feature

Aquatic exercise can help pregnant women on bed rest

A pilot study in Texas asked whether aquatic exercise can help pregnant women who had been prescribed bed rest, and also looked at how that affected the expected health of the baby.

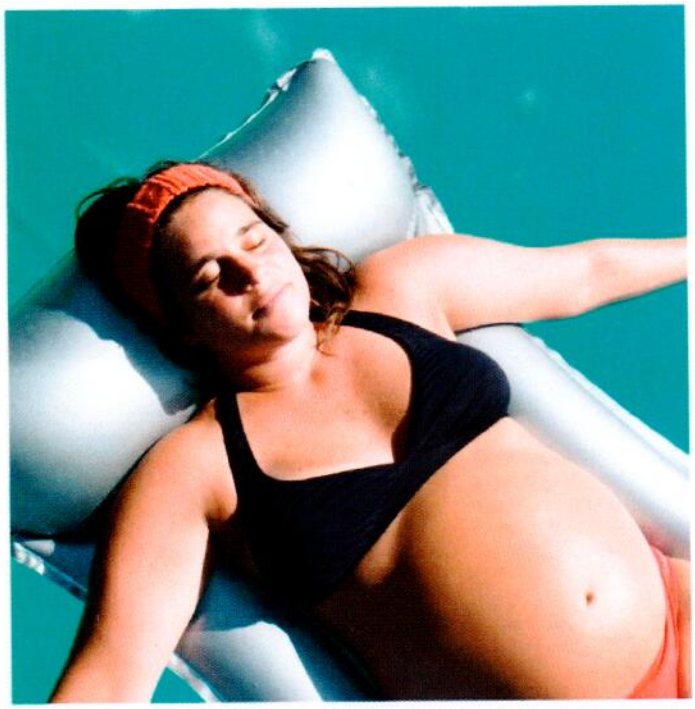
The results were positive, finding that women had longer pregnancies with improved amniotic fluid levels, which bodes well for a healthier birth.

Bed rest is a customary intervention in high-risk pregnancy that can have adverse effects such as muscle weakness and cardiovascular deconditioning. This pilot study examined the effectiveness of an aquatic exercise program (AEP) for pregnant women on hospitalised bed rest.

Results demonstrated that women who received an AEP had increased amniotic fluid index (AFI) and length of gestation compared to women who did not participate in an AEP.

The researchers found that additional research is needed to examine the effectiveness of aquatic exercise and develop protocols for women on hospitalised bed rest. Future studies may also extend to examine the role of AEP in improving the health of all pregnant women.

"Screening and referring to aquatic exercise programs during pregnancy may decrease physical discomfort, improve mobility, body image, and health promoting behaviours in non-exercising pregnant women."



The study and results

"Physiological Effects of Aquatic Exercise in Pregnant Women on Bed Rest" by Dawndra et al examined the effectiveness of an AEP provided by an occupational therapist for pregnant women on hospitalised bed rest. Researchers conducted a retrospective analysis of medical records of hospitalised pregnant women comparing those who attended an AEP (n = 19) to a control group who received noAEP (n=12). Statistical tests were used to assess evidence of differences in length of gestation as well as blood pressure and AFI at discharge.

Women who received an AEP had increased AFI and length of gestation compared to the control group.

This study supports the use of an AEP as an intervention for pregnant women on prescribed bed rest. Further research is recommended to validate these findings with a larger sample.

Avoiding preterm birth

Preterm birth is the most common cause of infant death in the US as well as the leading cause of long-term neurological disabilities in children (Centers for Disease Control and Prevention [CDC], 2013). Preterm birth is described by the CDC as the birth of an infant prior to 37 weeks of pregnancy. A review of the literature on the management of preterm labour reported a correlation between preterm birth and perinatal morbidity as well as perinatal mortality (Goldenberg, 2002).

Complications to the baby's health that correlated to decreased length of gestation and birth weight included respiratory distress syndrome, intraventricular haemorrhage, patent ductus arteriosus, retinopathy of prematurity, and intellectual disability (Goldenberg, 2002). The complications associated with preterm births extend beyond the health of the baby. Preterm birth has also been associated with increased emotional and financial burdens for families (CDC, 2013).

Bed rest is the most commonly prescribed treatment for preterm labour (Maloni, 2010).

Every year, approximately one of every four pregnant women will be prescribed bed rest or activity restriction for pregnancy complications (Maloni, 2010). Bed rest is also prescribed in the treatment of other pregnancy-related conditions that include decreased amniotic fluid (oligohydramnios), threatened miscarriage, cervical incompetence, multiple gestations, and hypertension (Bigelow & Stone, 2011). Hospitalised bed rest allows for intensive monitoring when there is a threat to maternal or foetal health (Kemp&Hatmaker, 1989).

The intent of bed rest is to prevent further complications for the mother and the unborn baby; however, there is evidence that bed rest can have adverse effects including fatigue, muscle weakness, joint pain, cardiovascular deconditioning, and prolonged postpartum recovery (Maloni & Park, 2005; Maloni et al., 2005).

This research suggests one way to overcome some of those downsides could be participation in an aquatic exercise program.

Implications for occupational therapy

The American College of Obstetricians and Gynaecologists (ACOG) provides guidelines for aerobic exercise during pregnancy and the postpartum period (ACOG, 2002); however, there are no recognised clinical practice guidelines for aquatic exercise programs for high-risk pregnant women. The results of this study provide support for occupational therapists to develop AEPs as part of inter-professional treatment plans for women with high risk pregnancies.

The experiences from this hospital-based AEP program provide some insight for AEP program development. The program's success was dependent upon an inter-professional team approach. Collaboration among occupational therapists, maternal foetal medicine (MFM) physicians, and antepartum floor nurses resulted in increased patient participation and safety.

The MFM referred patients to occupational therapy for the AEP and consulted on exercise modifications as needed. Oftentimes, it was the nursing staff's positive comments to patients about the AEP that influenced the patient's decision to attend the first session. Environmental considerations included an accessible pool, transportation, water temperature, and space for changing in and out of swimwear.

The occupational therapist varied the type and intensity of exercise for each individual AEP participant. A notable observation was that the AEP provided an environment conducive for discussions related to the responsibilities of motherhood as well as the emotional stress associated with hospitalised bed rest.

Occupational therapists can provide aquatic interventions for pregnant women to lessen the negative effects of bed rest. The holistic nature of occupational therapy interventions can benefit pregnant women on bed rest by addressing:

- Debilitating physiological effects (e.g., cardiovascular deconditioning, joint pain, muscle weakness)
- Psychosocial challenges encountered (e.g., diminished activities and roles)
- Enablement of support strategies (e.g., sleep, relaxation, socialisation, resource identification).

Further implications for occupational therapy AEPs may extend to include women with low risk pregnancies. Screening and referring to aquatic exercise programs during pregnancy may decrease physical discomfort, improve mobility, body image, and health promoting behaviours in non-exercising pregnant women (Smith & Michel, 2006).

Occupational therapists can play a role in the promotion of pregnant women's health by providing skilled services to carefully monitor the intensity and types of exercises as well as the associated risks. ■

Physiological Effects of Aquatic Exercise in Pregnant Women on Bed Rest. Dawndra M. Sechrist, Cynthia Gorter Tiongco, Sandra M. Whisner, & Matthew D. Geddie. Texas Tech University Health Sciences Center, Lubbock, Texas, USA.