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PHYT 824

Mommy Matters, Too: Program Proposal

Statement of Need:

In 2014, a total of 3,988,076 births were reported in the United States.[1] This number doesn't include the women that were pregnant and whose bodies underwent physical and emotional changes, but lost the pregnancy. The postpartum population is a population that often doesn't receive a lot of attention, but is in need of it. Being pregnant and going through delivery, whether vaginal or cesarean, has serious implications on the physical and emotional body. Postpartum women have been reported to experience pelvic pain,[2-4] urinary and fecal incontinence,[5] other pelvic floor dysfunctions, depression,[6,7] and fatigue.[8] Diagnoses and complications experienced during pregnancy can also play a role postpartum. For example, women diagnosed with gestational diabetes need resources to ensure they do not remain diabetic following pregnancy.[9,10] Kaiser et al. discussed that women who have been diagnosed with gestational diabetes are at 2-7 times greater risk for developing Type II diabetes when compared to women without gestational diabetes.[10]

Postpartum conditions can become chronic if not attended to, which can lead to further health detriments and concerns (depression and suicide, gestational diabetes and diabetes,[9,10] overweight/obesity[11] and cardiovascular health[9] and osteoarthritis, etc). This places a further burden on our health care system, where the focus would continue to be a disease management system versus a health care system.[12]

Unfortunately, postpartum issues and pelvic floor dysfunction is often times a taboo topic, so it is not discussed and women are unsure of where to turn for guidance.

Mommy Matters, Too will be a resource postpartum women can rely on. Through offering of a group exercise class paired with educational sessions and complimentary child care, postpartum women can take time to focus on their emotional and physical health, which is important for their health and wellbeing and that of their infant as well.

Background:

There is strong evidence that supports the use of exercise in the postpartum population. A 12-week community-based postpartum exercise program focusing on yoga, pilates, and low-intensity aerobic activity resulted in improvement on depression scales in individuals prone to depression and body composition measurements, though improvements on the fatigue scale were not significant.[11] In contrast, a 12 week home based intervention program focused on cardiovascular fitness resulted in a reduction of physical fatigue posttreatment and at 3 month follow-up when compared to control subjects.[8] Addressing postpartum fatigue is important because if unresolved, it can influence the mother's health and parent-child relationship.[8] Postpartum fatigue has been reported to be associated with inclination towards depression, sleep quality, social support, and complications with breastfeeding.[8] Though this program demonstrated improvement, it is possible that it could be better utilized in a community based program due to positive influences of social support.[13] Exercise has also been found to have a positive impact on self-efficacy in postpartum women. Another 12 week exercise intervention paired with education/exercise consultations demonstrated an improvement in self-efficacy regarding exercise compared to a "usual care" group, though depression scale scores were not significantly different between groups.[14]

Through following the framework provided by the Health Belief Model, which targets the individual level of the Social Ecological Model (SEM), and available evidence in the postpartum population, *Mommy Matters, Too* will promote positive health behaviors and outcomes in the postpartum population. Perceived risk/susceptibility, perceived benefits, perceived barriers, and self-efficacy are all constructs of the Health Belief Model, with perceived barriers identified as the most powerful predictor of behavior change.[15] A study found that women with gestational diabetes don't perceive themselves as being at risk of getting type II diabetes.[10] In addition, women reported the main perceived barrier to exercise in the postpartum period was lack of childcare.[9] High self-efficacy has also been found to be significantly associated with participation in physical activity, however, self-efficacy in women has been reported to be low.[9] In this study, self-efficacy refers to confidence in ability to prepare healthy foods and properly perform and participate in physical activity.[9]

Mommy Matters, Too will address all of these areas. This health promotion program will be offered in a fitness facility, similar to the YMCA, Meadowmont or N.W Cary, where childcare is provided on site. Knowing perceived barriers are a strong predictor of behavior change, offering the program through a place where there is provided childcare will hopefully allow for improved participation and long-term behavior change. Additionally, the program will include built-in education sessions to focus on providing appropriately tailored education on benefits of physical activity, strengthening, health eating, and pelvic floor exercises, as well as consequences and risks of having gestational diabetes, unhealthy weight gain/inability to lose it, or depression on long-term health outcomes. Health literacy, regardless of educational attainment, in

postpartum health is poor and a social determinant that is being addressed with the educational sessions. One author reports that postpartum depression often goes undiagnosed and therefore untreated due to lack of knowledge of women and associated health care providers.[16] Educating program participants should provide them with tools to understand their perceived risks, as well as improve their self-efficacy and self-advocacy, allowing for positive behavior changes.

Going along with the individual level of the SEM, *Mommy Matters, Too* will address the occupational social determinant. This program will be offered "after work hours" allowing mothers who have to return to work after 6 weeks of maternity leave the ability to still participate in the program. Furthermore, through the program receiving funding from various sources, the program should place less financial strain on families who may be taking unpaid maternity leave, impacting the interpersonal level of the SEM. Also impacting this level is the fact that the health promotion program will be group based, offering social support, connectedness, and accountability. In the postpartum population, social support has been identified as a key variable for success. A systematic review by Jones et al. found that women noted increased participation in exercise during and after pregnancy when they had high social support from their husbands.[9] Social support could also take the form of verbal encouragement and family food preferences, influencing physical activity participation and healthy eating.[9] In contrast, lack of social support has also been found to be a predictor of postpartum depression.[17]

Mommy Matters, Too is a health promotion program where postpartum women can attend fitness classes focusing on cardiovascular fitness and total body

strengthening as well as also attend education programs discussing anatomy/physiological changes of the body during/after pregnancy, health risks, benefit and need for various forms of exercise, sexual health expectations, and healthy eating.

Program Goals:

Specific Goals of *Mommy Matters, Too* include that eighty percent of participants:

1. Will improve score below the "possible depression" cutoff score of 9/10 using the Edinburgh Postnatal Depression Scale[18]
2. Will rate overall satisfaction with program as "Very Good" or above (on satisfaction survey)
3. Will improve Multidimensional Assessment of Fatigue (MAF) scores by clinical MCID of 5 points[19,20]
    - This scale has been found to be an appropriate scale for postpartum women,[19] though the only reported MCID values is for the systemic lupus patient population.[20]
4. Will improve in Michigan Incontinence Symptom Index scores by the reported clinical MCID of 4 points[21]
5. At 3 month follow-up, will have maintained or further improved in above stated outcome measure scores and be participating in physical activity 3x/week.

In addition, at the end of the 12 week program and at 3 month follow-up, participants that were classified as having gestational diabetes at baseline will not be classified as having Type II diabetes.

Program Description:

Mommy Matters, Too, will be offered to postpartum women who are 2-6 months post-delivery. Participants will need to be cleared by their OBGYN to resume physical activity and documentation of clearance will be required upon beginning the program. Program participants will meet twice a week, with each session being 90 minutes in duration, for a total of 12 weeks. One day a week will be focused on yoga, pilates, and pelvic floor muscle training,[8,11] while the other day will be focused on aerobic activity and other total body strengthening. Each week will have an educational session discussing anatomy/changes following pregnancy, signs and symptoms of pelvic floor dysfunction, signs and symptoms of depression, consequences and risks of having gestational diabetes/Type II diabetes, sexual health implications post pregnancy, and healthy eating to aid in reduction of "baby weight".[8,11] Classes will be led by certified personal trainers, physical therapists, with guest lectures by a dietician and sex therapist. Physical therapists can greatly impact this population through involvement in a health promotion program because they possess the knowledge to implement holistic programs targeting strength, cardiovascular health, pelvic floor impairments, and mental health that are appropriately scaled for the participants. *Mommy Matters, Too* will be offered "after work hours" as many women have limited paid maternity leave (6 weeks), so they may need to return to work early on postpartum.

To allow for tailored exercise programs and to determine outcomes of *Mommy Matters, Too*, participants will be administered a questionnaire asking about their pregnancy and delivery (any complications, method of delivery, etc), current exercise practices and barriers to exercise. Participants will also complete the Edinburgh

Postnatal Depression Scale,[18] the Multidimensional Assessment of Fatigue Scale (MAF),[19] and the Michigan Incontinence Symptom Index (M-ISI).[21] Body composition measures (height, weight, BMI, fat percentage, lean body mass, total body water) will also be administered. All outcome measures will be administered to program participants on the first day of the program, immediately post -12 week program completion and 3 months after program completion.[8,11] Additionally, participants will be provided a satisfaction/feedback survey post program and at 3 month follow-up where they can rate their overall satisfaction with the program and its' influence on current behavior practices. Pre and post program outcome administration will allow for change due to the program to be detected. The 3 month follow-up allows for program directors to determine if the impact made from the program is being maintained long-term.

Success of *Mommy Matters, Too* is largely influenced by funding. Proposed funding sources for this health promotion program include various support groups (local, regional, national), partnerships with local OBGYN practices and potential federal funding (if available) or annual fund through YMCA (if class can be offered there). Potential federal funding includes money that may be offered through The Bringing Postpartum Depression Out of the Shadows Act, which is part of the H.R 34, the 21st Century Cures Act.[22] The Bringing Postpartum Depression Out of the Shadows Act recently passed the House and Senate, with a section focusing on addressing screening and appropriate treatment for postpartum depression,[23] which is part of the vision of *Mommy Matters, Too*. The goal is to have this program funded through contributions from these sources so that financial burden is not a barrier to participation.

Program Evaluation:

Thorough program evaluation is an important component to offer insight into the program, determine how well a program is meeting goals, and promote program success.[24] *Mommy Matters, Too* will follow framework provided by the CDC for thorough program evaluation.[24] Program evaluation will include assessment of data complied through outcome measures administered during the program. Using this data to determine if the MCID for each outcome measure is achieved will allow program organizers to evaluate the programs efficacy. As mentioned above, all participants will also fill out satisfaction/feedback surveys where they can rate their satisfaction with components of the program as well as offer suggestions for improvement. All data and survey responses will be provided to all stakeholders involved with the program (funding sources, supervisors, instructors, participants) to allow for self-assessment and discussions about further advancement and adaptation.

Conclusion

Mommy Matters, Too will be a health promotion program that addresses health literacy and occupational social determinants by utilizing the Health Belief Model framework. *Mommy Matters, Too* aims to be a successful program in addressing impairments that occur during the postpartum period through group exercise and educational sessions. Successful resolution of impairments will decrease chronicity and prevent long-term complications, improve health and wellbeing of mothers and infants, and decrease the strain of chronic disease management on our health care system.

References:

1. National Center for Health Statistics: Births and Natality. Centers for Disease Control and Prevention. http://www.cdc.gov/nchs/fastats/births.htm. Updated October 7, 2016. Accessed December 8, 2016.

2. Declercq E, Cunningham DK, Johnson C, Sakala C. Mothers' Reports of Postpartum Pain Associated with Vaginal and Cesarean Deliveries: Results of a National Survey. *Birth*. 2008;35(1):16-24. doi:10.1111/j.1523-536X.2007.00207.x.

3. Shahin AY, Osman AM. Parietal peritoneal closure and persistent postcesarean pain. *Int J Gynecol Obstet*. 2009;104(2):135-139. doi:10.1016/j.ijgo.2008.09.012.

4. Leeman L, Rogers R, Borders N, Teaf D, Qualls C. The Effect of Perineal Lacerations on Pelvic Floor Function and Anatomy at 6 Months Postpartum in a Prospective Cohort of Nulliparous Women. *Birth*. October 2016. doi:10.1111/birt.12258.

5. Boyle R, Hay-Smith EJC, Cody JD, Mørkved S. Pelvic floor muscle training for prevention and treatment of urinary and fecal incontinence in antenatal and postnatal women: A short version Cochrane review. *Neurourol Urodyn*. 2014;33(3):269-276. doi:10.1002/nau.22402.

6. Brummelte S, Galea LAM. Postpartum depression: Etiology, treatment and consequences for maternal care. *Horm Behav*. 2016;77:153-166. doi:10.1016/j.yhbeh.2015.08.008.

7. Fisher SD, Wisner KL, Clark CT, Sit DK, Luther JF, Wisniewski S. Factors associated with onset timing, symptoms, and severity of depression identified in the postpartum period. *J Affect Disord*. 2016;203:111-120. doi:10.1016/j.jad.2016.05.063.

8. Dritsa M, Da Costa D, Dupuis G, Lowensteyn I, Khalifé S. Effects of a Home-based Exercise Intervention on Fatigue in Postpartum Depressed Women: Results of a Randomized Controlled Trial. *Ann Behav Med*. 2008;35(2):179-187. doi:10.1007/s12160-008-9020-4. (Previously 12)

9. Jones EJ, Roche CC, Appel SJ. A Review of the Health Beliefs and Lifestyle Behaviors of Women with Previous Gestational Diabetes. *J Obstet Gynecol Neonatal Nurs*. 2009;38(5):516-526. doi:10.1111/j.1552-6909.2009.01051.x.

10. Kaiser B, Razurel C, Jeannot E. Impact of health beliefs, social support and self-efficacy on physical activity and dietary habits during the post-partum period after gestational diabetes mellitus: study protocol. *BMC Pregnancy Childbirth*. 2013;13(1):133. doi:10.1186/1471-2393-13-133.

11. Ko Y-L, Yang C-L, Fang C-L, Lee M-Y, Lin P-C. Community-based postpartum exercise program. *J Clin Nurs*. 2013;22(15-16):2122-2131. doi:10.1111/jocn.12117.

12. Wagner EH, Austin BT, Davis C, Hindmarsh M, Schaefer J, Bonomi A. Improving chronic illness care: translating evidence into action. *Health Aff (Millwood)*. 20(6):64-78. http://www.ncbi.nlm.nih.gov/pubmed/11816692. Accessed August 26, 2016.

13. Holt-Lunstad J, Uchino BN. Social Support and Health. In: Glanz K, Rimer BK, Viswanath K. *Health Behavior: Theory, Research, and Practice*. San Francisco: Jossey-Bass; 2015: 183-204.

14. Daley A, Winter H, Grimmett C, McGuinness M, McManus R, MacArthur C. Feasibility of an exercise intervention for women with postnatal depression: a pilot randomised controlled trial. *Br J Gen Pract*. 2008;58(548):178-183. http://www.ncbi.nlm.nih.gov/pubmed/18399022. Accessed December 8, 2016.

15. Skinner C, Tiro J, Champion V. The Health Belief Model. In: Glanz K, Rimer B, Viswanath K. Healthy Behavior: Theory, Research, and Practice. 5th edition. San Francisco, CA, Jossey-Bass, 2015: 75-94.

16. Groh CJ. Depression in rural women: implications for nurse practitioners in primary care settings. *J Am Assoc Nurse Pract*. 2013;25(2):84-90. doi:10.1111/j.1745-7599.2012.00762.x.

17. Clout D, Brown R. Sociodemographic, pregnancy, obstetric, and postnatal predictors of postpartum stress, anxiety and depression in new mothers. *J Affect Disord*. 2015;188:60-67. doi:10.1016/j.jad.2015.08.054.

18. Gibson J, McKenzie-McHarg K, Shakespeare J, Price J, Gray R. A systematic review of studies validating the Edinburgh Postnatal Depression Scale in antepartum and postpartum women. *Acta Psychiatr Scand*. 2009;119(5):350-364. doi:10.1111/j.1600-0447.2009.01363.x.

19. Fairbrother N, Hutton EK, Stoll K, Hall W, Kluka S. Psychometric evaluation of the Multidimensional Assessment of Fatigue scale for use with pregnant and postpartum women. *Psychol Assess*. 2008;20(2):150-158. doi:10.1037/1040-3590.20.2.150.

20. Goligher EC, Pouchot J, Brant R, et al. Minimal clinically important difference for 7 measures of fatigue in patients with systemic lupus erythematosus. *J Rheumatol*. 2008;35(4):635-642. http://www.ncbi.nlm.nih.gov/pubmed/18322987.

Accessed December 8, 2016.

21. Suskind AM, Dunn RL, Morgan DM, DeLancey JOL, McGuire EJ, Wei JT. The Michigan incontinence symptom index (M-ISI): A clinical measure for type, severity, and bother related to urinary incontinence. *Neurourol Urodyn*. 2014;33(7):1128-1134. doi:10.1002/nau.22468.

22. H.R. 34 – 21st Century Cures Act. Congress.GOV. https://www.congress.gov/bill/114th-congress/house-bill/34/text#toc-HC4EA2108E13E47D39042676E143D48A3. Accessed December 8, 2017.

23. Bologna, Caroline. Congress Passes Groundbreaking Postpartum Depression Legislation. The Huffington Post. http://www.huffingtonpost.com/entry/congress-passes-groundbreaking-postpartum-depression-legislation_us_584053a6e4b09e21702d2a43?ir=Good+News&. December 7, 2016. Accessed December 8. 2016.

24. Koplan JP, Director M, Higgins Peter M Jenkins MM. Centers for Disease Control and Prevention. *public Heal MMWR*. 1999;48(11).