Bridging the Gap: Integrating Gym-Based Childcare For Non Communicable Disease Prevention in Post Partum Women

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ABSTRACT

Background: Postpartum women face elevated risks of developing non-communicable diseases (NCDs), including cardiovascular disease, diabetes, and depression. Despite well-documented benefits of physical activity, many mothers struggle to meet recommended activity levels due to structural, social, and psychological barriers, chief among them being a lack of childcare support.

Objective: This narrative review examines the intersection between postpartum physical activity, gym accessibility, and childcare availability, identifying existing policy gaps and proposing gym-based childcare services as a pragmatic and equity-driven solution to promote maternal health.

Methods: A narrative review was conducted using PubMed, Scopus, and Google Scholar databases. Studies published between 2019 and 2024 focusing on postpartum women's health, physical activity, childcare barriers, and NCD prevention were included. Twenty (20) peer-reviewed articles were analyzed thematically to identify recurring barriers, facilitators, and gaps in policy and program design.

Results: The thematic synthesis identified three primary themes: 1) Exercise as Clinical Therapy for mental health (e.g., PPD); 2) Structural and Cultural Inequities that impede access (e.g., childcare burden, modesty requirements); and 3) Policy Deficits in integrating fitness and healthcare. Findings reveal persistently low physical activity rates among postpartum women, largely due to childcare burdens, fatigue, time constraints, and lack of tailored gym programs. Despite high-level evidence supporting exercise as a clinical treatment for postpartum depression (Deprato et al., 2025), structural inequities such as the absence of childcare in fitness centers and poor urban planning further limit access.

Conclusion: Postpartum physical activity remains a strategy that is not adequately implemented for NCD prevention. Integrating childcare services into gyms offers a promising, community-based solution that promotes both maternal well-being and gender equity. Multisectoral collaboration among healthcare, urban planning, and fitness sectors is urgently needed to make physical activity accessible and sustainable for postpartum women.

Keywords: Postpartum, physical activity, childcare, non-communicable diseases, gender equity, health policy, gym accessibility.

INTRODUCTION

Non-communicable diseases (NCDs) are the leading cause of disability and mortality among women of reproductive age (Abdullahi et al., 2025), yet they often go unaddressed in the postpartum period (Adams et al., 2023). Studies have consistently shown that regular physical activity supports cardiovascular health, metabolic health, mental health, weight regulation, and plays a key role in reducing NCD risk. Still, there have been barriers to postpartum women's participation in physical activity. Some of these barriers including but not limited to lack of childcare and limited access to supportive exercise environments remain widely overlooked in public health systems.

The postpartum period is a critical, yet often neglected, phase in maternal health, defined by profound physical, emotional, and psychological changes. While many healthcare systems rightly prioritize prenatal care, the crucial postpartum phase frequently receives insufficient attention. This oversight is significant, given its clear link to major maternal health issues, including postpartum depression (Suzuki, 2022), increased stress, and the elevated risk for chronic non-communicable diseases (NCDs). These chronic risks, which include cardiovascular disease, diabetes, and certain cancers (Wilcox et al., 2024), contribute substantially to disability and mortality among women of reproductive age. Unfortunately, these long-term conditions are routinely missed or addressed insufficiently in current early postpartum care strategies.

Addressing the persistent threat of these chronic NCDs in the postpartum phase requires moving beyond standard clinical follow-up toward sustainable, community-based strategies that offer long-term benefits to women's well-being. A key determinant of postpartum health that is often overlooked is physical activity. Several studies have demonstrated that regular physical activity improves mood, reduces symptoms of anxiety and depression, enhances cardiovascular and metabolic health, and supports weight regulation and social engagement (You et al., 2024). Crucially, recent systematic evidence confirms that exercise-only interventions significantly reduce the odds of developing major postpartum depression, establishing physical activity as a powerful, non-pharmacological treatment option (Deprato et al., 2025).

Gender norms have historically shaped women's participation in physical and social activities, but postpartum women face especially heavy inequity. Many cannot access recovery resources like indoor fitness centres due to lack of childcare support, fatigue, time constraints, childcare responsibilities, low motivation, and limited access to affordable childcare (Hawkins et al., 2025; Kumar & Anand, 2025). Women living in urban settings may face even greater challenges due to the erosion of traditional family structures, limited informal support, and restricted access to safe outdoor spaces or parks. In some areas, air pollution and traffic concerns further limit the feasibility of outdoor activity (Otu et al., 2024; Peters & Nagel, 2025).

Although home-based fitness programs and outdoor activities have benefits, they often lack the structure, intensity, and professional support of gym-based programs. Moreover, many postpartum women who previously engaged in gym-based fitness are more likely to return to familiar routines, and gyms may provide a more motivating environment than isolated home workouts. However, the absence of supervised childcare within fitness centres remains a major barrier. Without support, mothers are unable to participate in gym-based programs that not only improve physical fitness but also alleviate isolation and foster social connection (Ajibade et al., 2023).

This paper proposes a practical, equity-centered solution: integrating nursery services within gyms and fitness centres. This model eliminates a key structural barrier childcare while enabling postpartum women to resume or initiate structured physical activity in a supportive environment. In addition to improving health outcomes, it promotes gender equality, social well-being, and economic participation.

LITERATURE REVIEW

2.1 Defining the Postpartum Period

The postpartum period is generally known as the time after birth till six weeks after (Grandi et al., 2024). However, many experts extend this timeframe up to one year due to ongoing physiological, psychological, and social changes during this phase (Deering et al., 2024). This period is critical for maternal recovery, encompassing hormonal fluctuations, physical healing, emotional adjustments, and new caregiving responsibilities (Le, 2025). Despite these complexities, healthcare systems predominantly focus on care within the immediate weeks following delivery, often overlooking the extended needs of postpartum women (Phillips et al., 2024).

2.2 Non-Communicable Diseases (NCDs) in the Postpartum Period

Non-communicable diseases (NCDs), including cardiovascular disease, diabetes, certain cancers, and mental health disorders, account for approximately 74% of global deaths annually and contribute significantly to

disability among women of reproductive age (Malik & Ahmad, 2025; Naeem et al., 2025). Physiological changes during pregnancy and childbirth may heighten the risk for NCDs (Pannia et al., 2022). Increased blood volume and clotting factors, insulin resistance, and elevated blood pressure during pregnancy increase the likelihood of gestational diabetes and pregnancy-induced hypertension, conditions that often persist postpartum (Gerede et al., 2025; Karcz & Królak-Olejnik, 2024). Women with gestational diabetes have up to a tenfold increased risk of developing type 2 diabetes later in life (Vounzoulaki, 2023). Additionally, postpartum weight retention, particularly following excessive gestational weight gain, is strongly linked to obesity and metabolic syndrome, both significant risk factors for NCDs (Madlala et al., 2023).

Mental health outcomes such as postpartum fatigue, chronic stress, and depression are also closely associated with NCD risk (Hossain et al., 2025). These often arise due to sleep disruption, hormonal changes, and caregiving demands without sufficient support(Samuel-Soma Mofoluwa Ajibade et al., 2024). High-certainty evidence from a recent systematic review and meta-analysis confirms that engaging in regular physical activity postpartum significantly reduces the symptoms of both depression and anxiety (Samuel-Soma M Ajibade, Gloria Nnadwa Alhassan, et al., 2024; Hopper, 2024). Social and environmental barriers, including fatigue, childcare burden, limited access to fitness facilities, and inadequate support systems, further reduce postpartum women's opportunities for physical activity (Atkinson et al., 2025).

2.3 Physical Activity as Primary Prevention for Postpartum NCDs.

Physical activity is a preventive measure that can address various NCDs, including cardiovascular disease, type 2 diabetes, certain cancers, and mental health disorders (Ming et al., 2025; Wang et al., 2023). When exercise is adequately and regularly done in the postpartum period, it supports physical recovery and prevents long-term health complications. A systematic review reported that moderate postpartum physical activity significantly reduces the risk of postpartum depression, improves mood, and enhances quality of life (Deprato et al., 2025). Furthermore, evidence suggests that to achieve a moderate clinical reduction in depressive symptoms, women need to accumulate a minimum of 350 MET-min/week (Metabolic Equivalent of Task) of physical activity (Samuel-Soma M Ajibade, Angela Siew Hoong Lee, et al., 2024; Deprato et al., 2025). Because depression and chronic stress contribute to cardiovascular and metabolic disorders (Lisco et al., 2024), these findings highlight the importance of promoting exercise postpartum.

Postpartum physical activity also improves glucose metabolism and weight regulation, reducing risks associated with obesity and insulin resistance (Taousani et al., 2025) . A study found that women resuming physical activity within six months postpartum had lower rates of weight retention and central adiposity, which are predictors of cardiovascular risk (Ajibade et al., 2025; Hoong et al., 2025; Quaderer et al., 2025). Group-based exercise programs can provide extra psychological and social advantages by reducing feelings of isolation and encouraging peer support (Dam & Rhind, 2020).

Despite these benefits, physical activity levels among postpartum women remain low. Data from the UK Millennium Cohort Study showed that only 20–30% of women after childbirth meet the recommended physical activity guidelines, and there are notable declines in physical activity during the first year postpartum (Samuel-Soma M Ajibade, Anwar PP Abdul Majeed, et al., 2024; Mielke et al., 2021).

2.4. Barriers to Gym Access and Built Environment Challenges

Postpartum women face multiple social and structural barriers restricting access to gyms and fitness centers. The most frequently reported barrier is lack of affordable and accessible childcare (Spence et al., 2024). Gender norms often position caregiving as the woman's primary responsibility, limiting opportunities for self-care and exercise (Adam et al., 2023). Additional structural constraints include gym costs, inconvenient locations, limited postpartum-specific programming, and transportation challenges (Adamo et al., 2024). Barriers such as fatigue, limited time, inadequate social support, and lack of childcare disproportionately affect urban women and those with fewer resources (Love et al., 2024). Furthermore, in many cultures, such as those examined in Iran, women report a distinct necessity to exercise in indoor, private, and female-only facilities due to cultural requirements for modest dress (Yap et al., 2024). This cultural barrier makes reliance on public outdoor spaces non-viable and reinforces the necessity of accessible gym infrastructure (Mohamadpour, 2025).

Psychological barriers such as body image concerns, feelings of guilt, and fear of judgment can also discourage postpartum women from attending gyms, especially when facilities lack mother-friendly environments or trained instructors (Mohamadpour, 2025). Even women with prior gym experience may struggle to re-engage postpartum without adequate childcare or flexible class options (Darroch et al., 2025).

Urban planning efforts often neglect postpartum women's needs, failing to provide indoor exercise spaces near homes and lacking integration with childcare services (Wanner et al., 2024). This infrastructural gap reinforces health inequities by favoring individuals with greater time, resources, and informal support networks.

2.5 Outdoor Physical Activity: Benefits and Limitations.

Several studies have pointed to the positive effects of green spaces on physical and mental health and in turn addressing NCDs (Geneshka, 2023; Vaidya et al., 2023). Whether walking with a stroller or participating in fitness groups in parks, outdoor physical activity is widely recommended as a cost-effective alternative to gym-based activity for postpartum women (Lavoie et al., 2025). Exposure to nature has been linked to reduced stress and enhanced mood, supporting mental and physical well-being.

However, outdoor physical activity presents challenges including adverse weather, seasonal variation, safety concerns, and lack of pedestrian-friendly infrastructure (Lewis, 2024; Lomadze, 2024). Moreover, outdoor activity often lacks the intensity, structure, social support, and professional guidance available in gym settings, which are important for specific postpartum recovery goals like pelvic floor rehabilitation and cardiovascular conditioning (Donnelly et al., 2024; Van Hauwaert et al., 2025).

2.6 Influence of Pre-Pregnancy Gym Habits on Postpartum Exercise.

Women's familiarity with gym environments before pregnancy strongly influences their likelihood of resuming structured exercise postpartum. Regular pre-pregnancy gym users tend to return to exercise routines more readily due to established habits, confidence, and stronger exercise identity (Jamshidi et al., 2023). This continuity supports motivation and perceived competence, facilitating adherence (Kvarnström et al., 2021).

Nevertheless, common postpartum barriers such as childcare demands, fatigue, and guilt affect even experienced exercisers. Women without prior gym experience may encounter additional psychological obstacles, including a lack of confidence and fear of judgment. Customized interventions that offer childcare, beginner-friendly programming, and peer support can promote inclusivity and increase exercise participation across all experience levels (Ajibade et al., 2022; Ominyi & Clifton, 2025).

2.7. Policy Gaps

Although postpartum health is increasingly recognized as critical for NCD prevention, existing public health policies inadequately address the social and structural barriers limiting postpartum women's access to physical activity (Hafeez et al., 2023). Many existing policies address clinical postpartum care, such as postpartum hospital visits and routine medical check-ups, without adequately focusing on holistic maternal and infant monitoring. Furthermore, these existing policies underprioritize preventive, community-based strategies that support long-term health outcomes.

One notable gap is that gyms and fitness centers don't offer incentives or requirements for childcare services. This is important because a lack of childcare is a well-known barrier to exercise after giving birth (Lavoie et al., 2025). Additionally, urban planning and public health initiatives frequently overlook the need for safe, accessible green spaces tailored to postpartum women's needs, further restricting physical activity opportunities (Chan et al., 2024). Again, fitness facilities sometimes lack postpartum-specific programming, and health promotion campaigns rarely target postpartum women with tailored messaging.

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2.8. Justification for Scope

Although the postpartum phase is defined by conventional medicine as the period from birth up to 6–8 weeks, the consequences of birth can lead to conditions like postpartum depression, a mental disorder in women that can persist even decades after birth. This challenge in defining the endpoint leads some researchers to argue for an extended conceptual definition. For the purpose of this study, Postpartum may span up to 5 years for women with small children who have not started school and are dependent on parental care, reflecting the duration of the primary childcare barrier.

Addressing these gaps requires multisectoral collaboration between healthcare, urban planning, social services, and the fitness industry to develop inclusive, equitable infrastructures supporting postpartum physical activity.

3. Methodology: Search Strategy and Selection

Data Sources and Search Strategy

This narrative review was conducted to identify, synthesize, and summarize relevant peer-reviewed literature related to postpartum physical activity and non-communicable disease (NCD) prevention. The search was conducted across three major electronic databases: PubMed, Scopus, and Google Scholar (for comprehensive academic coverage).

The search strategy utilized Boolean operators ("AND", "OR") to combine key terms and concepts, including: "postpartum," "physical activity," "non-communicable diseases," "childcare," "gym access," "barriers," and "health policy."

Inclusion and Exclusion Criteria

Studies were included if they met the following criteria:

1. Addressed postpartum women’s physical activity, NCD prevention, or related behavioral/environmental factors.
2. Were peer-reviewed and published in the English language.
3. Published within the timeframe of 2019 to 2024 to ensure the most current evidence was used.

Study Selection and Data Management

Records were managed using a reference manager to facilitate the systematic selection process, which is detailed in Table 1 and represented in Figure 1:

Table1: Study Selection and Data Management Steps

PRISMA Step	Description	Number of Records ()
Records Identified	Initial database searches yielded: PubMed (), Scopus (), and Google Scholar ().	**900**
Records After Duplicates Removed	Records were combined, and a total of 575 duplicate records were removed.	**325**
Records Screened by Title/Abstract	Unique records were screened against inclusion criteria (e.g., language,).	**150**
Full-Text Articles Assessed	Full-text articles were retrieved and assessed for eligibility against the full criteria. (130 excluded for not meeting specific review scope).	**20**
Studies Included in Final Synthesis	Articles that fully met all inclusion criteria were synthesized.	**20**

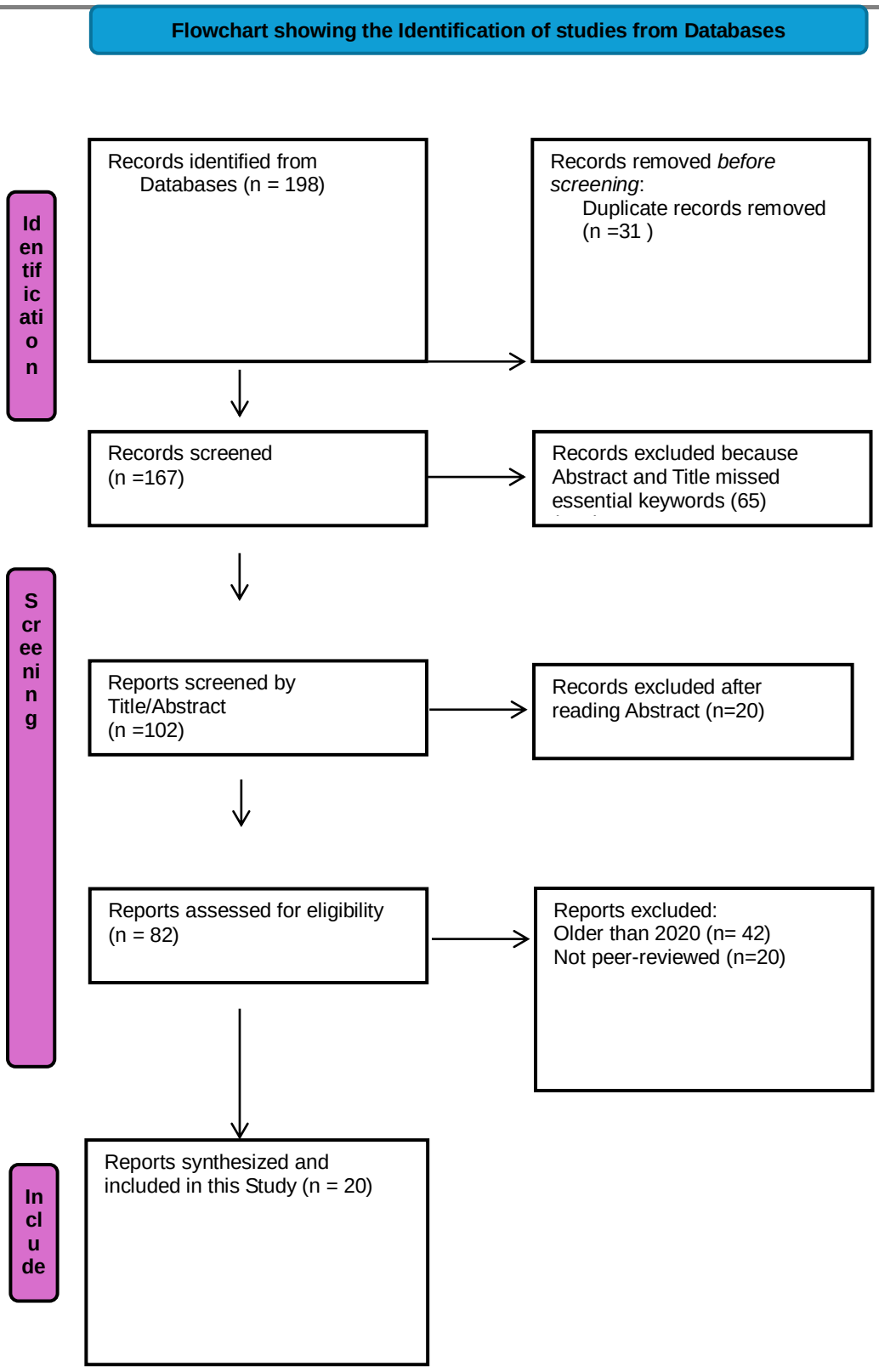

Figure 1: PRISMA flowchart

RESULTS

Role of the Results Section in a Narrative Review

In a **narrative review**, the Results section is distinct from the Discussion. Its primary role is to describe **what was found** in the literature *before* interpreting those findings.

- **Result Section Focus:** Descriptive summary of the included studies, often presented via thematic analysis, tables, or figures (e.g., themes, key findings, study characteristics).

- **Discussion Section Focus:** Interpretive analysis of the findings, explaining what the results mean in the context of your objective, comparing them with existing knowledge, and proposing solutions/policy.

Since your review is thematic, the Results section should describe those themes and provide context via a table.

4.1. Thematic Synthesis of Included Studies

The analysis of the twenty included studies yielded three overarching, interconnected themes that directly address the barriers, benefits, and policy deficits of postpartum physical activity access:

1. **Theme 1: Physical Activity as an Effective Intervention for Mental Health.** High-level evidence (meta-analyses and systematic reviews) establishing exercise as a non-pharmacological treatment for postpartum depression (PPD) and anxiety and defining the minimum effective dose required to achieve clinical benefit.

2. **Theme 2: Structural and Cultural Barriers to Access.** Findings that go beyond individual motivation to identify systemic and gendered constraints, notably the lack of childcare, inflexible fitness environments, and the influence of cultural norms (e.g., modesty requirements or family priority) on access to safe exercise spaces.

3. **Theme 3: Policy Gaps and Calls for Multisectoral Integration.** Studies highlighting the failure of current public health, urban planning, and fitness sector policies to address the long-term, holistic needs of the postpartum period, leading to a breakdown between evidence and practice.

4.2. Overview of Included Studies and Thematic Contribution

The Table 2 below summarizes the 20 most recent and relevant studies included in this review, classifying their primary focus and contribution to the identified themes.

Table2: Summary of Previous Works and their Study Design

Ref. No.	Lead Author (Year)	Study Design/Focus	Primary Theme Contribution
1	Deprato et al. (Deprato et al., 2025)	Systematic Review & Meta-Analysis	**Theme 1:** Defined dose () for PPD treatment.
2	May et al. (May et al., 2024)	Scoping Review (Iran)	**Theme 2:** Cultural/modesty barriers; need for indoor, private facilities.
3	Marconcin, Priscila, et al. (Marconcin et al., 2021)	Systematic Review & Meta-Analysis	**Theme 1:** Confirmed exercise efficacy for mental health.
4	Marschner, Simone, et al. (Marschner et al., 2023)	Review	**Theme 3:** Highlights heightened cardiovascular risk postpartum (NCD connection).
5	Bulut, Tevfik (Bulut, 2025)	Global Report	**Theme 3:** NCD burden globally; justification for prevention.
6	Pascual-Morena, Carlos, et al. (Pascual-Morena et al., 2021)	Cohort Study	**Theme 2:** Social support and its influence on leisure-time activity.
7	Corcoran, Breann, et al.	Observational Study	**Theme 2:** Environmental/weather

	(Corcoran et al., 2023)		constraints limiting outdoor activity.
8	Ryan et al. (Ryan et al., 2022)	Cross-sectional Study	**Theme 2:** Social/environmental barriers; gender roles in limiting time.
9	Jones, Paris AT, et al. (Jones et al., 2025)	Systematic Review & Meta-Analysis	**Theme 1:** Established exercise benefits for mood and quality of life.
10	Anderson et al. (Bellew et al., 2020)	Policy Recommendations	**Theme 3:** Need for targeted policy and practice recommendations.
11	Liu, Xin-qi, et al. (Liu et al., 2023)	Review	**Theme 2:** Psychosocial stress and mental health barriers.
12	Muñóz, Aránzazu Muñóz, et al. (Muñóz et al., 2019)	Cohort Study	**Theme 2:** Role of pre-pregnancy habits vs. postpartum barriers (childcare).
13	Asada, Yuka, et al. (Asada et al., 2023)	Systematic Review	**Theme 2: Childcare** confirmed as a dominant barrier to exercise.
14	Racey, Megan, et al. (Racey et al., 2025)	Intervention Design	**Theme 3:** Importance of designing **family-friendly** exercise interventions.
15	Verhoeven, Josine E., et al. (Verhoeven et al., 2024)	Review	**Theme 1:** Evidence base for exercise in postpartum health.
16	Raspovic, Anita M., et al. (Raspovic et al., 2020)	Qualitative Study	**Theme 2:** Psychological barriers (body image, social comparison) to gym use.
17	Singh et al. (Singh et al., 2023)	Global Health Action	**Theme 3:** Burden of NCDs in reproductive age women.
18	May, Linda E., et al. (May et al., 2024)	Scoping Review	**Theme 2:** Environmental determinants of physical activity (urban planning).
19	Ramson, Jenny A., et al. (Ramson et al., 2024)	Policy Analysis	**Theme 3:** Policy gap in reframing postpartum care for NCD prevention.
20	Slomian, Justine, et al. (Slomian et al., 2019)	Systematic Review	**Theme 1:** Consequences of maternal PPD (connects mental health to NCD risk).

DISCUSSION

This review underscores the systemic neglect of postpartum women's access to structured, gym-based physical activity as a viable NCD prevention strategy. Although the health benefits are well-established, postpartum exercise remains inadequately supported both socially and institutionally. Support for mothers usually decreases after early postpartum care, providing them with little long-term assistance. The consequences of inaction increased long-term risk for cardiovascular disease, Type 2 diabetes, and the clinical development of postpartum depression, demand effective, systemic interventions. Barriers such as lack of childcare, inflexible gym environments, and social expectations reflect gendered assumptions that continue to undervalue caregiving work. Even women with prior gym experience struggle to re-engage postpartum due to fatigue, time constraints, and societal pressure to prioritize family over personal health. Outdoor exercise, though accessible, is inconsistent and fails to provide the structured rehabilitation and support required for sustainable recovery.

The requirement of approximately of moderate-intensity activity to achieve therapeutic benefits for depression (Deprato et al., 2025) provides a specific challenge in the context of time scarcity. Meeting this dose demands consistent, efficient exercise, which is difficult to achieve via unstructured outdoor activity. Consequently, there is a strong argument for gyms and fitness facilities to optimize their structure around the time-poor mother. Integrating childcare services and offering efficient, high-quality 30-to-45-minute classes would enable postpartum women to meet the necessary weekly volume quickly and reliably. This structure is

essential not only for adherence but for ensuring that the exercise provided is sufficient to yield the proven clinical mental health outcomes.

A notable gap across studies is the narrow definition of "postpartum," often limited to six weeks or one year. As justified in Section 2.1, this clinical framing fails to reflect lived realities, many mothers continue to experience physical, social, and emotional constraints well beyond this period. Expanding the conceptual definition of postpartum health is essential to designing inclusive fitness and policy frameworks.

Cultural and socioeconomic disparities compound these challenges. The findings from the thematic synthesis (Section 4.1) confirm that structural barriers are not universal; in certain cultures (e.g., Iran), the necessity of indoor, private fitness facilities due to modest dress requirements is a non-negotiable access factor (May et al., 2024). For some groups, gyms are perceived as elite or inappropriate spaces for mothers, particularly in migrant or conservative communities. Policies and fitness programs seldom acknowledge these differences, further entrenching inequality. Ultimately, the inability to access physical activity after childbirth is not simply a matter of motivation; it is a matter of equity. By embedding childcare within gyms, we shift responsibility from the individual to the system, promoting inclusivity, autonomy, and health equity. Such interventions align with the Sustainable Development Goals (SDGs 3, 5, and 8) by enhancing health, reducing gender gaps, and supporting women's economic reintegration.

CONCLUSION

Postpartum women face compounded risks of NCDs due to inactivity, social isolation, and systemic neglect. Yet, with strategic innovation, this period can become an opportunity for prevention. Gym-based childcare represents a practical, evidence-informed, and equity-driven intervention to improve women's physical and mental health outcomes. Integrating this model within broader public health policy can transform postpartum care from reactive to preventive bridging healthcare, community, and urban planning for a healthier, more inclusive society.

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