus to identify articles evaluating digital or technology-supported interventions for postpartum weight management. Included articles involved postpartum women with overweight or obesity and reported outcomes related to feasibility, acceptability, engagement, user perceptions, weight-related outcomes, or cardiometabolic indicators. Methodological quality was appraised using design-appropriate Joanna Briggs Institute tools. Due to heterogeneity in study design and outcomes, the findings were synthesized narratively.

**Results:** Seven articles were included: randomised and feasibility trials, a retrospective cohort study, and a qualitative study. Interventions included mobile applications, wearable-supported programmes, social media groups, telephone support, and blended-care approaches. Acceptability was generally favourable, whereas engagement varied across studies and intervention components. Weight-related findings were mixed, with some studies reporting favourable changes and others minimal or non-significant between-group differences. No study reported biochemical cardiometabolic outcomes. One feasibility trial reported blood pressure and waist circumference.

**Conclusion:** Digital health interventions may be feasible and acceptable approaches to postpartum weight management, but their effectiveness remains uncertain due to a small, heterogeneous, and methodologically limited evidence base.

**Keywords:** Postpartum period; Obesity; Weight loss; Telemedicine; Health behavior

## INTRODUCTION

Women of childbearing age are particularly susceptible to weight gain, a vulnerability that often intensifies during the postpartum period. A study identified that many women experience postpartum weight retention and fail to return to their pre-pregnancy weight (1). Postpartum weight retention is an important public health concern, as weight retained at approximately one year after childbirth may persist and contribute to long-term obesity, cardiometabolic risk, and complications in subsequent pregnancies (2). Although clinical guidelines encourage healthy dietary practices, physical activity, and weight monitoring during the postpartum period, a substantial proportion of women remain at risk of postpartum weight retention (3).

The postpartum period is a pivotal window for implementing preventative health strategies. It was highlighted that women in their postpartum period often require enhanced informational and psychosocial support to facilitate sustainable behaviour change and to reduce long-term health risks (4). However, evidence on targeted postpartum interventions related to weight management, particularly among those with weight issues, remains limited. A scoping review found that only 14% (12 out of 87) of the included studies specifically addressed postpartum women with elevated body weight, indicating a significant gap in the literature (1).

Emerging evidence suggests that digital health interventions (DHIs) may support weight management among postpartum women. DHIs can facilitate the delivery of accessible content, remote self-monitoring, and ongoing communication through modalities such as mobile applications, websites, wearable devices, text messaging, and telehealth (2). These delivery approaches may be particularly relevant during the postpartum period, when childcare responsibilities, breastfeeding, fatigue, time constraints, and competing family demands can restrict participation in conventional face-to-face programmes (3,5). A study documented interest in and preferences for app-based postpartum support related to diet, physical activity, and weight management among women and healthcare professionals (4). The availability of free digital content, such as bodyweight exercise programs designed for home use, makes physical activity more feasible for new mothers (6).

Similarly, a study reported that postpartum women demonstrated high compliance with physical activity regimens when digital interventions incorporated supportive features such as professional guidance and follow-up strategies, including weekly phone calls or email reminders (7). In short, digital delivery may offer practical advantages, although its acceptability, engagement, and effectiveness are likely to depend on intervention design, the level of professional or interpersonal support, and the circumstances of postpartum women.

Several systematic reviews have previously examined digital or technology-supported weight-management interventions during pregnancy and the postpartum period. One review evaluated eHealth technologies for weight management across pregnant and postpartum populations, another synthesized behavioral weight-management studies in postpartum women, and a third explored postpartum women's and healthcare professionals' perspectives on digital lifestyle interventions (8–10). These reviews identified potential benefits alongside persistent challenges related to intervention heterogeneity, engagement, and implementation. Although these reviews provide important evidence, their scope differs from that of the present review. Some combined pregnancy and postpartum populations; others were restricted to randomised controlled trials or weight-loss outcomes; and the qualitative review focused primarily on stakeholder perspectives. Consequently, there remains a need for an updated postpartum-specific synthesis that encompasses diverse study designs and considers not only weight-related outcomes but also feasibility, acceptability, engagement, user perceptions, and the reporting of cardiometabolic outcomes among women with overweight or obesity.

Therefore, this systematic review aimed to: (a) characterise the populations, digital modalities, and intervention components represented in digital postpartum weight-management research; (b) synthesise evidence on KAP, where directly assessed, and examine feasibility, acceptability, engagement, and user perceptions as distinct implementation-related outcomes; (c) synthesise findings on weight-related outcomes, including body weight, percentage weight change, postpartum weight retention, return to pre-pregnancy weight, and body mass index; and (d) identify the

cardiometabolic outcomes assessed and synthesise the available findings among postpartum women with overweight or obesity.

## METHODS

### Search Strategy

A systematic literature search was conducted in Scopus in March 2025. Scopus was selected for its broad multidisciplinary coverage across medicine, nursing, public health, behavioural science, and digital health research; however, the use of a single database may have reduced the comprehensiveness of retrieval and is acknowledged as a limitation of this review. The search strategy was developed from the key review concepts and informed by controlled vocabulary, including Medical Subject Headings (MeSH), as well as relevant free-text keywords.

The search was performed in the title, abstract, and keyword fields (TITLE-ABS-KEY) using combinations of terms related to the postpartum period, weight management, and digital health interventions. The full search syntax used was as follows:

("postpartum" OR "post-partum" OR "postpartum" OR "post-partum" OR puerperium) AND ("weight management" OR "weight loss" OR "weight reduction" OR "weight control" OR "postpartum weight retention" OR "body weight" OR "body mass index" OR BMI OR obes\* OR overweight OR adiposity) AND ("digital health" OR "digital intervention\*" OR "digital technolog\*" OR mHealth OR eHealth OR telehealth OR telemedicine OR "mobile application\*" OR app OR apps OR smartphone\* OR wearable\* OR "internet-based" OR "web-based" OR online OR "social media" OR Facebook)

The search strategy was intentionally broad to maximise retrieval of studies evaluating digital or technology-supported interventions for postpartum weight management. Outcome terms were not applied as restrictive search filters. Instead, feasibility, acceptability, engagement, user perceptions, KAP measures where available, weight-related outcomes, and cardiometabolic outcomes were assessed during screening and data extraction. Filters were applied to English-language peer-reviewed articles published between 2020 and 2025.

### Screening and Selection Process

The screening and selection process followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 guidance. The database search identified 348 records. After removal of 17 duplicate records, 331 records underwent title-and-abstract screening, of which 306 were excluded. Full texts were sought for 25 articles; six could not be retrieved. Nineteen articles were assessed for eligibility, and 12 were excluded for the reasons shown in **Figure 1**. A total of seven articles met the eligibility criteria and were included in the final review. Titles and abstracts were initially screened by one reviewer against the predefined eligibility criteria, independently cross-checked by a second and third reviewer, and followed by full-text assessment of potentially eligible articles. The inclusion criteria were as follows:

- Population (P): Postpartum women with elevated weight (overweight or obese) during the postpartum period
- Intervention (I): Digital health interventions (DHI) for postpartum weight management, including mobile applications, web-based platforms, and telehealth services
- Comparator (C): Usual care, non-digital interventions, or no intervention
- Outcomes (O): Knowledge, attitude, practice (KAP), feasibility, acceptability, satisfaction, engagement, adherence, intervention use, and user perceptions, weight-related outcomes including body weight, weight change, percentage weight change, postpartum weight retention, return to pre-pregnancy weight, BMI, and body composition; and cardiometabolic outcomes including biochemical measures and non-biochemical indicators.

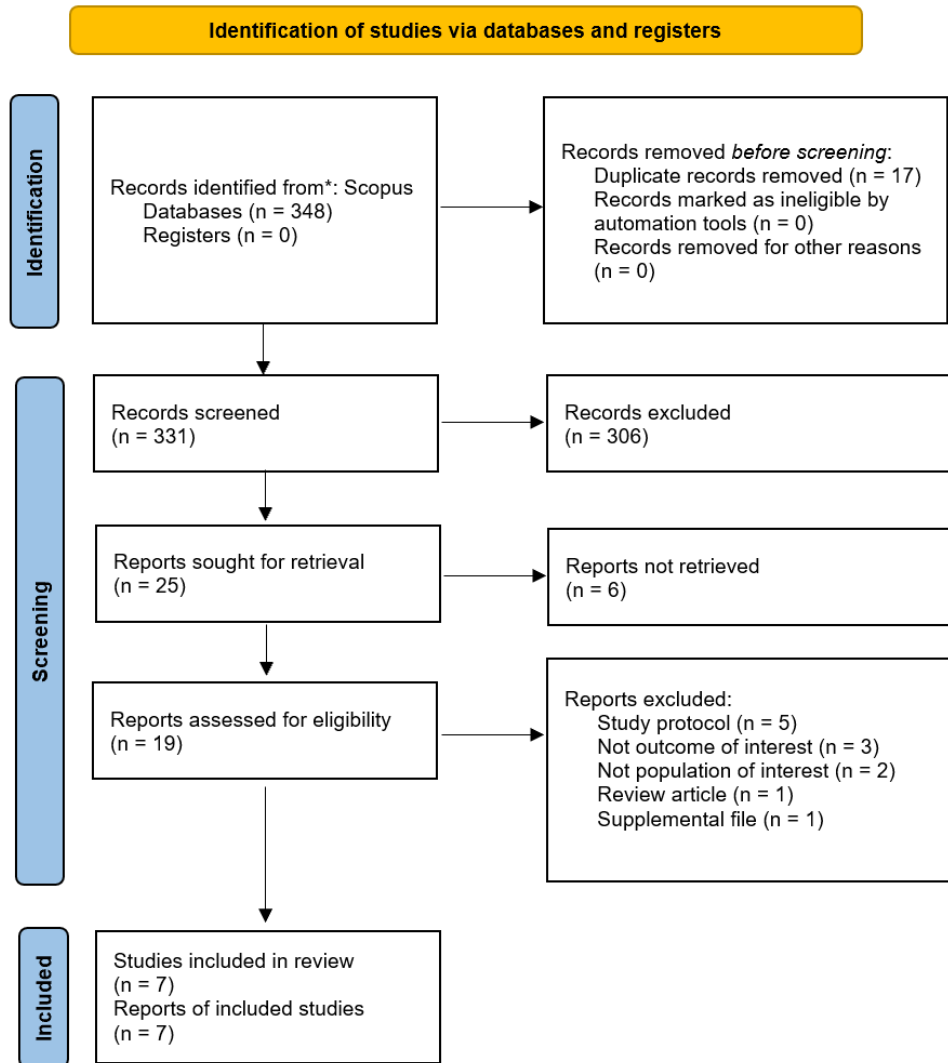
**Figure 1** presents the PRISMA 2020 flow diagram detailing the study selection process. Two reviewers independently appraised the included articles using design-appropriate Joanna Briggs Institute (JBI) critical appraisal tools. Responses were recorded as Yes, No, Unclear, or Not applicable, with disagreements resolved through discussion or consultation with a third reviewer. No numerical exclusion threshold was imposed; domain-level judgements were used to calibrate the interpretation of findings rather than to exclude studies solely on the basis of appraisal results.

## Data Extraction

A structured data extraction form was used to collect information on the author and year, country, study design, sample characteristics,

intervention modality and components, comparator, intervention duration, follow-up period, feasibility and engagement outcomes, weight-related outcomes, cardiometabolic outcomes, and methodological quality.

**Figure 1: PRISMA Flowchart of the Review**



## RESULT

### Characteristics of Included Studies and Digital Health Interventions

Seven articles met the eligibility criteria and were included in this systematic review (Table 1). The seven included articles comprised randomised controlled trials, feasibility or pilot trials, a retrospective cohort study, and a qualitative study, reflecting considerable methodological heterogeneity. The interventions used a range of delivery modalities, including mobile applications, wearable technology, social media, text

messaging, telephone-based support, and digitally supported behavioural coaching. Common intervention components included goal setting, self-monitoring, reminders, educational content, behavioural strategies, and interpersonal support through messaging, peer coaching, or contact with healthcare professionals. Intervention delivery ranged from predominantly self-directed digital programmes to multicomponent approaches incorporating digital technologies alongside professional or peer support. Intervention duration ranged from approximately 14 weeks to 12 months, and comparators included usual

care, non-digital interventions, or no intervention.

**Table 1:** Characteristics and Methodological Quality Assessments of the Included Articles (N = 7)

| Author(s), Study Design                               | Population                                                  | Intervention (DHI Type)                                | Comparator               | Duration       | Yes/No/Unclear | Key methodological strengths                                                                                                       | Key limitations                                                                                                  |
|-------------------------------------------------------|-------------------------------------------------------------|--------------------------------------------------------|--------------------------|----------------|----------------|------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|
| Chen et al. (2024) (8)<br>RCT                         | Pregnant women (BMI $\geq 25$ ), followed postpartum (N=92) | mHealth app + wearable                                 | Standard care            | 6 months       | 6/4/3          | Computerized block randomization; comparable groups at baseline; adjustment for relevant covariates                                | Approximately 20% attrition; postpartum weight self-reported; potential measurement bias                         |
| Daley et al. (2020) (9)<br>Cluster feasibility RCT    | Postpartum women with overweight/obesity (N=28)             | Nurse-led intervention during immunisation visits      | Written lifestyle advice | 4 months       | 9/3/1          | Cluster randomization with central allocation; objective weight measurement; intervention fidelity assessed                        | Small sample; recruitment substantially below target; participant/provider blinding not feasible                 |
| Herring et al. (2021) (10)<br>Feasibility study       | Black/Latina mothers $\leq 6$ months postpartum (N=22)      | Behavioural coaching + messages + Facebook support     | Usual care               | 14 weeks       | 7/3/3          | Randomized design; computer-generated allocation; complete participant retention; standardized intervention delivery               | Very small pilot sample; limited statistical power and generalizability                                          |
| Pérez-Muñoz et al. (2023) (11)<br>RCT                 | Postpartum mothers (N=430)                                  | Remote (telephone) postpartum weight loss sessions     | Usual care               | 6 months       | 9/3/1          | Large sample; concealed computerized randomization; intention-to-treat analysis; good retention; intervention fidelity monitored   | Unblinded outcome assessment; intervention groups combined for primary analysis                                  |
| Toro-Ramos et al. (2021) (12)<br>Retrospective cohort | Postpartum women (N=130)                                    | Noom mHealth cognitive behaviour therapy-based program | No control group         | 24 weeks       | 4/3/4          | Longitudinal assessment; repeated weight measurements; engagement systematically assessed; appropriate longitudinal modelling      | Retrospective design; no comparator group; potential selection bias and uncontrolled confounding                 |
| Tyldesley-Marshall et al. (2021) (13)<br>Qualitative  | Women $\geq 4$ weeks postpartum, BMI $\geq 25$              | Not applicable                                         | Not applicable           | Not applicable | 9/0/1          | Purposive sampling; systematic Framework Method analysis; multidisciplinary coding and consensus; consideration of data saturation | No explicit theoretical/philosophical perspective                                                                |
| Waring et al. (2023) (14)<br>Feasibility RCT          | Postpartum women (8 weeks–12 months)                        | Facebook DPP intervention                              | In-person group          | 12 months      | 6/2/5          | Randomized design; high retention at 6 and 12 months; clearly defined feasibility outcomes                                         | Pilot feasibility design; effectiveness outcomes exploratory; intervention participation differed between groups |

Note: Y – Yes, N – No, U - Unclear

### Methodological Quality of Included Studies

Methodological strengths across the RCT articles included genuine randomisation, generally consistent intervention delivery, and objective weight measurement in several studies. The most recurrent limitations were the unavoidable lack of participant and provider blinding, absent or unclear outcome-assessor blinding, small feasibility samples, and uncertainty surrounding allocation concealment in three trials. Two articles provided the most robust quantitative methods, including concealed allocation and analyses that addressed clustering or missing data (11,12). Two articles were primarily

feasibility studies and were not designed to establish comparative effectiveness (13,14). One article was weakened by differential attrition, available-case analysis, and self-reported postpartum weight (15). A qualitative study demonstrated strong methodological congruity, transparent analysis, adequate representation of participant voices, and reflexivity, although an explicit philosophical position was not stated (16). A study was retained as supportive observational evidence, but its uncontrolled design, self-selected engagement groups, self-reported outcomes, and unmeasured confounding precluded causal attribution (17). All seven studies were retained for synthesis (Table 2).

**Table 2:** Main Findings of the Included Articles (N = 7)

| Author(s)                             | Feasibility, acceptability, engagement, and user perceptions                                                                                                                                             | Weight-related outcomes                                                                                                                                                                                                                                                    | Cardiometabolic outcomes                                                                                                                                                                                                                                   |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Chen et al. (2024) (8)                | Not reported                                                                                                                                                                                             | Minimal between-group difference in weight at 6 months (72.55 vs 72.58 kg)                                                                                                                                                                                                 | Not reported                                                                                                                                                                                                                                               |
| Daley et al. (2020) (9)               | Recruitment reached 35% of target (28/80); 63% adhered to weekly self-weighing and 56% registered with the online POWeR programme; intervention delivered with high fidelity                             | Intervention group lost 3.3 kg compared with a 1.9 kg gain in the usual-care group at 3 months                                                                                                                                                                             | Not reported                                                                                                                                                                                                                                               |
| Herring et al. (2021) (10)            | 100% retention; participants completed a mean of 3.4/6 peer-coach calls and 1.7/2 visits; 55% responded to $\geq 50\%$ of self-monitoring texts; high satisfaction with intervention skills and coaching | Mean weight change of $-1.4 \pm 4.2$ kg in the intervention group compared with $+3.5 \pm 6.0$ kg in usual care, corresponding to a mean between-group difference of 4.9 kg (SE 2.2). Percentage weight changes were $-1.4 \pm 4.2\%$ and $+3.3 \pm 6.1\%$ , respectively. | Mean changes in the intervention and usual-care groups were $+2.5$ versus $-1.1$ mmHg for systolic blood pressure, $-1.1$ versus $+1.6$ mmHg for diastolic blood pressure, and $-4.0$ versus $-2.7$ cm for waist circumference, respectively. Not reported |
| Pérez-Muñoz et al. (2023) (11)        | 88.4% retained at 6 months; participants receiving the postpartum intervention completed a mean of 5.9 sessions                                                                                          | Postpartum weight retention: 1.31 kg with postpartum weight-loss intervention vs 2.39 kg without it; difference 1.08 kg (95% CI $-0.08$ to $2.23$ ; $p = 0.07$ ); 48.1% returned to pre-pregnancy weight                                                                   | Not reported                                                                                                                                                                                                                                               |
| Toro-Ramos et al. (2021) (12)         | Engagement with the digital programme was assessed; greater programme engagement/completion was associated with greater observed weight reduction                                                        | Mean weight change: $-3.94$ kg at 16 weeks and $-4.08$ kg at 24 weeks; completers lost $-5.09$ kg ( $p$ value = 0.004)                                                                                                                                                     | Not reported                                                                                                                                                                                                                                               |
| Tyldesley-Marshall et al. (2021) (13) | Intervention was considered acceptable by postpartum women and nurses and feasible for integration into routine child-immunisation care                                                                  | Not applicable*                                                                                                                                                                                                                                                            | Not applicable*                                                                                                                                                                                                                                            |
| Waring et al. (2023) (14)             | Facebook-based delivery was perceived as convenient; approximately half of participants indicated willingness to participate again and/or recommend the programme                                        | Facebook-delivered intervention: $-3.0\%$ at 6 months and $-2.8\%$ at 12 months; in-person intervention: $-5.4\%$ and $-4.8\%$ , respectively                                                                                                                              | Not reported                                                                                                                                                                                                                                               |

### Feasibility, Acceptability, Engagement and User Perceptions

None of the included articles directly assessed KAP using validated KAP measures. Therefore, the effects of DHIs on KAP could not be directly determined. Several articles instead reported feasibility, acceptability, satisfaction, engagement, adherence, intervention use, and user perceptions. A study assessed the feasibility and acceptability of a brief weight-management intervention embedded within the routine national child immunisation programme (11). Among participants in the intervention group, moderate-to-high acceptability was reported, with mean scores of 6.2 out of 8 for recommending the study, 5.3 for the usefulness of nurse-led support, and 5.8 for self-weighing. Importantly, weighing during child immunisation visits was considered appropriate, and participants reported low anxiety about their weight, suggesting favourable attitudes and psychological acceptability. Through qualitative interviews, a study further confirmed that postpartum mothers and nurses perceived the intervention as both acceptable and feasible, with weight-management discussions integrated into routine child-immunisation appointments (16). A study evaluated postpartum mothers' satisfaction in a randomised feasibility trial comparing Facebook-based and in-person group delivery (14). Approximately half of the participants in both groups indicated they would be likely or very likely to participate in the program again (50% in the Facebook group and 58% in the in-person group), and a majority would recommend the program to a friend (54% and 70%, respectively). Notably, 96% of Facebook participants found it convenient or very convenient to log into the platform daily, while only 7% of in-person participants found attending weekly meetings convenient.

### Weight-Related Outcomes

Six of the seven included articles reported weight-related outcomes. The findings were mixed across interventions and study designs, with some articles reporting favourable weight changes and others showing small or non-significant between-group differences. A study evaluated a mobile health intervention that combined the smartwatch application (15) and found that at six months postpartum, mean body weight was similar between the intervention and control groups (72.55 kg vs 72.58 kg) (15). Another study reported an

unadjusted mean weight change of  $-3.3$  kg in the intervention group compared with  $+1.9$  kg in the usual-care group at three months. The adjusted between-group difference at follow-up was  $-7.5$  kg (95% CI  $-13.8$  to  $-1.3$ ) at three months, favouring the intervention (11). Although these findings favoured the intervention, engagement with the digital component was limited, and the study was designed primarily to assess feasibility rather than definitive effectiveness. Moreover, a study conducted a peer-coached behavioural intervention among Black and Latina postpartum mothers (13). Participants in the intervention group experienced a mean weight change of  $-1.4$  kg compared with  $+3.5$  kg in the usual-care group. Similarly, a study evaluated a postpartum weight-loss stepped-care intervention and found lower postpartum weight retention among intervention participants than among participants receiving the gestational-weight-gain-only intervention ( $1.31$  vs  $2.39$  kg) (12). However, the between-group difference did not reach conventional statistical significance ( $p = 0.07$ ).

Approximately 48.1% of participants returned to their pre-pregnancy weight. Additionally, a study reported mean weight reductions of  $-3.94$  kg at 16 weeks and  $-4.08$  kg at 24 weeks among participants using the Noom mHealth programme. Participants who completed the 24-week programme lost an average of  $-5.09$  kg (95% CI:  $-8.48$  to  $-1.69$ ;  $p = 0.004$ ) (17). As this was a retrospective study without a concurrent control group, these findings demonstrate weight change during programme participation but do not establish that the intervention caused the observed reduction. Another study also reported average weight loss of 3.0% and 2.8% in the Facebook group at 6 and 12 months, respectively, and 5.4% and 4.8% in the in-person group (14). Retention was high in both groups, at 92% at 6 months and 94% at 12 months (14).

### Cardiometabolic Outcomes

No included article reported biochemical cardiometabolic outcomes such as fasting blood glucose, HbA1c, insulin sensitivity, or lipid profiles. Consequently, the effects of DHIs on biochemical cardiometabolic biomarkers could not be assessed. A study, however, assessed non-biochemical cardiometabolic risk factors, including systolic and diastolic blood pressure and waist circumference (13). The absence of reporting of biochemical

cardiometabolic outcomes represents an important evidence gap.

## DISCUSSION

This review synthesized evidence on the characteristics, feasibility, acceptability, engagement, user perceptions, weight-related outcomes, and cardiometabolic outcomes of digital postpartum weight-management interventions among women with overweight or obesity. The most consistent findings concerned feasibility and acceptability; engagement varied across interventions; weight-related results were mixed; and biochemical cardiometabolic effects could not be evaluated as these outcomes were not reported. No article included in the review directly assessed the impact of DHIs on KAP using validated tools. While some studies reported metrics such as acceptability, satisfaction, convenience, adherence, and engagement, these are conceptually different from KAP and should not be considered substitutes. Factors such as health literacy and social-cognitive elements like knowledge, attitudes, self-efficacy, and risk perceptions may influence behavior; thus, the lack of direct measurement limits understanding of how DHIs might affect behavior change (18–20). Future research should include validated KAP measures alongside objective digital engagement data such as login frequency, self-monitoring, and feature usage to provide insights into interactions with intervention components and identifying engagement patterns linked to behavioral outcomes (21). More detailed measurement will also help identify the most effective intervention components for behavior change, supporting in refinement and replication (22,23).

In this review, one intervention that incorporated human support demonstrated favourable weight-related findings; however, the available evidence is insufficient to conclude that hybrid digital–human interventions are more effective than fully digital approaches (13). Nonetheless, the digital-health literature indicates that supportive accountability, professional input, peer connection, and social reinforcement can facilitate engagement (24–26). The literature suggests that effective digital interventions must move beyond passive content delivery to sustain motivation through hybrid, theory-informed design that includes initial in-person technique verification and periodic professional tele-follow-up (27). For instance,

a blended care model that combines digital platforms with structured cues and progress tracking may more effectively address postpartum barriers than standalone self-guided remote delivery (27,28). Furthermore, several included studies have reported low engagement or high attrition as well-documented challenges in digital health. For instance, only 56% of participants in the included article registered for the DHI, and among them, most logged weight only twice (9,11). This raises questions about intervention design, content relevance, and user experience. Hence, future studies must move beyond feasibility to focus on user-centred design, incorporating iterative feedback from diverse postpartum populations to optimise engagement (29–31).

In the current review, evidence regarding cardiometabolic outcomes was substantially more limited than that for weight-related outcomes. None of the included articles reported biochemical cardiometabolic outcomes such as fasting glucose or lipid profiles; therefore, the effects of DHIs on these biomarkers could not be assessed. One included article reported non-biochemical cardiovascular risk factors, including blood pressure and waist circumference (13). Considering the established association between postpartum weight retention and subsequent cardiometabolic risk, assessing intervention effectiveness solely through weight-related outcomes may provide an incomplete assessment of potential health benefits (33). Furthermore, modest, sustained weight loss may be accompanied by improvements in glycaemic control, lipid profiles, and other cardiometabolic risk factors that would not be captured by weight-related outcomes alone (34,35). The absence of comprehensive cardiometabolic data also limits conclusions regarding the broader health impacts of DHIs. This represents a critical gap in the literature, particularly given the lack of direct KAP measurement and the known associations between postpartum weight retention and future cardiometabolic diseases (36). Future trials should include objective metabolic health outcomes to comprehensively assess the clinical relevance of postpartum weight management interventions.

Another significant gap is the lack of racial, ethnic, and socioeconomic diversity among participants in the included articles. Many articles highlighted a predominance of White,

educated, and married women, which does not align with national demographic distributions or reflect those most at risk of postpartum weight retention. For example, a study acknowledged that 85% of participants had a bachelor's degree or higher, and only 11% were unmarried, compared with 34% and 40% nationally, respectively (14). Women from marginalised communities often encounter structural barriers to healthcare access, challenges related to digital literacy, and culturally specific beliefs surrounding weight and motherhood (37). As such, the generalisability and equity of these interventions may be limited. Future digital postpartum weight-management interventions should therefore prioritise inclusive recruitment and culturally responsive intervention design to ensure that the needs and experiences of diverse postpartum populations are adequately represented. The use of racially or culturally aligned peer support, as demonstrated in one of the included studies (13) may enhance the relevance and acceptability of interventions for underserved populations. Furthermore, involving intended users and community stakeholders in intervention development may help ensure that intervention content, delivery, and implementation are culturally and contextually appropriate (38,39).

Across the included articles, weight-related findings were mixed, with some interventions demonstrating favourable changes and others showing minimal or non-significant between-group differences. The studies showing positive weight results were not consistently free of bias. Several were pilot or feasibility trials with small sample sizes and limited statistical power, while others raised concerns about allocation concealment, assessor blinding, attrition, or self-reported weight. Notwithstanding, the observational evidence provides supportive indication of an association between program participation and weight loss; however, it is unable to confirm the efficacy of the intervention (17). In contrast, the comparatively stronger randomised evidence suggested more modest effects (11–15). Thus, although the direction of findings generally favoured digital or digitally supported approaches, the current evidence should be regarded as promising rather than definitive.

The review has certain limitations. The literature search was limited to Scopus, English-language peer-reviewed publications,

and studies published from 2020 to 2025, which may have led to the omission of relevant evidence. Additionally, differences in study designs, intervention components, follow-up durations, and outcome measures prevented quantitative synthesis and required a narrative approach. While the design-specific JBI critical appraisal tools facilitated appropriate evaluation of methodological quality across various study types, caution should be exercised when comparing appraisal results among heterogeneous study designs.

## CONCLUSION

In conclusion, DHIs may provide feasible and acceptable approaches to postpartum weight management among women with overweight or obesity. Future studies should incorporate validated KAP measures where relevant, standardised measures of digital engagement and weight-related outcomes, objective cardiometabolic measures, longer follow-up periods, and rigorous approaches to missing data. Greater inclusion of socioeconomically and culturally diverse postpartum populations is also needed to improve the generalisability and equity of future interventions.

## CONFLICT OF INTEREST

The authors declare that there are no conflicts of interest. The funding body had no role in the design of the study, data collection, data analysis, data interpretation, or manuscript writing.

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## AUTHOR CONTRIBUTIONS

**SZS:** Conceptualisation, methodology, formal analysis, review and editing of the manuscript.  
**NMY:** Formal analysis, review and editing of the manuscript.  
**MFMI:** Formal analysis, review and editing of the manuscript.

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