

**KMC/S-S Care, Perinatal
mood and anxiety disorders**

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Mental Health during pregnancy and post partum period

- *Post partum blues*
- *Post partum depression*
- *Post partum psychosis*
- *Anxiety disorders*
- *Obsessive-Compulsive disorder*
- *Bipolar disorder*

Impact of PPD

- *Increased incidence of preterm labor and low birth weight infants*
- *Impaired bonding/attachment between mother and baby*
- *Impaired mother-infant interaction*
- *Cognitive problems*
- *Feeding problems*
- *Increased respiratory infections*

Etiology of Postpartum depression

- *Unknown*
- *Possible interruption of HPA (Hypothalamic-Pituitary-Adrenal) axis*
- *Longer it takes to restore HPA axis to pre-pregnant state, higher are the chances of developing mood disorders, depression, or psychosis*

Case study

- Single case report, descriptive
- Can not establish cause-effect relationship
- Possibility that KMC may be beneficial to counteract effects of PPD
- More reports and further research needed, especially prospective and randomized studies if possible

Case report: Mother MBR

- *19 years old, primigravida, caucasian*
 - *Recently relocated to Chicago area from the state of Iowa. Sporadic prenatal care because of moving from one state to another*
 - *History of bipolar disorder prior to pregnancy*
 - *Medications discontinued after becoming pregnant*
 - *Cigarettes and marijuana use to combat stress, but trying to reduce*
 - *Delivery at 34 4/7 weeks gestation, last marijuana use 2 days prior to delivery.*
- Apgar scores 8/8, RDS, Ventilation, surfactant, PDA, Pulmonary hypertension, presumed sepsis, antibiotics for 7 days, hyperbilirubinemia, treated with phototherapy*

Case report: Mother MBR

- *Erratic and inconsistent maternal behavior in the nursery*
- *Full feeds achieved by 7 days of age, but baby had sucking problems and temperature maintenance problems*
- *Mother continued to write and wrote a poem for the baby, which was posted at bedside*
- *KMC initiated on 8th day of life*

POEM

Maternal progress and Baby's progress

- KMC day 8-14
- Feeding problems and temperature maintenance problems resolved
- Mother stopped marijuana
- Maternal behavior to staff improved
- Discharged on D15 of life
- No hint of depressive symptoms

KMC

- Controlled trials, randomized and non randomized, have confirmed less maternal anxiety, more maternal satisfaction with NICU experience, better attachment, and more positive interaction with the infant for mothers who provide KMC.

PPD

KMC

- Interruption of HPA axis
- Restoration of HPA axis by use of touch, massage, skin-skin care

KC/S-S care

- By mothers: Level A evidence: merits application
- By fathers: Level C evidence: Warrants consideration of applying findings. Most are descriptive studies. Lack randomized controlled and clinical trials.

KMC and PPD

- Two units providing care to low income mothers with delivery of preterm infants
- Unit not providing KMC—elevated depression score in 37.3%
- Unit providing KMC---elevated depression score in 16.9%

KC and traditional care: Parenting outcomes: controlled study

- 73 preterm infants received KC and 73 controlled infants received traditional incubator care
- At 37 weeks GA: mother-infant interaction, maternal depression, and mother's perceptions were examined

KC and traditional care

- At 37 weeks GA, mothers who provided KC were less depressed, perceived their infants as less abnormal, and provided increased maternal affiliative behaviors during the hospitalization period.
- Skin to skin care is considered to function as an oxytocin-releasing agent and has been shown to increase maternal milk volume.

KC and traditional care

- It is possible that the increase in maternal affiliative behavior (e.g. touch, gaze, positive affective display) and the decrease in depression are related to these underlying biological processes as well as to the psychological process of maternal attachment.

Breast feeding experiences and PPD

- Mothers with PPD at 2 months, were less likely to still be breast fed (68.6%) compared to mothers without depressive symptoms (74.9%)

PPD

- Feeding problems
- Breast feeding problems

KMC

- Better breast feeding outcomes
- Increased milk volume
- Better and steady weight gain
- Increased duration of breast feeding
- Decreased number of women with depressive symptoms

KMC and Breast Feeding

- If the mother intends to provide breast milk, encourage KC as soon as possible and as often as possible. At least 20 minutes of KC each day promotes breast feeding and suckling at the breast during KC facilitates the hormonal cascade that supports breast milk production.

KMC and PPD

- Mothers with PPD, who are interested in breast feeding, often choose non pharmacologic interventions
- KMC and breast feeding in these situations must be encouraged
- If mother's health does not permit her to do KMC, father or any member of family can provide KMC. Mother can assume this role when she is physically and mentally ready.

PPD

- Altered attachment and bonding
- Unfavorable influence on growth and development
- May eventually demonstrate emotional and cognitive deficits

KMC

- Mothers take an active role in child rearing
- Better bonding and attachment
- Mothers more confident of handling of newborn

PPD

- Unenthusiastic perceptions of their newborn infants and of themselves as mother
- Newborns, in turn, have difficulty forming the proper attachment with their mothers

KMC

- Mother takes active role
- Better bonding and attachment
- Newborns are calm and less fussy
- Better sleep state
- Less difficulty to form proper attachment
- Decreased risk of depression

PPD

- Altered HPA axis
- Delayed restoration of HPA axis

KMC

- Massage enhances restoration of HPA axis
- Encourage mother to provide gentle massage during KMC
- Massage improves maternal mood and baby's mood, leading to better attachment

PPD and Bibliotherapy (reading)

- One of the alternative/complementary modality to use with psychotherapeutic treatment for depression
- It reduces anxiety and depression when used in conjunction with other therapy
- Mother in the case study, incorporated writing (articles, poems) to alleviate anxiety and stress (successfully)

KMC and PPD relationship/summary

- Case reports can not establish cause-effect relationship
- Rigorous, Prospective randomized studies to be performed to demonstrate evidence based cause-effect relationship.
- Meanwhile, KMC should be encouraged at the earliest possible opportunity, when infant is clinically stable and ready and parental readiness has been established.

KMC

- Any KMC is better than no KMC (any duration), however to maximize benefits, 60-65 minutes minimum has been recommended.