ARTICLE

Pregnancy Loss and Psychological Morbidity: The Potential Role of Exercise

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HARTMANN, T.E. and D. GIRARD. Pregnancy loss and psychological morbidity: the potential role of exercise. *Exerc. Sport Sci. Rev.*, Vol. 53, No. 3, pp. 150–157, 2025. *Pregnancy loss can result in the development of mental health disorders. There is limited information regarding interventions to prevent and appropriately manage such psychological disorders. Exercise may be a feasible intervention to promote physical and mental well-being postloss. It is hypothesized exercise following pregnancy loss will reduce the risk of psychological morbidity and improve physical well-being of previously expectant women.* **Key Words:** miscarriage, physical activity, depression, mental illness, spontaneous abortion

KEY POINTS

- Exercise may be used as a tool to reduce psychological morbidity associated with pregnancy loss.
- Investigations into exercise modality to support the mental well-being of women following loss are required.
- It is important to understand the extent of physical, physiological, and psychological outcomes of pregnancy loss and its management to inform exercise prescription.

INTRODUCTION

Pregnancy loss or miscarriage is a common complication during early stage pregnancy and is generally described as the loss of a pregnancy prior to 20 weeks' gestation (1,2). It is estimated approximately 23 million pregnancy losses occur globally each year; however, this number unlikely to reflect all data concerning pregnancy loss due to general practitioner (GP), medical, and expectant management, highlighting the ubiquity of pregnancy loss (3). Although the cause is unknown, pregnancy loss may be associated with anatomical variations, immune and endocrine disorders, thrombosis, heredity, or other complex factors (4).

Pregnancy loss is accompanied by significant physiological and psychological outcomes in previously expectant women (2,5). Early stage pregnancy is hallmarked by elevated metabolic and oxygen requirements, in addition to circulatory and hormonal adaptations, reflective of fetal and maternal demand, of which these physiological states may persist following the loss of a pregnancy (6), highlighting the physiological complexity of loss. Furthermore, emotional dysregulation and psychological morbidity following pregnancy loss are well reported, with depression approximately four times higher in those who have experienced a pregnancy loss (2). Additionally, it is suggested thoughts of self-harm are present in approximately one third of women who experience psychological morbidity postloss (7). Despite these alarming rates of psychological morbidity, research regarding the physiological and psychological outcomes and subsequent management of women following a loss is limited. Exercise may be a cost-effective and feasible intervention strategy to improve the physical and mental well-being of women following a loss; therefore, this brief review aims to explore literature related to pregnancy loss, psychological morbidity, and exercise as an intervention to improve the physical and psychological health of women following the loss of a pregnancy. It is hypothesized engagement in exercise following pregnancy loss will reduce the risk of psychological morbidity and improve physical well-being for future pregnancies (Fig. 1).

OVERVIEW OF PREGNANCY LOSS

Experiences of pregnancy loss are influenced by several factors such as education, socioeconomic status, previous loss, current psychological morbidity, nullipara, social support, and the health care management processes associated with the loss (8–10). The type of loss can be broadly categorized into two domains; a complete pregnancy loss, which refers to the complete passing of the products of conception, or an incomplete loss, which indicates early fetal demise, with remaining products of conception (1) and is managed via expectant or active intervention. Active

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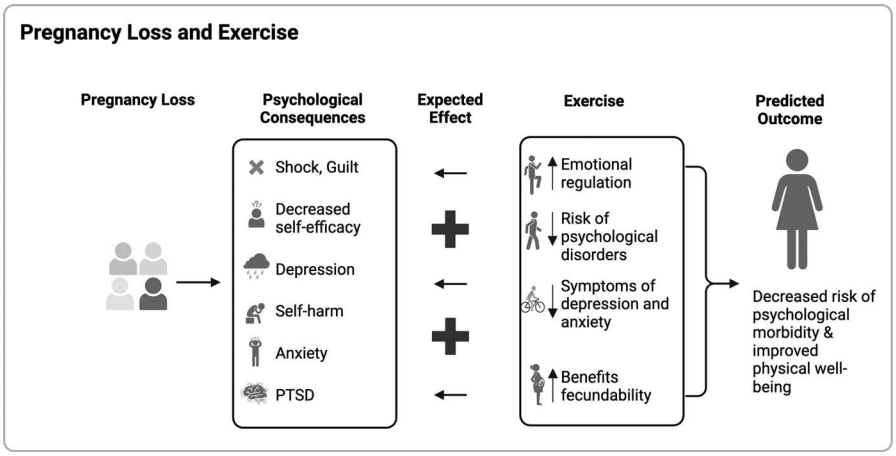

Figure 1. A schematic overview of the potential role of exercise in reducing the risk of psychological morbidity following pregnancy loss. Pregnancy loss is associated with significant psychological consequences, exercise has the potential to positively affect these outcomes, as denoted by the +. Culminating in improved physical and psychological well-being for the women who experienced the loss (The figure was generated using BioRender).

intervention refers to medication (*i.e.*, misoprostol) or surgical procedures (uterine curettage) (1). Mutiso et al., (7) reported that medical management is among the most common methods with 47% of their cohort receiving this form of care, followed by surgical management (25%) and expectant management (22%). Although the type of management is dependent upon individual circumstances and is a physical process, the lack of emotional support and follow-up from health care professionals has recently been cited as an issue in women who have previously experienced a loss (11). Bilardi et al, (12) found that 59% of women were not offered any advice or information regarding pregnancy loss or support services and a further 57% did not receive any psychological or emotional follow-up (12). With rates of psychological morbidity well reported, investigations into means to reduce adverse mental health outcomes following pregnancy loss are warranted.

PSYCHOLOGICAL MORBIDITY FOLLOWING PREGNANCY LOSS

Psychological morbidity following pregnancy loss is a complex interplay of many factors including previous history of depression, infertility, education level, mode of conception, and history of previous loss (7; Table 1). Mutiso et al., (7) examined the likelihood of a positive depression screen following miscarriage and found level of education, mode of conception, and history of previous loss were independent predictors of positive depression screening. Furthermore, around 34.1% of women who have experienced miscarriage in the 2 wk prior reported a positive depression screen and of those, a further 33.1% experienced thoughts of self-harm (7). This is further supported by Nwafor *et al.* (17), who administered the depression, anxiety, and stress scale (DASS-21) 1 wk following a miscarriage and identified 5.7% of their cohort presented with severe depression and 8.5% presented with extremely severe symptoms of depression. Furthermore, moderate to severe anxiety was present in 23.5% of the cohort and 21.5% of women reported extreme anxiety. Although grief and depressive symptoms reduce over time, negative emotional experiences following pregnancy loss may be amplified by nullipara, an infertility diagnosis and recurrent pregnancy loss (21). Women who experienced recurrent pregnancy loss had a high prevalence of self-anxiety symptoms (28.7%) and self-depression symptoms (48.6%) compared to those without recurrent loss (19.5% for anxiety and 41.3% for depression respectively; 15). Despite the occurrence of psychological morbidity within a short time frame following loss, psychological symptoms are often disregarded with the focus directed on the physical process (25). However, feelings of shock, guilt, distress, and shame are among the myriad of emotions experienced in the time following a loss (26) and are of significant importance for the health and well-being of the woman for future pregnancies.

Although psychological effects may present in the short term, pregnancy loss represents a significant burden for an extended period, with Cumming *et al.* (13) acknowledging such effects may persist for at least 13 months. Furthermore, in their longitudinal study, Lok and colleagues (10) reported 55% of women experienced probable psychological morbidity within the 3 months following the loss, this gradually declined over time; however, for some women, psychological morbidity persisted for 1 yr following the loss. Additionally, the trauma associated with loss has been recognized by Farren and colleagues (15) who reported that although a significant portion of women experience anxiety and depression following pregnancy loss, a further 28% of women met the criteria for PTSD, of which symptoms may persist for 3 months following the loss. Further, a study by Adolfsson and colleagues (14) explored women's experience of pregnancy loss, denoting detachment from the physical body, abandonment, and dissatisfaction with psychological follow-up among the emotional turmoil encountered. Such dissatisfaction with follow-up may be amplified during the SARS-COV2 pandemic, with Almeida et al., (27) suggesting due to the risk of being exposed to the virus, many women may opt to not seek medical intervention, thus, increasing social isolation and the risk of psychological morbidity. Reports indicate that the prevalence of anxiety and depression increased globally by more than 25%, with women being impacted to greater extent than compared to their male counterparts (28). Consequently, the pandemic may have contributed to an exacerbation of psychological morbidity in women following a pregnancy loss.

OVERVIEW OF PHYSICAL ACTIVITY DURING PREGNANCY AND FOLLOWING LOSS

Participation in regular physical activity and exercise is recommended by public health authorities, across the globe, not

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TABLE 1. Descriptive summary of studies investigating psychological morbidity associated with pregnancy loss.

Study (First Author, Year)	Participant Number	Age (Years; Mean SD)	Gestation at Loss (Weeks)	Psychometric Instruments	Methods	Outcomes (Change Baseline to Postexercise)
Lok et al. (2010) (10)	280 women experiencing a pregnancy loss & 150 nonpregnant women	32.6 ± 5.7	9.7 ± 2.8	BDI-21 and GHQ-12	Psychometric assessments were administered immediately post-, 3-, 6-, and 12-months postpregnancy loss	Immediately postpregnancy loss 55% of women scored >4 on the GHQ-12; this decreased to 25%, 17.8%, and 10.8%, respectively, during follow-up. For the BDI-21, immediately postpregnancy loss, 26.8% of women scored over 12; this decreased to 18.4%, 16.4%, and 9.3% at follow-up. Higher scores of distress at baseline translated to higher levels over time.
Cumming et al. (2007) (13)	273 women and 133 men	NR	9	HADS	Semistructured interviews and HADS were administered at baseline, 6, and 13 months	Baseline anxiety and depression were higher among women with a history of psychological morbidity. Pregnancy loss represents a significant burden for at least 13 months.
Adolfsson et al. (2010) (14)	15 women who experienced a pregnancy loss	31.3	9.8	None	Interview of lived experience	Feelings of guilt and emptiness, feeling emotionally split, bodily sensations, loss, abandonment, and grief were the major themes associated with a woman's experience of pregnancy loss.
Klier et al. (2000) (9)	229 women experiencing a pregnancy loss and 230 nonpregnant controls	NR	NR	DSM-5	Interview of lived experience	5.2% of women who experienced a pregnancy loss reported an episode of minor depression as opposed to 1% of controls, most episodes of depression occurred within 1 month of loss.
Mutiso et al. (2018) (7)	182 women experiencing a pregnancy loss	29.42 ± 5.6	8	EPDS & demographic tool	Interview conducted 2 wk postpregnancy loss	34.1% of women had a positive screen for depression; 33.8% had thoughts of self-harm
Farren at al. (2016) (15)	A total of 175 participants, 56 with viable pregnancies and 95 experiencing a pregnancy loss, 24 with ectopic pregnancy	33.8	9.1	PTS scale, HADS, STAI, NSSQ, RRS, and SCS	Questionnaires were administered at 1 & 3 months postpregnancy loss	28% of women met the criteria for probable moderate or severe PTSD; 32% met the criteria for moderate to severe anxiety
Tavoli et al. (2018) (16)	105 women who experienced recurrent pregnancy loss (RPL) and 105 healthy, nonpregnant women	32.1 ± 4.7	NR	SF-36 and HADS	One-off questionnaire	Women who experienced recurrent pregnancy loss demonstrated higher levels of psychological distress and lower levels of QoL
Nwafor et al. (2020) (17)	140 women who experienced pregnancy loss	26.2 ± 2.1	NR	DASS-21	DASS 21 was administered 1 wk after a miscarriage to assess psychological morbidity	Severe depression was reported in 5.7% and extremely severe symptoms of depression were reported in 8.5% of women who had experienced a pregnancy loss. Moderate to severe anxiety was present in 23.5% of the sample population, with 21.5% of women reporting extreme anxiety.
Adib-Rad et al. (2019) (18)	A total of 355 participants, 115 women with recurrent spontaneous abortion (RSA) and 240 nonpregnant controls (CON)	30.7 ± 5.3 (RSA) 29.3 ± 4.9 (CON)	NR	SCL-90-R, IUS, and GSI	One-off questionnaire	Incidence of psychological disorders was higher in women with RSA compared to nonpregnant controls; this persisted for 1 yr following. Scores of psychological distress were higher among rural women when compared to metropolitan/urban women also experiencing RSA.
Sham et al. (2010) (19)	161 women who experienced a pregnancy loss	33.7 ± 5.9	9.4 ± 3.3	GHQ-12 and SCID	Interview and assessment were conducted immediately—and at 3 months postpregnancy loss	At 3 months postpregnancy loss, 10% reported depression and 1.2% with anxiety disorder.

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Ptettyman et al. (1993) (20)	65 women who experienced pregnancy loss	30	4–16	HADS	The questionnaire was administered at 1-, 6-, and 12-wk follow-up postpregnancy loss	Following the first week, 41% presented with anxiety and 22% with depression; this declined to 32% and 6% by the week 12 assessment.
Volgsten et al. (2018) (21)	103 women who experienced pregnancy loss	34	10.2	RIMS, PGS and MADR-S	The questionnaires were administered 1 wk and 4 months following the pregnancy loss	Grief and depressive symptoms reduce over time. The emotional experiences (isolation, loss of baby, and a devastating event) persist for longer than 4 months. A lack of previous children, previous PL, and infertility diagnosis could increase negative emotional experiences after PL.
Wang et al. (2021) (22)	2558 women who experienced pregnancy loss	RPL 38 ± 3.4; Non-RPL (Control) 59 ± 4.1	RPL ≤12 (*N* = 1041) RPL >12 (*N* = 91) Control ≤12 (*N* = 1316) Control >12 (*N* = 110)	SAS and SDS	The questionnaires were administered in the days after each participant's first pregnancy loss	The prevalence of self-anxiety symptoms was higher among RPL (28.7%) compared to control (19.5%), as were the rates of self-depression symptoms 48.6% for RPL and 41.3% for control groups. There may be a synergistic effect of anxiety and depression and an increased risk of RPL.
Johnson et al. (2021) (23)	128 (females/males) couples; *N* = 64 couples who experienced two consecutive pregnancy losses, and *N* = 64 couples who experienced a live birth following a pregnancy loss.	Females = 28.1 ± 6.6 Males = 29.9 ± 7.0	First pregnancy loss: 10.7 ± 3.0 Subsequent pregnancy loss: 9.9 ± 3.41	PGS	The questionnaire was administered at four time points (T1: 6 wk following the first pregnancy outcome; T2: 6 wk following the second pregnancy outcome; T3: 6 months following the second pregnancy outcome and T4: 12 months following the second pregnancy outcome)	Perinatal grief decreased over time and as predicted, couples who experienced a subsequent pregnancy loss reported elevated grief compared to couples who went on to have a successful live birth, and women reported greater perinatal grief compared to men over time. Overall, women and men had similar levels of perinatal grief after the first index pregnancy loss
Couto at al. (2009) (24)	240 women who experienced a pregnancy loss	PL: 30.3 ± 0.9 Control: 27.6 ± 5.9	NR	SF-36 and HADS	Participants completed a 20-min interview and questionnaires.	The women in with PL had lower scores across all items in the quality-of-life questionnaire. Depression and anxiety were more reported in the PL group and women with histories of recurrent PL, fetal death, preterm birth, or early neonatal death have poorer QoL and greater symptoms of anxiety and depression during their subsequent pregnancy.

NR, not reported; PL, Pregnancy loss; BDI-21, Beck depression inventory; GHQ-12, General Health questionnaire; DSM-5, Diagnostic and Statistical Manual of Mental Disorders; version 5;EPDS, Edinburgh postpartum depression scale & demographic tool; PTS scale, Post-traumatic diagnostic scale; HADS, the Hospital Anxiety and Depression Scale; STAI State-Trait Anxiety Inventory; NSSQ, Norbeck Social Support scale; RRS, Rumination response scale; SCS, Self-compassion scale (short form); SF-36, Short Form-36 quality-of-life questionnaire; SCL-90-R, Symptom checklist-90 revised; IUS, Intolerance of uncertainty scale; GSI, global severity index; Structured Clinical Interview for DSM-IV Axis I Disorders (SCID); RIMS, Revised impact of miscarriage scale; MADR-S, Montgomery Åsberg Depression Rating; SAS, Self-rating Anxiety scale; SDS, the self-rating depression scale; CESD Scale, Centers for Epidemiological Studies-Depression Scale; PGS, Perinatal Grief Scale; Dass-21, Depression anxiety stress scale; RPL; recurrent pregnancy loss; RSA, recurrent spontaneous abortion, controls (CON).

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only prior to conception but also during uncomplicated pregnancies and in the postpartum period. A recent scoping review (29) of public health guidelines for physical activity during uncomplicated pregnancies, from authorities around the world, indicates accord in the recommendations that focus on achieving 150–300 min/wk of moderate-intensity aerobic activity (or the equivalent of 30 min of or more performed on most days) (30,31), along with undertaking muscle-strengthening exercises. Across the globe such guidelines also recommended the need to modify exercises as required (*e.g.*, supine position), provide the provision of warning signs for ceasing activity (*e.g.*, persistent dizziness, vaginal bleeding), and offer guidance for activities that should be avoided (*e.g.*, if high risk of falling/collision). Several well-established maternal health benefits for exercise both during pregnancy include improved cardiovascular function, favorable metabolic changes, weight management, and improved psychological benefits associated with body image, perceived health status, and reduced symptoms of depression have been reported (30). Subsequent positive outcomes have also been noted for the fetus including decreased fetal heart rate, improved viability of the placenta, and amniotic fluid levels (30).

Following pregnancy, the guidelines recommend that women seek guidance from their health care provider before they begin or recommence physical activity. The advice supports a gradual progression in the volume of physical activity performed over time with the aim of a return to accumulating 150–300 min of moderate- to vigorous intensity aerobic exercise per week (32). In addition to performing a range of muscle-strengthening exercises and gentle stretching, and emphasize the need to limit sedentary time. The postpartum period is characterized by further significant physiological changes whereby the body's systems attempt to return to prepregnancy states (33). Evidence suggests that exercise during the postpartum period can lead to positive health outcomes including a reduction in postpartum depressive symptoms and improved physical well-being (34,35). Other health benefits of exercise during the postpartum period include promoting a healthy weight and better sleep quality and duration (32). Several guidelines across the globe also make mention of the impact that the mode of delivery (*i.e.*, vaginal, cesarean section) can have on physical activity (32).

Currently, there are no guidelines for exercise when a woman experiences pregnancy loss, and the existing pregnancy- and postpartum-related guidelines are nonspecific to the physical and emotional outcomes associated with such an event. This is evidenced by Lee, Edwards & Keep (36) who identified 83% of women did not meet the physical activity guidelines following a loss, which increased from 32% prepregnancy, suggesting the need for intervention. Further, it is unclear what additional considerations may be needed to adequately support women with partaking in physical activity and exercise during this period. Due to the expected aforementioned positive physical and psychological health benefits, physical activity and/or exercise could be an effective tool in reducing the adverse health outcomes associated with pregnancy loss, in addition to promoting engagement in positive health behaviors. This is important because the management of psychological morbidity may decrease the likelihood of peripartum depressive episodes with subsequent pregnancies because rates are higher among women who have previously experienced a miscarriage (30).

THE POTENTIAL ROLE OF EXERCISE

Exercise for Mood Regulation

It is undeniable that pregnancy loss has a profound psychological impact; beyond the period of acute distress, prolonged exposure to stress may result in maladaptive physiological responses, thereby increasing the risk of psychological morbidity (37). Contrary to this, the mood-regulating effects of exercise are well established (38) and have been suggested to improve physiological parameters that increase the risk of, or severity of, psychological morbidity (39,40). However, despite these well-known associations and the extensively reported psychological outcomes of pregnancy loss, the role of exercise in reducing psychological morbidity in previously expectant women is scarce, highlighting the opportunity for high-impact studies to provide evidence on preventative strategies and nonpharmacological interventions such as exercise.

An acute bout of exercise can potentiate significant mood-regulating effects. Bernstein and McNally (38) suggested a singular bout of moderate-intensity exercise can have beneficial effects on emotional regulation; further, the authors suggest prior exercise can support emotional recovery following a stressor (38). Moreover, for those individuals who, prior to the loss, may experience difficulties with emotional regulation, exercise has been reported to attenuate negative emotions (38). Such effects may be observed with short bouts of exercise, with Edwards, Rhodes, and Loprinzi (41) suggesting as little as 15 min of exercise is effective in regulating anger and anxiousness following a stressful event. A recent randomized controlled trial reported comparable improvements in acute mood state as measured by Profile of Mood States in adults with diagnosed depression and/or anxiety following a single 30-min session of either moderate-intensity yoga or cycling, low-intensity yoga, or stretching (sham control) when compared with an inactive control (42). It suggests that short bouts of exercise-based activities across a range of differing skill levels and intensities can be effective in regulating mood. It is not currently known whether these positive mood effects persist in continuing to perform these activities over time or in women experiencing psychological morbidity following pregnancy loss.

Exercise to Reduce Depression Risk and Improve Symptoms

Beyond the immediate and short-term effects of exercise, regular exercise is suggested to reduce the risk of depression. The HUNT cohort study (39) reported that regardless of exercise intensity, regular exercise may exert protective effects against future depression. This is further supported by a meta-analysis conducted by Pearce et al., (43) who suggested a positive association between higher levels of physical activity and lower depression risk, in a dose-dependent manner. Moreover, for those with clinical symptoms of depression, exercise may be effective in reducing symptom severity (44) and may improve treatment outcomes for those with psychological morbidity (45). For example, improvements in scores of depression, anxiety, and stress were observed following a 6-wk cycling intervention in adults with a diagnosed psychological disorder (46). Additionally, improvements in both psychological and physical well-being have been previously observed in individuals with a diagnosed mental health disorder, following a 9-wk multimodal training intervention (47). Collectively, current knowledge suggests early exercise intervention for individuals experiencing a loss may be a feasible

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TABLE 2. Descriptive summary of exercise and pregnancy loss studies

Study (First Author, Year)	Participant Group (*N*)	Age (Years; Mean SD)	Methods	Results	Outcomes (Change Baseline to Postexercise)
Devlin et al. (2016) (48)	203 pregnant women, 41 who experienced a pregnancy loss, and 72 classed as overweight/obese (BMI > 25.0)	31.1 ± 4	Women completed CES-D, STAI, LTEQ, and TPB, The Pregnancy and Personal History Questionnaire and rated attitude toward exercise, perceived support from others to exercise (*Subjective Norm*), intention to engage in exercise, and perceived behavior control (PBC) during each trimester of pregnancy.	Women with a history of pregnancy loss reported clinically significant levels of depression in first and second trimesters and clinically significant anxiety across all trimesters. Women with PL had lower intention, attitudes, PBC, and Subjective Norm.	Women with PL reported lower attitudes and perceived control for engaging in exercise during early and midpregnancy.
Russo et al. (2018) (49)	1214 healthy women with 1–2 prior pregnancy losses	29.0 ± 5.1 (-HCG test; *N* = 417) 28.7 ± 4.6 (+HCG test; *N* = 797)	Women completed the IPAQ-SF and urinary hormone concentrations were used to determine anovulatory cycles and fecundability (assessed via time (cycles) to pregnancy and urinary hCG).	A positive association between fecundability and vigorous PA of >4 h/wk vs no vigorous PA was observed. Amongst OW/OB women, walking (median 3 h/wk) was associated with higher fecundability.	For OW/OB women with a history of pregnancy loss, walking was associated with a higher chance of conception. Vigorous PA was associated with higher fecundability, regardless of BMI.

PL, Pregnancy loss; PA, Physical Activity; CES-D, Centres for Epidemiological Studies Depression Scale; STAI, State-trait-anxiety inventory; LTEQ, Leisure Time Exercise Questionnaire; TPB, Theory of Planned Behavior Questionnaire; The International Physical Activity Questionnaire Short Form, IPAQ-SF; hCG, Human chorionic gonadotropin; OW, overweight, Obese; PBC, perceived behavior control.

method to reduce the risk of psychological morbidity and improve clinical symptoms of depression, while also improving the physical well-being of the woman.

Exercise for Fecundability, Fertility, and Future Pregnancy

Physical activity has been suggested to produce favorable outcomes on fertility (Table 2). In particular, moderate-intensity physical activity has previously been associated with improved fertility for all women, and for women who are classified as obese or overweight, and vigorous-intensity exercise has been associated with improved fertility (50,51). These outcomes extend to infertility, with Xie et al., (52) reporting an inverse relationship between physical activity and infertility in their meta-analysis, with moderate to high levels of physical activity identified as a protective factor. Findings from this review identified that walking for greater than 10 min in a single bout of exercise improved fecundability in women who were classified as overweight or obese with a history of pregnancy loss (49). Moreover, women reporting more than 4 h of vigorous physical activity per week had higher fecundability, regardless of body mass index (49). However, the authors noted that these findings are generalized only to women who have experienced one or two previous losses (49). Although the literature has demonstrated both positive psychological and reproductive benefits of participation in physical activity, it is important to highlight that depressive symptoms are associated with decreased fecundability, which is independent of psychotropic medication use (53). Further, antidepressant use may be associated with an increased risk of pregnancy loss in the first trimester (54,55). Beyond fertility, the impact of pregnancy loss on exercise motivation during pregnancy was addressed by Devlin and colleagues (48), who reported previous pregnancy loss is not only associated with clinical rates of depression and anxiety but is also associated with lower exercise motivation in subsequent pregnancies. Accordingly, there is preliminary evidence to suggest that exercise as an intervention strategy may prove effective in reducing psychological morbidity, improving fertility and fecundability in women who have previously experienced pregnancy loss. Moreover, exercise may be effective in managing psychological morbidity in subsequent pregnancies. As such, future investigations to address this evidence gap should be explored.

RECOMMEDNATIONS AND CONSIDERATIONS FOR EXERCISE AND PREGNANCY LOSS

The period following pregnancy loss affords a unique opportunity for clinicians and exercise professionals to intervene with exercise (Fig. 1). The evidence presented in this review suggests that as little as 15 min of a singular bout of exercise is effective for mood regulation (41). Moreover, regardless of modality, regular moderate-intensity exercise is effective in reducing the risk of, and severity of, symptoms associated with depression (43,45–47). As such, considering the physiological and psychological outcomes of pregnancy loss, it is recommended women engaging in exercise following a loss gradually progress to the recommended global physical activity guidelines because indices of physical and mental well-being generally improve in a dose-dependent manner (44).

Based on the review of the literature provided, there is evidence to suggest that exercise may be an effective strategy to

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reduce psychological morbidity associated with pregnancy loss. To confirm this, future investigations into the type/s of exercise modalities that support the mental well-being of women following loss are required. To assist with designing and evaluating suitable exercise-based interventions, it is essential that a better understanding of the extent of the physical, physiological, and psychological outcomes of pregnancy loss and the interaction of these be established to assist in appropriately informing exercise prescription. Given this presents as a discrete period, guidance for physical activity and exercise should consider and account for the varied experiences of such women (*e.g.*, the timing of the loss, methods used to manage the loss, physiological and psychological sequelae and other unique pregnancy loss-related factors). As such, future research is required to address the current gaps in knowledge about pregnancy loss and exercise so that optimal recommendations can be provided to guide both women and clinicians supporting this subset of women through this critical period.

CONCLUSION

Pregnancy loss, whilst common, can be a traumatic experience for women and their partners. Psychological morbidity may arise in the period following pregnancy loss; as such, it is important to address both the physical and mental well-being of the individual. Currently, there are limited intervention strategies to prevent psychological morbidity and promote well-being following pregnancy loss. This brief review supports the hypothesis, with the evidence indicating exercise is an effective intervention for its acute effects on mood regulation and long-term effects on depression risk and fecundability. Accordingly, exercise and physical activity interventions are promising strategies to improve the physical and mental well-being of women experiencing a loss.

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