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Mindfulness-Based Cognitive Therapy Staff Training Program
To Tackle Postpartum Depression

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Abstract

Background: Women in the process of childbirth go through significant physical and psychological changes. The internal changes along with other external factors can be overwhelming. There is a high rate of new mothers suffering from postpartum depression (PPD) as a result. **Problem:** High prevalence of PPD is a public health crisis. The condition has a negative impact on the mother-baby unit and the wellbeing of the whole family. Aside from the implications on the health of new mothers and babies, PPD is also costly to the economy.

Methods: Mindfulness-Based Cognitive Therapy (MBCT) is a common and effective intervention for the treatment of general depression, yet it is limited in the care of PPD. This project is to develop a mindfulness-based cognitive therapy staff training program at local primary care maternal health clinic to educate the staff about perinatal depression and MBCT. The staff can then educate and advocate for peers and patients regarding the above topics.

Interventions: Needs assessment and two educational sessions were implemented at the maternal care unit. **Results:** About 10 staff members participated in the training program. The staff showed significantly increased knowledge level of perinatal depression and MBCT as well as full willingness to educate others on the topics. The teaching sessions were well received.

Conclusions: The pilot training program positively improved the staff's knowledge level as well as their enthusiasm to educate and advocate for patients.

Key words: *perinatal depression, postpartum depression, mindfulness, cognitive therapy, staff training, maternal care*

Introduction

Background

Women experience massive physical and psychological changes during pregnancy and childbirth. Postpartum depression (PPD) is a mood disorder that a significant number of new mothers experience within weeks or months after childbirth (Li et al, 2016). The intensity of the disorder varies from “baby blues” including symptoms of anxiety, insomnia, frequent crying, fatigue and sadness to major depressive episodes such as disorientation, paranoia, suicidal tendencies, and delusions (Thurgood, Avery, & Williamson, 2009).

The most prevalent risk factors for PPD, as shown in numerous studies, can be correlated with the new mother’s socioeconomic status, hardship during pregnancy, insufficient social and psychological support and existence of previous history of mental illness etc (Özcan, Boyacıoğlu, & Dinç, 2017). Low socioeconomic status (SES) is often associated with lack of social support, hardship, low self-esteem, younger age, likelihood of being a single mother, and absence of spousal financial and social support. The randomized clinical trial conducted by Goyal et al. (2010) investigated multiple dimensions of SES, including monthly income, marital status, level of education (college-educated or below) and employment status, and their correlation with the risk of PPD. The results showed that PPD risk increased with each additional SES risk factor. Those with all 4 SES factors were 14 times more likely than those with no SEC risk factors to have an elevated depression score at postpartum (Goyal, Gay, & Lee, 2010).

Another major determinant of PPD is presence of or history of mental health disorders such as depression. Existence of prenatal depression can alter or disrupt neurotransmitter functions or can simply act as a severe stressor. Available evidence suggests that women with a positive history of depression are more susceptible to hormonal changes (Ghaehrahmati et al,

2017). Fluctuating reproductive hormone levels can trigger PPD (Schiller, Meltzer-Brody, & Rubinow, 2016). In addition, a population-based study found that the risk of PPD in women with a history of depression was approximately 20 times higher compared to those without (Silverman et al., 2017). The relationship between development of prenatal depression and low SES has been well established. The findings of COURAGE, a cross-sectional general population survey conducted in Europe between 2011 and 2012, revealed a significant association between low SES and depression (Freeman et al, 2016). Low SES contributes to development of depression and subsequently increases the risk of PPD.

PPD is commonly screened during baby wellness checks in primary care. Effective screening tools and treatment strategies for combating postpartum depression have been developed. SAMHSA's National Helpline provides free services for individuals facing mental health including PPD.

Problem Description

Regardless of the intensity, PPD has a huge impact on the well-being of the new mother, the baby and the family, and is very costly to the economy. A CDC study, using the Pregnancy Risk Assessment Monitoring System (PRAMS), shows that about 1 out of 8 women in the United States experienced symptoms of PPD (CDC, 2020). There are about one in six women in California suffering from the condition, which is higher than national average (Boyd-Barrett, 2019). In developed countries such as the US, statistics show that on average 13% of women suffer from postpartum depression for various lengths of time. And the rate in developing countries can be as high as 57% such as in Brazil (Lanes, Kuk, & Tamim, 2011). Untreated perinatal mood and anxiety disorders in the US are costly - the estimated cost was \$14.2 billion

for births in 2017 (Clark et al., 2019). In California alone, there was about \$2.4 billion in health care spending including social services according to Cal Health Report (2019).

According to Thurgood et al, the new mother can be overwhelmed by the responsibilities of her new role and her fear of inability to cope. The subsequent guilt may lead to emotionally unresponsiveness towards the infant, which further exacerbates the symptoms of PPD. Mothers with PPD are more likely to use illicit drugs and develop substance use disorders (Le Strat et al, 2011). Meta-analyses of studies concluded that depressed mothers are more likely to exhibit aggressive, irritable or hostile behaviors towards their infants which may lead to neglect and abuse (Olino et al, 2016). Consequently, mothers' problematic caregiving practices have negative implications on the infant's neurobiological development (Drury et al, 2016). Studies show that infants with depressed mothers are at higher risk of having trouble making emotional connections with others and have poorer development in cognitive, language, social and behavioral aspects (Stein et al, 2014). The adverse effects on mother-baby attachment, baby's growth and development and the mother-father relationship may increase with time if the condition left untreated (Thurgood et al, 2009).

Setting

Previous study shows that women of color have a higher rate of experiencing early PPD symptoms due to factors as socioeconomic status, education level and culture etc. (Howell et al, 2005). Also, it has been observed that the rates of women receiving PPD treatment among different racial groups vary significantly. A surveillance study based on the New Jersey's Medicaid program databases found low levels of postpartum depression treatment among all low-income women, with particularly low treatment initiation rates for black women (4%) and Latinas (5%) compared to white (7%) (Kozhimannil et al, 2013). The results presented a racial-

ethnic difference in the utilization patterns of PPD-related mental health services. Black and Latino women were less likely than White women to initiate mental health care after delivery in addition to having higher rates of PPD illness.

Specific Aim (Purpose)

The purpose of the project is to evaluate the feasibility of staff training program as an effort to prevent and reduce PPD incidences and symptoms in pregnant and postpartum women and improve their overall health outcomes by facilitating prevention, early intervention, and appropriate treatment for PPD. Specific aims include: improve staff knowledge on perinatal depression and MBCT; implement staff training and teaching program; and finally, evaluate the program's effect on the staff's knowledge and willingness to educate patient at Palo Alto Medical Foundation (PAMF) OB/GYN Sunnyvale clinic. The plan is to develop a program to educate the maternal care staff on perinatal depression and MBCT to facilitate at least 50% of staff verbalizing willingness to educate peers and patients using provided teaching material.

Available Knowledge

PICO(T) Question

In pregnant and postpartum women, does implementation of MBCT staff training program in the maternal care setting help prevent and reduce postpartum depression incidences and symptoms?

Search Methodology

Four computerized databases were utilized to conduct the search for research papers and systematic review journals that provide evidence for the purpose of the manuscript - Cumulative Index to Nursing and Allied Health Literature (CINAHL), PubMed, Cochrane Database of Systematic Reviews, and PsycINFO. The key search terms included *depression, postpartum*

depression, pregnant women, and mindfulness, and cognitive-based therapy. The search results from the four databases mentioned above consisted of a total of 166 articles. The paper selection criteria for inclusion was that they meet the objective of the review, are available in English language, and published between 2006 and 2017. Articles were excluded if the paper (a) focused only on mindfulness-based therapy to prevent or improve prenatal depression, and (b) included participants with conditions of or history of moderate to severe mental health disorders. A total of four research articles were selected for this manuscript. All four articles included and explored the impact of mindfulness-based cognitive therapy on preventing or improving PPD.

Integrated Review of the Literature

Many studies have shown mindfulness-based intervention has a significantly positive impact on PPD. Sheydaei, Ghasemzadeh, Lashkari, and Kajani (2017) performed a quasi-experimental study to examine the effectiveness of mindfulness training in reduction of PPD symptoms. Participants were selected from Shahid Chamran Hospital in Iran who either were taking psychiatric meds, suffering from serious physical illness or had a score of 14 or higher in the *Beck Depression Inventory-second edition (BDI-II)*. The applicants (n=67) who were having depression symptoms, were randomly assigned to one of two groups: experimental and control. In the experimental group, participants received eight sessions of Mindfulness-based Cognitive Therapy (MBCT) while the control group received no treatment.

Sheydaei et al. (2017) used the BDI-second edition to assess the participants' depression level in terms of pre-test (before the therapy) and post-test (after therapy) results. The BDI-second edition is a 21-item scale and multiple-choice self-report inventory with a four-point scale for each item, to obtain depression scores. The means of each group's pretest and posttest scores were used to compare the differences between the two groups. The posttest scores of the

experimental group were significantly lower than those of the control group. In addition, the posttest scores were lower than pretests within the experimental group and it was statistically significant ($p < .001$). The results indicated that participants who received the mindfulness training had a lower stress level or less postpartum depression symptoms (Sheydaei et al, 2017). The findings above addressed the impact of administering Mindfulness-based training after childbirth. In addition, other researchers have examined the effect of mindfulness-based CBT on perinatal depression when administered during pregnancy.

Vieten and Astin (2008) investigated the effects of mindfulness-based therapy on both perinatal and postpartum depression in a pilot study. A total of 31 women who were at their 2nd or 3rd trimester was recruited to participate in this study. Women with a history of mental disorders that included psychosis, dissociation, hallucinations, or delusions were excluded. The participants ($n=31$) were randomized into experimental (13) and control group (18).

Vieten and Astin (2008) utilized seven different variables, including perceived stress via *Perceived Stress Scale* (PSS), anxiety level via *State-Trait Anxiety Inventory* (STAI), positive and negative affect via *Positive and Negative Affect Schedule - Extended* (PANAS-X), affect regulation via *Affect Regulation Measure* (ARM), and mindfulness level via *Mindful Attention Awareness Scale* (MAAS). A baseline assessment was performed for all participants before the start of the eight-week intervention. A second assessment was performed following the eight-week therapy sessions. And a third (follow-up/postnatal) was performed 3 months later (postpartum).

The results indicated that the mindfulness-based intervention significantly reduced anxiety and negative affect for participants during their third trimester comparing to the control group who did not receive the therapy. However, the results were not significant with regard to

the effect of the therapy during the postpartum (Vieten & Astin, 2008). Some studies suggest that mindfulness-based CBT is a feasible and acceptable intervention to prevent and improve perinatal and postpartum depression (Dimidjian et al, 2015). In the open trial study, forty-nine new mothers with pre-existing depressive conditions found the mindfulness-based CBT was beneficial in treating their depression conditions and symptoms (Dimidjian et al, 2015). As the major limitation of the studies above, randomized controlled trials are needed to further assess the effectiveness of mindfulness-based CBT on perinatal depression according to Dimidjian and his colleagues (2015).

A randomized controlled trial (n = 30) was conducted by Duncan et al. (2017) in which, researchers excluded high-risk pregnancies, or planned cesarean births. New mothers in their 3rd trimester who were willing to be randomized were selected to participate. Duncan et al developed a mindfulness-based training program called *Mind in Labor (MIL): Working with Pain in Childbirth*. The program's aim was to help first-time mothers cope with childbirth pain and fear. Half were randomly assigned to the MIL group and the rest to the control group. The control group received standard childbirth preparation education while the MIL group learned the MIL in addition to the standard topics.

Duncan et al. (2017) measured seven different variables, including childbirth self-efficacy via *Childbirth Self-Efficacy Inventory* (CBSEI), maladaptive pain appraisal via the *Pain Catastrophizing Scale* (PCS), perceived pain in labor via the *Visual Analog Scale* (VAS), use of pain medication in labor via medical record review, birth satisfaction via the *Wilma Delivery Expectancy/Experience Questionnaire* (W-DEQ), depression via the *Center for Epidemiological Studies Depression Scale* (CES-D), and mindfulness and mindful body awareness via the *Five Facet Mindfulness Questionnaire* (FFMQ). Three assessment reports were collected for

depression symptoms: pre-intervention, post-intervention, and follow-up. The scores dropped throughout the three periods, which indicated that the MIL course reduced the depression symptoms (Duncan et al, 2017). The authors pointed out the major limitation of the study was that the quality of data collected from the medical record was relatively poor. A missing factor that could have contributed to the outcome such as the length of labor might be a potential covariate. In addition, the reduced use of narcotic pain medications may not be a result of the MIL training (Duncan et al, 2017).

Summary/Synthesis of the Evidence

All four studies included showed there was an observable positive impact of MBCT on PPD. Mindfulness training helps ease new mothers' anxiety and symptoms of PPD. Hence, the therapy improves new mothers' wellbeing during pregnancy and childbirth.

Based on the JHNEBP Research Evidence Appraisal tool, three of the research papers receive "evidence level" of one - indicating of the highest level of evidence. All four studies included control groups, manipulation of independent variable (MBCT sessions), and participants randomly assigned to different experiment groups. Two of them provide high quality of evidence (Duncan et al, 2017; Shayedaei et al, 2017) and two provide good quality of evidence due to relatively less consistent results and less adequate control – big difference in the sample sizes of experimental and control (Vieten and Astin, 2008; Dimidjian et al, 2015). However, all four literature articles discussed the limitations of their studies and recommend ways to further examine the topic and anticipate more research on the benefits of MBCT on PPD, and on the wellbeing of women during childbirth in whole.

Rationale

The conceptual framework of the project is based on the Social Cognitive Theory, started as Social Learning Theory, proposed by Albert Bandura in the 1960s. The theory emphasizes the significance of social influence and the importance of external and internal reinforcements in learning. It is believed that learning occurs in the context of dynamic and reciprocal interactions with other individuals, environment and behaviors (LaMorte, 2019). The theory is also the basis of the behavioral change models. By educating the staff and staff educating patients, learning and reinforcement occur and then behavior change ultimately happens as a result.

Methods

Context

The success of a project requires close cooperation and work with key stakeholders. The stakeholders of the project include PAMF maternal care unit management, administration team, providers and staff. The project received full support of the management team and staff. Additionally, the community is an important stakeholder. The resources from the community and their sponsors can become potential partners of the organization such as mindfulness or meditation classes to reinforce the impact of programs within the facility.

PAMF is a not-for-profit organization that provides mainly primary care services for residents in San Francisco Bay Area. The PAMF OB/GYN clinic where the training program piloted is located in Sunnyvale, California. SF bay area is known for its high technology industry as well as the population diversity. One of the goals of the project is to serve a diverse patient population and strive for quality care and equal care for all.

Intervention(s)

MBCT is widely used and found effective in treatment of general depression and many other mental health problems (Mackenzie & Koscovski, 2016). The reduction of the symptoms

and general improvement of PPD aims to benefit the new mother, infant, and the whole family well-being. The mindfulness-based cognitive therapy combines cognitive therapy and mindfulness. Cognitive therapy focuses on learning about the mental health condition itself as well as coping skills, stress management, and assertiveness (MayoClinic, 2019). It's essential for one to know the skills to cope with stress and challenges. Mindfulness includes meditation and breathing techniques. Mindfulness-based cognitive therapy can help an individual become more aware of their modes of mind, thoughts, and emotions (MBCT, 2019). Hence, one can better understand and manage thoughts and emotions, especially in a stressful situation. MBCT has great potential in improving PPD and reducing financial resources for PPD.

Gap Analysis (Appendix D)

The MBCT staff training program is an advanced practice nurse-led multiple-session (one hour each session) educational workshop for the staff. Currently, PAMF offers a variety of mother-baby or maternity preparation classes for new mothers but there are no classes offered that address PPD. The staff is also not trained on perinatal depression or MBCT based on the findings of the needs assessment. The ultimate goal is to incorporate perinatal depression and MBCT into the current standard of care education for staff and later for patients as well. This project focuses on staff educational training. There are two teaching sessions led by properly trained personnel. The pilot project takes place in PAMF Sunnyvale clinic.

Gantt Chart

The SMART objectives that align with the project timeline/Gantt chart (see Appendix E) include: 1) Host a needs assessment focus group at the clinic by January 2021; 2) assess current knowledge level of staff by February 2021; 3) Pilot training program by July 2021; 4) Analyze

pre- and post- staff survey results by August 2021; 5) assess and evaluate the feasibility of the program by August 2021.

Work Breakdown Structure

As shown in Appendix F, in the project planning phase, the project initiator needs to meet with the department management team to set up the project goals and expectations. The goal is to obtain full support from the department. Once the plan is signed off by the administrative team, the initiator will establish a team consisting of nurse educators and project managers. In addition, all teaching materials and supplies must be ready before implementation.

Competent and properly trained staff (RN educator or advanced practice nurse) teaches perinatal depression and MBCT with validated training materials. The pilot program includes all maternity unit staff including physicians, nurse practitioners, nurses, medical assistants, and patient service representatives (front desk). All staff will complete pre and post-teaching surveys to assess their knowledge on perinatal depression and MBCT. The post-teaching survey allows staff to provide feedback as an opportunity to improve the program for optimization. The staff is encouraged to advocate for and educate peers and patients on the training topics.

Responsibility & Communication Matrix (Appendix G)

Nurse educators are responsible for holding the needs assessment, teaching and training the staff with the pre-set curriculum. Project manager's role is to coordinate with the department in setting up the conference room, teaching schedule and helping staff sign up for teaching sessions as well as ensure attendees complete pre- and post- teaching surveys. The project manager will also keep track of the staff attendance and survey responses. Most of communication and coordination occur through emails and virtual meetings among the

management team, staff, project manager and nurse educator. The front desk receptionist would help facilitate the communication and reserve conference rooms for the training sessions.

SWOT Analysis

The MBCT educational program has many strengths, weaknesses, opportunities, and threats (Appendix H). First of all, the MBCT is evidence-based practice. Evidence-based practice is used to integrate the best available evidence into day-to-day clinical practice and it represents expertise and quality of care. MBCT is a proven effective intervention in treating PPD and is helpful to all new mothers as it improves general well-being. In addition, the training program can potentially save greatly on PPD related health care spending. In addition, the practice of mindfulness is beneficial to the wellbeing of the staff in a general sense as concluded by the systematic review conducted by Lomas et al (2018). The popularity of the concept of mindfulness helps participants be more accepting and willing to participate in the new training. There are opportunities to collaborate with the community resources. Meanwhile, some of the weaknesses and threats include the fact that the concept of MBCT can be a hard sell to some staff as it's not commonly used in maternity care currently. Aside from organizational inertia, some staff may have opinions or reservations which would need to be overcome. Furthermore, the training program means more time commitment from staff. Hence, many would prefer the status quo and not try new interventions. Lastly, lack of funding may be a major threat to the program. Adequate funding allows for more man power and potential more incentives to attract participants.

Budget and Cost-Effective Analysis

The budget of the project (Appendix I) includes compensation for the nurse educator, project manager and office supplies. There are two teaching sessions (one hour per session) for

the PAMF Sunnyvale maternity care staff. The pay rates for nurse educator and project manager are \$60/hr and \$30/hr respectively. The planned time for nurse educators to teach and to prepare teaching material is about 48 hours total. And the project manager is budgeted for 48 hours of work. The total budget including office supplies (\$400) is \$4,720. The teaching material used in the training program can be incorporated into the clinic's internal in-service teaching which usually takes place during lunches and staff meetings. No additional cost is needed, which increases the sustainability of the program.

As part of the cost-effectiveness analysis (Appendix I), the approximate net cost of postpartum depression treatment per patient was calculated with the assumption that the patient visits mental health provider 3 times a year and takes antidepressant paroxetine 20 mg tablets once daily. According to seton.net and singlecare.com, each mental health provider visit costs about \$350 and paroxetine (20 mg x 30 tabs) costs about \$ 301.92. The net cost of PPD related health services cost is \$ 4,723.36. If only new OB patients are considered in the estimation of net cost avoidance, PAMF OB/GYN Sunnyvale clinic schedules three new OB patients on average per day. There will be about 1080 new patients in the clinic per year. Recall the PPD rate in the US is about 13%, approximately 140 patients could develop PPD and potentially benefit from the program. If the staff can actively educate patients on perinatal depression and MBCT for early prevention and intervention, patients may experience no PPD or PPD with less severity and may get treated with MBCT instead of antidepressants. The net cost avoidance after project implementation could be up to \$ 661,270.4.

Study of the Intervention(s)

The rationale behind the intervention and the approach in the staff training program include two factors: medical staff's role in health care and the department training policy. The

ultimate goal of this project is to educate pregnant and postpartum women about perinatal depression and MBCT in an effort for early intervention. The first natural step is to equip the maternal unit staff with tools and knowledge so that intended message can be delivered to the target population. Medical staff has a unique role in healthcare to advocate for patients as well as in the process of changing patients' behaviors. In addition, the department has training policy that training for staff comes in format of "in service" which usually takes place during staff meetings over lunches. Baseline (pre-teaching) of staff's knowledge level of both topics is collected and the difference or change in post-teaching can be conclusively considered a result of the intervention. Pre- and post- teaching surveys are collected 30 minutes prior to the teaching sessions and within 30 minutes after teaching in a timely manner and the responses should reflect staff's true knowledge level at the time.

Outcome Measures

To determine whether the new program has produced the intended results and to assess the effectiveness of the program, an outcome evaluation is done at the end of the pilot study. The main outcome objectives of the program are: to improve participants' knowledge of perinatal depression and MBCT; engage more staff in educating patients on PPD and MBCT; increase staff "buy in" and positive feedback on the program. These outcomes are measured respectively through pre- and post-teaching (10-item questionnaires in Appendix J) and they include: staff's knowledge level on perinatal depression and MBCT, staff's willingness to learn about the topics, staff's willingness to educate others (peers or patients) and their demographic characteristics. The outcome measures reflect the goal of the project as well as the effectiveness of the teaching. In addition, number of attendees and number of survey responses were collected.

Proposed CQI Method and Data Collection Tools

The model of Plan-Do-Study-Act (PDSA in Appendix K) cycles is used for Continuous Quality Improvement as an effort to improve final outcomes and project processes. The project is designed, implemented and evaluated around three questions: “what are we trying to accomplish?”, “how will we know that a change is an improvement?”, and “what change can we make that will result in improvement” (IHI, 2021). In the planning phase, a needs assessment focus group was conducted to collect data on what the clinic needs and identify the gap between what education and resources are currently available and what the goals are in the department. The needs assessment is a critical element of the PDSA model which allows the project is designed to accurately address the knowledge gap and the needs. In the implementation and evaluation phases, the staff and the management team are encouraged to provide feedback and ideas to optimize the training material and the processes.

All qualitative and quantitative data were collected through pre- and post- teaching surveys created on the platform of Survey Monkey. Three questions in pre-teaching surveys are to collect the attendee’s age, gender and role or title in the clinic. Four questions in both pre- and post- surveys are designed to assess the staff’s knowledge level of perinatal depression and two questions for knowledge level of MBCT. Two questions are included to evaluate the staff’s willingness to learn about the two topics and their willingness to educate peers and patients. Pre-score indicates percentage of staff who answered the question correctly prior to teaching and post- score means percentage staff who answered the same question correctly after the teaching. One last question in the post-teaching survey is to determine if staff found the teaching helpful. After the last teaching session, the attendees were given 15-20 minutes to discuss their thoughts and feedback.

Analysis

Qualitative data includes the staff's feedback to the project and the teaching sessions. The data was reviewed, compiled and could be categorized into two themes: refresher teaching and resources. These themes are addressed in the evaluation phase of the project.

Descriptive analysis was conducted to calculate the means of both pre- and post- teaching scores for knowledge of perinatal depression and knowledge of MBCT (displayed in Graph 1 and Graph 2). The main analysis of the quantitative data were two single factor ANOVA tests for knowledge level of perinatal depression and MBCT. Both are between within subjects' ANOVA, to compare the scores of both topics at pre- and post-teaching time marks (Appendix M. Table 2). The data of staff members' willingness to learn and willingness to educate is shown in Table 3 (Appendix N). Staff's demographic and other characteristics are as shown in table 1 (Appendix L).

Ethical considerations

The project is not active research but essentially designed to improve care in maternal health and services, especially in diverse health care setting, which aligns with the University of San Francisco's Jesuit value of "social responsibility in fulfilling the University's mission to create, communicate and apply knowledge to a world shared by all people and held in trust for future generations". The program also reflects commitment to quality care for pregnant and postpartum patients and their families. One of the ethical considerations on the project is that medical professionals, nurses and advanced practice nurses must advocate for patients in a holistic approach and seek alternatives for more cost-effective and better quality of care. The idea is rooted in the *American Nurses Association Codes of Ethics with Interpretive Statements* in that nurses' practice with "compassion, respect for the inherent dignity, worth, and unique

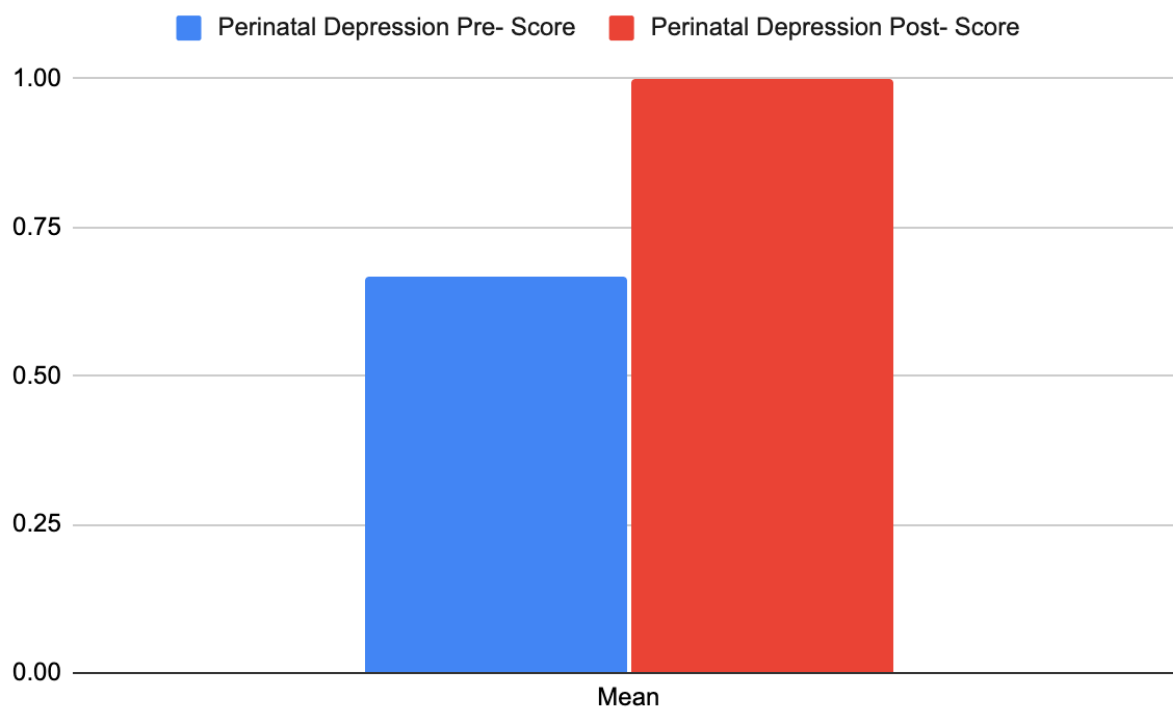
attributes of every person” as well as nurses “promote, advocate, and protect the rights, health and safety of the patient” (ANA, 2015).

Results

A total of 10 clinic staff attended the in-person teaching sessions and completed pre- and post- teaching surveys. All attendees had masks on for the whole time due to COVID 19 pandemic clinic policy. The rest of the staff, approximately 4 front desk receptionists, was required to attend to work to manage patients (eg. checking-ins) and other tasks in the clinic. All 10 survey responses were included for data analysis.

The attendees’ knowledge level of perinatal depression increased from pre-teaching to post-teaching when comparing the pre- and post- scores within the subjects with trend toward significance (P-value = 0.0075). The mean of pre- and post- scores also indicated an increase in their knowledge level, as displayed in Graph 1; the mean of pre-score was 66.7% and the post-score mean increased by 33.3%.

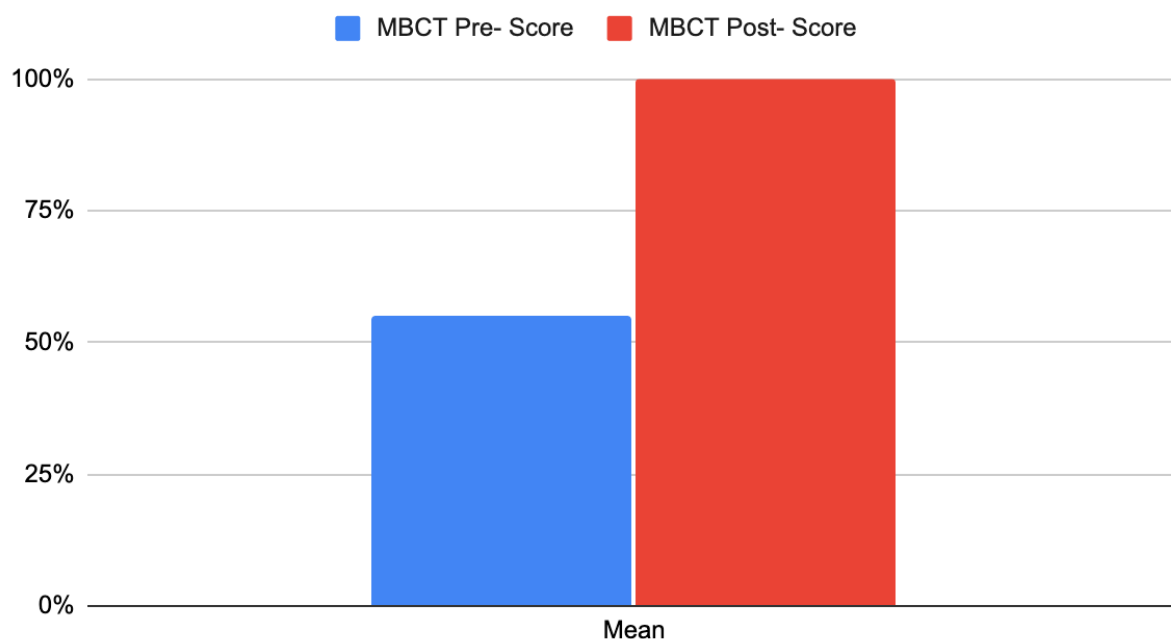
Graph 1. Perinatal Depression Mean Score Comparison



Similarly, the staff's MBCT knowledge level also increased from pre- to post-teaching when comparing the scores within the group with trend towards significance with P-value of 0.012. Graph 2 also shows an increase in MBCT knowledge level by 45% from pre-teaching (mean score = 55%) to post-teaching (mean score = 100%).

Graph 2. MBCT Mean Score Comparison

MBCT Pre- Score and MBCT Post- Score



In addition, all staff who attended the teaching sessions responded positively to willingness to learn about perinatal depression and MBCT, willingness to educate peers and patients, as well as finding the training helpful. It was also expected that staff found the sessions helpful in that they could apply what was learned to their own daily practices to improve their own wellbeing. In summary, it appears that staff's knowledge level in both perinatal depression and MBCT increased after the teaching sessions. The difference was statistically significant, which suggest the teaching or training did have a positive effect on the attendees' knowledge level in both topics.

Discussion

Summary and Interpretation

The main aim of this project was to evaluate the feasibility of a staff training program designed to improve maternal care staff's knowledge level in perinatal depression and MBCT

so that the staff can ultimately educate patients with what was learned and advocate for peers and patients. The results of the project showed that the training increased the staff's knowledge level in both perinatal depression and MBCT and the staff all expressed willingness to learn and educate others. The comparisons of pre- and post- scores in both topics by ANOVA tests displayed trends towards significance. Additionally, the teaching informed providers of current literature and statistics of topics of interest and displayed the importance of interprofessional collaboration. The project also encouraged the staff to continue to learn and educate others.

Several factors contributed to the success of the implementation. First of all, establishing a positive work relationship with the clinic management team played an essential role in project coordination and communication. The management team's support in the project was the key as the teaching required staff to be away from their post and department personnel coverage was needed and arranged accordingly. The project manager checked in with the management team and the staff on a weekly basis to ensure communication channel was open and smooth, especially in the face of the challenges caused by COVID-19 pandemic. Lastly, the teaching sessions were kept short to increase attendance and minimize impact on clinic workflow and patient care.

There have been many research studies that investigated the feasibility of using MBCT as treatment option for perinatal depression. This project is the first to examine staff training programs to tackle postpartum depression using current literature/studies and their results. The outcomes of the project align with the Social Cognitive Theory which emphasizes on the role of the environment and the surroundings in learning and behavior changes. The project is cost-effective and demonstrates feasibility of MBCT staff training program to address postpartum

depression in primary maternal care settings. Thus, the program should be maintained and expanded to other clinics.

The teaching received conclusively positive feedback. Among the feedback, some staff mentioned to the management team that the providers (eg. MDs and NPs) could lead teachings of maternal care related topics in a similar manner regularly. The provider-led teachings would not only enrich staff's knowledge but also increase focused interactions between providers and other staff. Provider-led teachings could be a greatly beneficial practice in clinic settings. Nurse practitioners as crucial team care providers should lead the initiatives and generate positive outcomes and practice changes in maternal care and other specialties.

Limitations

MBCT has not yet been applied to postpartum women at risk for depression; however, given the success it has had in the studies mentioned above the evidence supports this application. However, the main limitation of this project is the lack of evidence and literature that specifically investigate the effectiveness of a MBCT staff training program in preventing and improving PPD. The sample size was limited due to the pandemic. Additional research and investigations with more samples or subjects is necessary to validate the effect of these educational programs. Additional measures may include enforcing the training, supporting the staff, and generating more administrative incentives, especially from the higher levels of management.

Conclusions

With the encouraging results, the project marks an important step in evaluating usefulness of staff training programs to tackle PPD. It's noteworthy for the primary maternal care units to consider similar programs to improve staff's knowledge base and continue to show

commitment to providing quality care. The program is self-sustainable as teaching material is reusable and teaching can be arranged as in-services in a scale and frequency that meet the institute's needs.

In summary, though MBCT is a common intervention for the treatment of general depression, it is still limitedly used in the care of PPD. Findings indicating that MBCT is useful in prevention and improvement of PPD symptoms are evident in literature. Advanced practice nurses are obligated to advocate for patients and continuously look to more effective and more efficient alternatives to improve the wellbeing of patients, in this case, of women before, during, and after childbirth.

Funding

No funding has been received from any organization or institute for the project.

References

- Boyd-Barrett, C. (2019). Untreated postpartum depression and anxiety costs California billions, Report Concludes. Retrieved from <https://www.calhealthreport.org/2019/05/08/untreated-postpartum-depression-and-anxiety-costs-california-billions-report-concludes/>
- American Nurse Association (2015). *Code of ethics for nurses with interpretive statements*. ANA, American Nurses Association.
- Bernard-Bonnin, A. (2004). Maternal depression and child development. *MCN, Paediatrics & Child Health*, 9(8), 575-583. doi:[10.1093/pch/9.8.575](https://doi.org/10.1093/pch/9.8.575)
- Cognitive behavioral therapy. (2019). Retrieved from <https://www.mayoclinic.org/tests-procedures/cognitive-behavioral-therapy/about/pac-20384610>
- Clark, M., Clark, M., Searing, A., Ross, D. C., Wagnerman, K., Gardner, A., . . . Ccf. (2019). Maternal depression costs society billions each year, New Model Finds. Retrieved from <https://ccf.georgetown.edu/2019/05/31/maternal-depression-costs-society-billions-each-year-new-model-finds/>
- Drury, S. S., Scaramella, L., & Zeanah, C. H. (2016). The Neurobiological Impact of Postpartum Maternal Depression: Prevention and Intervention Approaches. *Child and adolescent psychiatric clinics of North America*, 25(2), 179–200. <https://doi.org/10.1016/j.chc.2015.11.001>
- Duncan, L. G., Cohn, M. A., Chao, M. T., Cook, J. G., Riccobono, J., & Bardacke, N. (2017). Benefits of preparing for childbirth with mindfulness training: A randomized controlled trial with active comparison. *BMC Pregnancy & Childbirth*, 17, 1-11. doi:10.1186/s12884-017-1319-3
- Home. (n.d.). Retrieved from <http://www.mbct.com/>

- Howell, E. A., Mora, P. A., Horowitz, C. R., & Leventhal, H. (2005). Racial and ethnic differences in factors associated with early postpartum depressive symptoms. *Obstetrics and gynecology*, *105*(6), 1442–1450. <https://doi.org/10.1097/01.AOG.0000164050.34126.37>
- Kocovski, N., & Mackenzie, M. (2016). Mindfulness-based cognitive therapy for depression: Trends and developments. *Psychology Research and Behavior Management*, *125*.
doi:10.2147/prbm.s63949
- LaMorte, W. (2019, September 9). *Behavioral change models*. The Social Cognitive Theory. <https://sphweb.bumc.bu.edu/otlt/MPH-Modules/SB/BehavioralChangeTheories/BehavioralChangeTheories5.html>.
- Lanes, A., Kuk, J. L., & Tamim, H. (2011). Prevalence and characteristics of postpartum depression symptomatology among Canadian women: A cross-sectional study. *BMC Public Health*, *11*(1).
doi:10.1186/1471-2458-11-302
- Le Strat, Y., Dubertret, C., & Le Foll, B. (2011). Prevalence and correlates of major depressive episode in pregnant and postpartum women in the United States. *Journal of affective disorders*, *135*(1-3), 128–138. <https://doi.org/10.1016/j.jad.2011.07.004>
- Li, Y., Chen, Z., Yu, N., Yao, K., Che, Y., Xi, Y., & Zhai, S. (2016). Chinese herbal medicine for postpartum depression: A systematic review of randomized controlled trials. *Evidence-based Complementary & Alternative Medicine (Ecam)*, 1-20. doi:10.1155/2016/5284234
- Lomas, T., Medina, J. C., Ivtzan, I., Rupprecht, S., & Eiroa-Orosa, F. J. (2017). A systematic review of the impact of mindfulness on the well-being of healthcare professionals. *Journal of Clinical Psychology*, *74*(3), 319–355. doi: 10.1002/jclp.22515
- Olino, T. M., McMakin, D. L., Nicely, T. A., Forbes, E. E., Dahl, R. E., & Silk, J. S. (2016). Maternal Depression, Parenting, and Youth Depressive Symptoms: Mediation and Moderation in a Short-

- Term Longitudinal Study. *Journal of clinical child and adolescent psychology : the official journal for the Society of Clinical Child and Adolescent Psychology, American Psychological Association, Division 53*, 45(3), 279–290. <https://doi.org/10.1080/15374416.2014.971456>
- Özcan, N. K., Boyacıoğlu, N. E., & Dinç, H. (2017). Postpartum depression prevalence and risk factors in Turkey: A systematic review and meta-analysis. *Archives of Psychiatric Nursing*, 31(4), 420–428. doi: 10.1016/j.apnu.2017.04.006
- Rampell, C. (2013). The half-trillion-dollar depression. *New York Times*, MM14.
- Stein, A., Pearson, R. M., Goodman, S. H., Rapa, E., Rahman, A., McCallum, M., Howard, L. M., & Pariante, C. M. (2014). Effects of perinatal mental disorders on the fetus and child. *Lancet (London, England)*, 384(9956), 1800–1819. [https://doi.org/10.1016/S0140-6736\(14\)61277-0](https://doi.org/10.1016/S0140-6736(14)61277-0)
- Science of improvement: Testing changes*. Institute for Healthcare Improvement. (n.d.). <http://www.ihl.org/resources/Pages/HowtoImprove/ScienceofImprovementTestingChanges.aspx>.
- Sui, G., Pan, B., Liu, G., Liu, G., & Wang, L. (2016). The long-term effects of maternal postnatal depression on a child's intelligence quotient. *The Journal of Clinical Psychiatry*, 77(11). doi:10.4088/jcp.15r10124
- Thurgood, S., Avery, D., & Williamson, L. (2009). Postpartum depression. *American Journal of Clinical Medicine*, 6(2), 17-22. Retrieved September 24, 2017, from <http://www.aapsus.org/wp-content/uploads/Postpartum-Depression.pdf>
- Vieten, C., & Astin, J. (2008). Effects of a mindfulness-based intervention during pregnancy on prenatal stress and mood: Results of a pilot study. *Archives of Women's Mental Health*, 11(1), 67-74. doi:10.1007/s00737-008-0214-3

Appendices

Appendix A. Non-Research Approval Documents (Statement of Determination)

DNP Statement of Non-Research Determination Form

Student Name: Helen Chen

Title of Project:

Mindfulness-based Cognitive Therapy Staff Training Program to Tackle Postpartum Depression

Brief Description of Project:

A) Aim Statement:

To prevent and improve postpartum depression for pregnant and postpartum women within Palo Alto Medical Foundation, I plan to develop a program to educate the OB/GYN staff on mindfulness-based cognitive behavioral therapy (MBCT) in the hope of having at least 10% of staff verbalizing they're educating patients about MBCT by the end of 2021 summer.

B) Description of Intervention:

The intervention is to implement an MBCT educational program for the OB/GYN staff. In the program, OB/GYN staff will take 6-8 training sessions on MBCT lead by nurse educators. The staff can be NPs, RNs, MAs. The staff then educates patients on MBCT and postpartum depression.

C) How will this intervention change practice?

The staff training program will serve as a stepping stone for a routine practice of patient care education on PPD and MBCT. The ultimate desired outcome is for new mothers or pregnant women to seek for MBCT to prevent or improve PPD. PPD treatment will help improve the mother-baby, and the whole family's wellbeing. In addition, it saves a great amount of public fund from the government which can then be used for other urgent matters such as homeless issue in California.

D) Outcome measurements:

1. Percentage of staff verbalizing willingness to educate patients on MBCT
2. Staff's knowledge of MBCT and perinatal depression
3. Staff's survey and feedback

To qualify as an Evidence-based Change in Practice Project, rather than a Research Project, the criteria outlined in federal guidelines will be used:

(<http://answers.hhs.gov/ohrp/categories/1569>)

This project meets the guidelines for an Evidence-based Change in Practice Project as outlined in the Project Checklist (attached). Student may proceed with implementation.

This project involves research with human subjects and must be submitted for IRB approval before project activity can commence.

Comments:

EVIDENCE-BASED CHANGE OF PRACTICE PROJECT CHECKLIST *

Instructions: Answer YES or NO to each of the following statements:

Project Title:	YES	NO
The aim of the project is to improve the process or delivery of care with established/ accepted standards, or to implement evidence-based change. There is no intention of using the data for research purposes.	X	
The specific aim is to improve performance on a specific service or program and is a part of usual care . ALL participants will receive standard of care.	X	
The project is NOT designed to follow a research design, e.g., hypothesis testing or group comparison, randomization, control groups, prospective comparison groups, cross-sectional, case control). The project does NOT follow a protocol that overrides clinical decision-making.	X	
The project involves implementation of established and tested quality standards and/or systematic monitoring, assessment or evaluation of the organization to ensure that existing quality standards are being met. The project does NOT develop paradigms or untested methods or new untested standards.	X	
The project involves implementation of care practices and interventions that are consensus-based or evidence-based. The project does NOT seek to test an intervention that is beyond current science and experience.	X	

The project is conducted by staff where the project will take place and involves staff who are working at an agency that has an agreement with USF SONHP.	X	
The project has NO funding from federal agencies or research-focused organizations and is not receiving funding for implementation research.	X	
The agency or clinical practice unit agrees that this is a project that will be implemented to improve the process or delivery of care, i.e., not a personal research project that is dependent upon the voluntary participation of colleagues, students and/ or patients.	X	
If there is an intent to, or possibility of publishing your work, you and supervising faculty and the agency oversight committee are comfortable with the following statement in your methods section: <i>“This project was undertaken as an Evidence-based change of practice project at X hospital or agency and as such was not formally supervised by the Institutional Review Board.”</i>	X	

ANSWER KEY: If the answer to **ALL** of these items is yes, the project can be considered an Evidence-based activity that does NOT meet the definition of research. **IRB review is not required. Keep a copy of this checklist in your files.** If the answer to ANY of these questions is **NO**, you must submit for IRB approval.

*Adapted with permission of Elizabeth L. Hohmann, MD, Director and Chair, Partners Human Research Committee, Partners Health System, Boston, MA.

STUDENT NAME (Please print):

Helen Chen

Signature of Student: _____



DATE 2/3/20

SUPERVISING FACULTY MEMBER (CHAIR) NAME (Please print):

Signature of Supervising Faculty Member (Chair): _____

DATE _____

Appendix B. Letter of Support from Agency

To Whom It May Concern,

This is a letter of support for Helen Chen to implement her DNP *Comprehensive Project Mindfulness-Based Cognitive Therapy Staff Training Program to Tackle Postpartum Depression* at Palo Alto Medical Foundation OB/GYN Sunnyvale clinic.

Sincerely,

Mai Aquino
OB/GYN Clinic Manager
Palo Alto Medical Foundation
301 Old San Francisco Rd
Sunnyvale, CA 94086

Appendix C. Evidence Evaluation Table

Citation	Conceptual Framework	Design/ Method	Sample/ Setting	Variables Studied and Their Definitions	Measurement	Data Analysis	Findings	Appraisal: Worth to Practice
Sheydaei, H., Ghasemzadeh, A., Lashkari, A., & Kajani, P. G. (2017). The effectiveness of mindfulness training on reducing the symptoms of postpartum depression	None	Quasi-experiment with random assignment <u>Purpose:</u> To examine the effectiveness of mindfulness training on reduction of PPD symptoms	N=67 (women after childbirth who show depression symptoms) <u>Setting:</u> Iran hospital <u>Sample characteristics:</u> <ul style="list-style-type: none"> • Postpartum • Show depression symptoms • Goes to the same Iran hospital 	<u>Independent variables:</u> <ul style="list-style-type: none"> • Mindfulness training sessions <u>Dependent variables:</u> Depression level	<ul style="list-style-type: none"> • <i>Beck Depression Inventory-second edition</i> (BDI-II) 	<ul style="list-style-type: none"> • SPSS version 20 • Analysis of covariance 	Within experimental group: posttest score is lower than pretest Between groups: Pretest and posttest score means for the experimental are lower than those for the control	Strengths: <ul style="list-style-type: none"> • Randomization of participants • Sufficient sample size for the study design • Adequate control Limitations: <ul style="list-style-type: none"> • Sample pool narrow • Results cannot represent the general public • Not randomized controlled trial Critical Appraisal Tool & Rating: <i>Evidence level 1; High</i>

Citation	Conceptual Framework	Design/ Method	Sample/ Setting	Variables Studied and Their Definitions	Measurement	Data Analysis	Findings	Appraisal: Worth to Practice
Vieten, C., & Astin, J. (2008). Effects of a mindfulness-based intervention during pregnancy on prenatal stress and mood: Results of a pilot study.	None	Pilot study of a small randomized controlled trial <u>Purpose:</u> To test the effect of mindfulness-based intervention on prenatal women's stress and mood	N= 31; 13 in experimental and 19 in control group <u>Setting:</u> Private non-profit hospital in San Francisco, CA <u>Sample characteristics:</u> <ul style="list-style-type: none"> • Women in their 2nd or 3rd gestation • Able to read and write English • Need help with dealing better with stress and moods 	<u>Independent variables:</u> <ul style="list-style-type: none"> • Mindfulness-based intervention <u>Dependent variables:</u> <ul style="list-style-type: none"> • Level of perceived stress • Positive and negative affect • Depressed and anxious mood • Affect regulation 	<ul style="list-style-type: none"> • Perceived Stress Scale • Center for Epidemiologic Studies Depression Scale • State-Trait Anxiety Inventory • Positive and negative Affect Schedule • Affect Regulation Measure • Mindful Attention Awareness 	<ul style="list-style-type: none"> • Descriptive Statistics • Analysis of Covariance 	<ul style="list-style-type: none"> • Post intervention assessment in the experimental group decreased in anxiety, negative affect and all the other variables 	<p>Strengths:</p> <ul style="list-style-type: none"> • Consistent results • Sufficient sample size • Adequate control • Randomized controlled group <p>Limitations:</p> <ul style="list-style-type: none"> • Different sample size in two groups • Inconsistent results <p>Critical Appraisal Tool & Rating: Evidence level 1; good quality of evidence.</p>

Citation	Conceptual Framework	Design/ Method	Sample/ Setting	Variables Studied and Their Definitions	Measurement	Data Analysis	Findings	Appraisal: Worth to Practice
Duncan, L. G., Cohn, M. A., Chao, M. T., Cook, J.	None	Randomized Controlled Trial <u>Purpose:</u> To investigate the effect of	N=30 (women at their 3 rd trimester) <u>Setting:</u> UCSF	<u>Independent variables:</u> <ul style="list-style-type: none"> • Mind in Labor (MIL) workshop 	<ul style="list-style-type: none"> • Childbirth Self-Efficacy Inventory • Pain Catastro 	<ul style="list-style-type: none"> • Excel 2000 • Graph pad instat 	Reduced depression; improved in childbirth	<p>Strengths:</p> <ul style="list-style-type: none"> • Detailed inclusion and exclusion criterias

<p>G., Riccobono, J., & Bardacke, N. (2017). Benefits of preparing for childbirth with mindfulness training: A randomized controlled trial with active comparison</p>		<p>mindfulness-based training on childbirth preparation</p>	<p><u>Sample characteristics:</u></p> <ul style="list-style-type: none"> • At their 3rd trimester • Healthy, planned hospital birth, low-risk singleton pregnancy • Willing to be randomized 	<p>p sessions</p> <p><u>Dependent variables:</u></p> <ul style="list-style-type: none"> • Childbirth self-efficacy • Maladaptive pain appraisal • Perceived pain in labor • Use of pain medication in labor • Birth satisfaction • Depression • Mindfulness and mindful body awareness 	<p>phizing scale</p> <ul style="list-style-type: none"> • Visual Analog Scale • Medical record review • Wijma Delivery expectancy/Experience Questionnaire • Center for Epidemiologic Studies Depression Scale • Five Facet Mindfulness Questionnaire 	<ul style="list-style-type: none"> • 3.05 software • ANOVA • Kruskal-Wallis • Dumett's multiple comparison's test 	<p>self-efficacy</p>	<ul style="list-style-type: none"> • Diverse sample • Small but sufficient sample size • Adequate control <p>Limitations:</p> <ul style="list-style-type: none"> • Pilot study with small sample size • Use of epidural limited the use of pain medication • Pain assessment is based on a retrospective report <p>Critical Appraisal Tool & Rating:</p> <p><i>Evidence level 1; High quality of evidence.</i></p>
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Appendix D. Gap Analysis

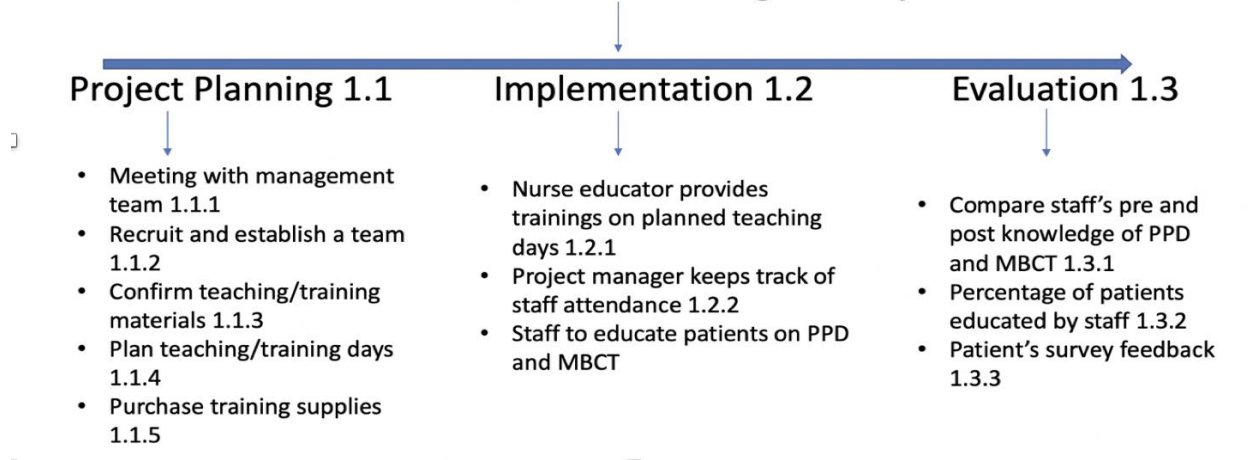
	Current State	Future State	Gap	Actions to Close Gap
What	Mother-baby classes	Variety of training classes (eg. Perinatal depression and MBCT classes)	No classes available to train staff on perinatal depression and MBCT	Implement staff training program
Where	Staff training	Comprehensive staff training	Additional training	Staff training program
When	Current practice	Now	Now	Now
Who	Maternal care clinic staff	Advanced practice nurses	Providers and nurse leaders	Management team
How	In-services	Comprehensive provider-led training	Encourage providers to lead teaching	Interprofessional collaboration

Appendix E. Gantt Chart

Timepoint	Progress	Evaluation
Jan 2021	Needs assessment	Evaluate needs of the department
Feb 2021	Assess current staff's training	What is being offered
July 2021	Implement pilot training	Collect pre- and post- data
Aug 2021	Data analysis	Feedback from staff
Aug 2021	Evaluation	Feasibility of the project

Appendix F. Work Breakdown Structure

Staff MBCT Educational Program Project 1



Appendix G. Responsibility/Communication Matrix (In this project, RN educator and project manager were the same person)

Title	Meeting with Management team	Needs Assessment	Teaching Curriculum and pre-/post- survey Preparation	Providing training/teaching	Keeping track of attendance	Data Analysis	Evaluation
RN Educator	X	X	X	X		X	X
Project Manager	X		X		X	X	X

Appendix H. SWOT Analysis

Strengths

- Evidence-based practice
- Effective intervention shown by many studies
- Also improves general well-being of staff
- Reduced cost in PPD healthcare spending

Weaknesses

- MBCT not yet commonly used in PPD
- May not be well known
- Hard sell to potential clients and staff
- More time commitment

Opportunities

- MBCT commonly used in treating depression
- Popular trend of practice of mindfulness/meditation
- Collaboration with community resources
- change in maternal mental health policy
- strong evidence to support MBCT in prevention of PPD

Threats

- Staff disagree
- Lack of funding
- lack of incentives and engagement from staff

Appendix I. Proposed Budget and Cost-Effective Analysis

Expenses	Hours rate	Year 1 (\$)
RN Educator salary	90	Number of hours 48 \$ 4,320
Program office supplies		400
Class Room		0
Total		4,720

Treatment	Total Cost for 1 Year (per patient)	Total Cost for Projected Increase (140)
Mental Health Visits (x3)	\$1050	\$ 147,000
Antidepressants	\$3673.36	\$ 514,270.4
Net Cost Avoidance after Project Implementation	\$ 4723.36	\$661,270.4

Appendix J. Data Collection Tools

Perinatal Depression Knowledge Assessment (Pre-Teaching)

1. Which age group are you in?

- 18-24
- 25-34
- 35-44
- 45-54
- 55-64
- 65+

2. What is your gender?

- Male
- Female
- Other
- Prefer not to answer

3. What is your role in the department?

- Patient Service Representative
- Medical Assistant
- Registered Nurse
- Nurse Practitioner
- Physician

Postpartum Depression Knowledge Assessment (Post-Teaching)

1. What is your role in the department?

- Patient Service Representative
- Medical Assistant
- Registered Nurse
- Nurse Practitioner
- Physician
- Other Administrative staff

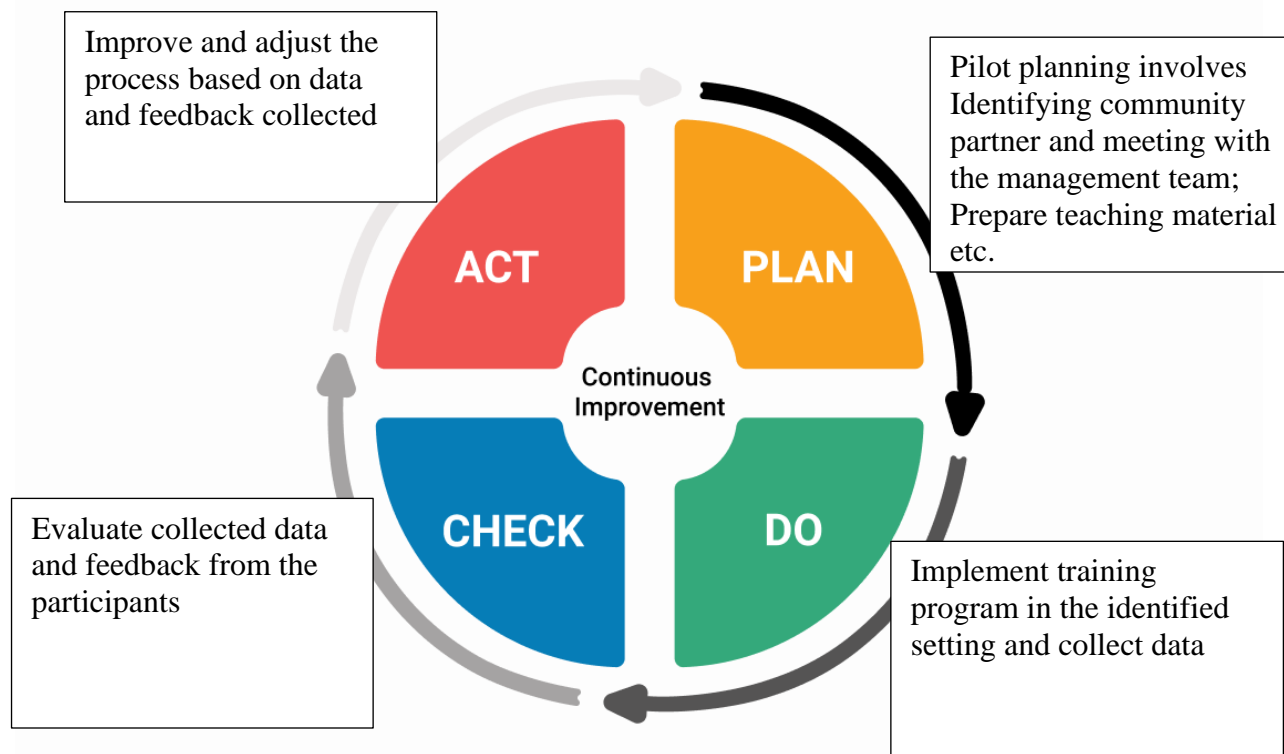
2. Do you know what perinatal depression is?

- Yes, I have heard of it; but not sure what it is
- Yes, I have heard of it and I know what it is
- No, I have not heard of it and I don't know what it is

3. What are symptoms of perinatal depression (check all that applies).

- Depressed mood
- Loss of interest or pleasure
- Change in appetite or weight
- Sleep disturbances
- Suicidal ideation or behavior
- Feeling of hope

Appendix K. Proposed CQI Method - PDSA/PDCA Plan



Appendix L. Table 1

Table 1. Demographic and Other Characteristics of Attendees

%	Age Groups					Gender		Role/Title			
	18-24	25-34	35-44	45-54	55-64	Male	Female	MA	RN	NP	MD
	10%	10%	40%	20%	20%	10%	90%	40%	20%	20%	20%

Appendix M. Table 2

Table 2. Pre- and Post- Scores

Items	Knowledge level of Perinatal Depression		
	Pre- Score	Post- Score	Knowledge Gain
Question 1	80%	100%	20%
Question 2	60%	100%	40%
Question 3	60%	100%	40%
Items	Knowledge level of MBCT		
	Pre- Score	Post- Score	Knowledge Gain
Question 1	60%	100%	40%
Question 2	50%	100%	50%

Appendix N. Table 3

Table 3. Other Data

	Positive Response (%)
Willingness to Learn	100%
Willingness to Educate	100%
Staff Found Teaching Helpful	100%