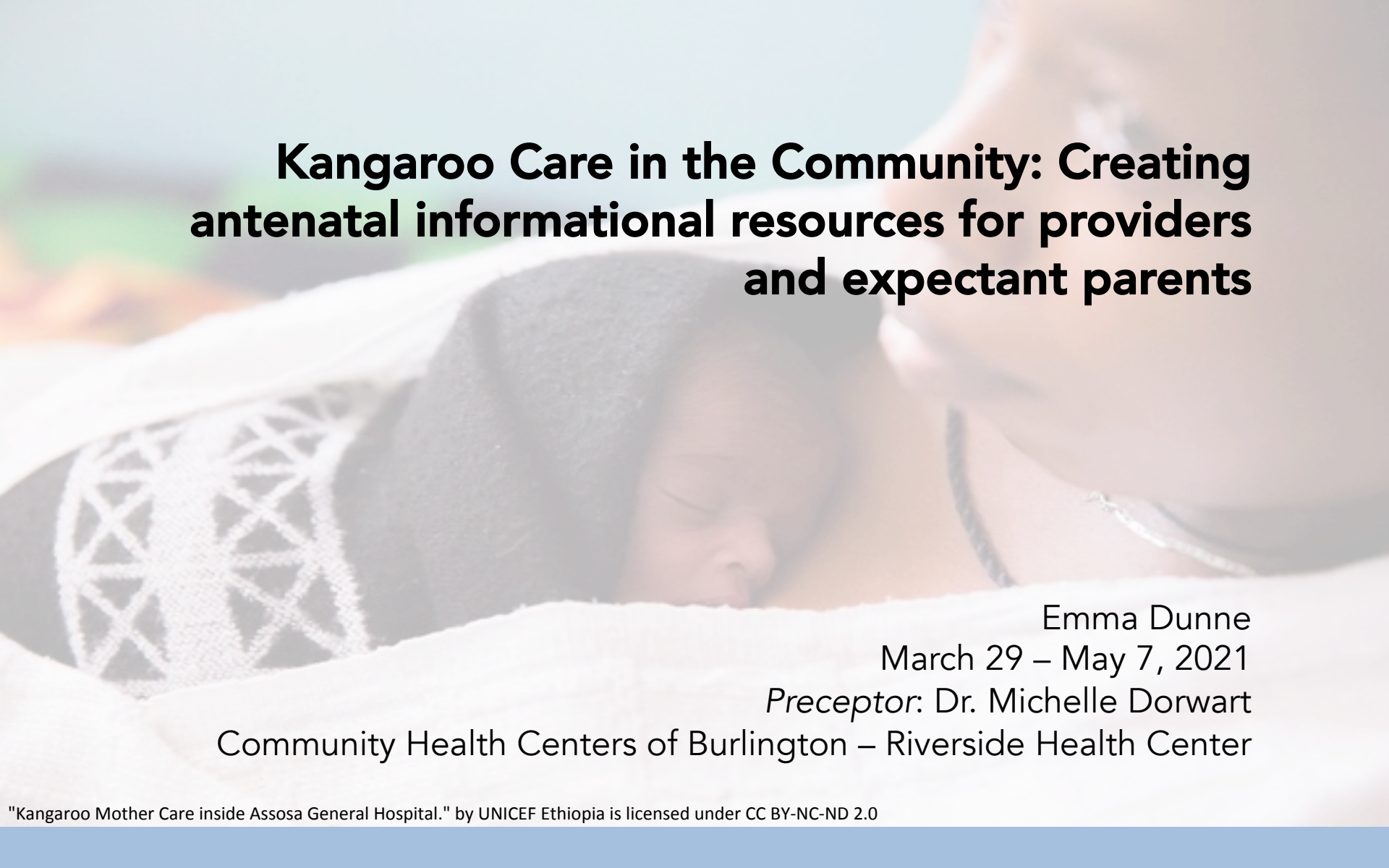


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Kangaroo Care in the Community: Creating antenatal informational resources for providers and expectant parents

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A close-up photograph of a woman holding a baby against her chest in a kangaroo care position. The baby is wrapped in a white blanket with a geometric pattern. The woman's face is partially visible on the right side of the frame, looking down at the baby. The background is softly blurred, showing hints of a colorful environment.

Kangaroo Care in the Community: Creating antenatal informational resources for providers and expectant parents

Emma Dunne

March 29 – May 7, 2021

Preceptor: Dr. Michelle Dorwart

Community Health Centers of Burlington – Riverside Health Center

Problem Identification

- Obstetric care providers at the Community Health Centers of Burlington (CHCB) continuously create, implement, and coordinate resources to help support parents through pregnancy, delivery, and child rearing.
- The COVID-19 pandemic has altered the accessibility of existing resources and exacerbated numerous parental needs.
 - Prenatal classes (i.e. **breastfeeding**) and support groups (i.e. **paternal engagement**) are limited to a virtual platform that is **variably accessible** in rural, non-English speaking, and low-income communities (1).
 - Fewer friends and family members are able to provide social and emotional support in the home, leading to increased **social isolation and stress**.
 - Rates of **postpartum depression** have increased (2).
- There is a need to better support **breastfeeding**, **paternal engagement**, management of **postpartum depression**, and general familial well-being in the time of COVID-19 and beyond.

Public Health Cost

- Prevalence and effect of **difficulty breastfeeding**
 - Up to 60% of new moms stop breastfeeding earlier than they desire due to perceived inadequate milk supply, concerns about infant growth, or personal pain (3, 4)
- Prevalence and effect of **paternal disengagement**
 - Surveys of fathers demonstrate systemic barriers to their involvement in early childcare and a resultant lack of parenting confidence (5)
- Prevalence and effect of **postpartum depression**
 - Postpartum depression is one of the most common complications of pregnancy, affecting as many as 1 in 7 new moms annually (6)
 - Less recognized, *paternal* postpartum depression affects between 4-25% of new fathers (7, 8)
 - Parents have experienced increased prevalence of perinatal depression and anxiety during the COVID-19 pandemic (2)

All of these issues affect baby's growth and development.

Community Perspective

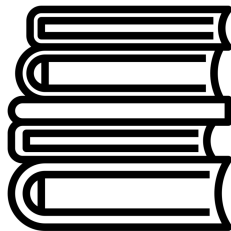
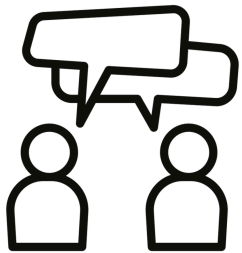
With a big **THANK YOU** to two interviewed Physicians, one Doula and Obstetric Care Coordinator, one Midwife, one Social Worker, and one Fatherhood Program Coordinator and Non-Profit Founder in the Burlington community, we learned the following:

- **Streamlined Education Resources**
 - Providers at CHCB strive to create accessible antenatal educational resources and streamline their distribution to obstetric patients.
- **Breastfeeding Support**
 - Language barriers and limitations to in-person community classes for breastfeeding teaching have limited the accessibility of this support resource.
- **Increased Paternal Engagement**
 - Dads often feel left out of early child-rearing and might benefit from increased encouragement and ideas about ways to engage with baby effectively.
 - Local paternal support groups are eager to raise membership and expand resource dissemination to fathers in the community.
- **Awareness of Postpartum Depression**
 - With social support limited due to COVID-19, parents have expressed concerns about increased isolation, anxiety, and depression after delivery.
 - There is a need to raise awareness about paternal postpartum depression. (Yes, new dads can experience postpartum depression, too.)

All of these community goals could be supported by kangaroo care.

Intervention and Methodology

- 1) Conducted literature and resource review of kangaroo care utilization in the community setting
- 2) Synthesized review into evidence-based summary sheet and resource library for easy access by healthcare providers
 - Kangaroo care supports breastfeeding, encourages parent-infant bonding, decreases the incidence of postpartum depression, and optimizes infant outcomes (i.e. growth, physiology, social-emotional development) (9)
- 3) Reviewed evidence with providers to decide what information (if any) would be beneficial to share with patients in accessible, easily-digestible format



Results Provider Resources

KANGAROO CARE IN THE COMMUNITY

The benefits and potential uses of skin-to-skin contact between parents and new infants **FOR PROVIDERS**

WHAT IS KANGAROO CARE?

- Kangaroo care is a method of holding a baby skin-to-skin, often in an upright position against a parent's bare chest. Moms, dads, and other non-birthing parents can participate in kangaroo care.
- Kangaroo care was developed in Bogota, Columbia in the late 1970s. It is now typically used in the Neonatal Intensive Care Unit, but has utility in the community setting, as well (1, 2).



META-ANALYSIS



WHAT EVIDENCE SUPPORTS ITS USE?

- Decreased infant crying time and increased infant sleep time (3)
- Improved infant and parental temperature control, heart rate variability, and oxygen saturation (4)
- Increased milk supply due to oxytocin upregulation (5, 6)
- Decreased incidence of postpartum depression (6)
 - Decreased parent and infant cortisol levels (7)
 - Improved parent-infant bonding (8)
 - Increased parental confidence in parenting abilities (9)

WHAT RISKS SHOULD WE CONSIDER?

- *Avoid Suffocation:* Teach parents to position baby's face to the side.
- *Do not substitute for other support:* Kangaroo care is not a substitute for medical or pharmacologic support for concerning physiologic or depressive symptoms.

WHO IS CURRENTLY RECOMMENDING IT?

- Health center websites recommending skin-to-skin contact for infants of all sizes and gestational ages include: Cleveland Clinic, Packard Children's Hospital, John's Hopkins All Children's Hospital, Children's Minnesota, University of Louisville Hospital, Maine Health, etc.
- *Google Search:* "[Hospital Name] Kangaroo Care" for details



WHO MIGHT BENEFIT?

- Infants with low or normal birth weight, stable or unstable physiology; all infants!
- Parents who are having difficulty breastfeeding
- Dads; this is an excellent way to support early paternal engagement
- Families who are feeling socially isolated during the COVID-19 pandemic

KANGAROO CARE IN THE COMMUNITY

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A FEW MORE RESOURCES...



CLEVELAND CLINIC
Website information for families



HARVARD MED
A story about the human incubator



NORTHWESTERN
A podcast about paternal engagement

MAY 2021 Created by Emma Dunne, Larner College of Medicine at the University of Vermont Family Medicine Community Health Projects

Results Prototype Patient Resource

Prototype

KANGAROO CARE IN THE COMMUNITY FOR PARENTS



WHAT IS KANGAROO CARE?

- Kangaroo care is a way to hold your baby that involves skin-to-skin contact between you and your baby.
- Moms, Dads, and other Non-Birthing parents can participate in Kangaroo care.
- Kangaroo care is often used in the hospital immediately after delivery, but it can be used at home, too.



"Justin cuddles (kangaroo care)" by atomicshark is licensed under CC BY-NC-SA 2.0



"Kangaroo care" by Community Eye Health is licensed under CC BY-NC 2.0

WHAT ARE POTENTIAL BENEFITS?



Kangaroo care can:

- Help regulate your baby's heart rate
- Calm your baby down
- Support breastfeeding
- Improve parent-infant bonding
- Increase your confidence in caring for your baby

HOW DO I DO KANGAROO CARE?

- Make sure the skin on your chest is clean and healthy (no perfumes, rashes, or skin lesions).
- Dress in something that will allow you to expose the skin on your chest.
- Dress your baby in a diaper and hat.
- Place your baby upright against your bare chest, with their skin touching yours.
- Make sure your baby's face is turned to the side.
- Cover your baby's back with a blanket or shirt.
- Relax with your baby for 60 minutes or longer, keeping your baby warm and snuggled against you.

Prototype

- For more information about skin-to-skin contact with your infant, scan the box below with your phone!

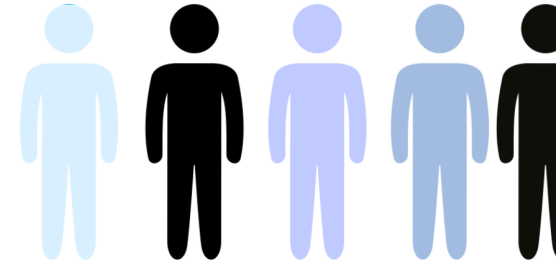


Evaluation of Effectiveness

- To evaluate the efficacy of **provider resource summary and library**:
 - Pre- and post-implementation survey of provider knowledge about and interest in advocating for skin-to-skin contact between parents and infants
 - Quantification of resource library utilization and data relay to patients
- To evaluate the efficacy of **patient information pamphlets**:
 - Pre- and post-implementation survey of patient knowledge about and interest in participation in skin-to-skin contact with infants
 - Qualitative interviews of families who decide to participate in at-home kangaroo care
- To evaluate the efficacy of **kangaroo care** in the community setting:
 - Prospective enrollment in randomized control trial
 - Quantification of breastfeeding success, paternal involvement, postpartum depression, and infant outcomes (i.e. growth, physiologic health social-emotional development)

Future Directions

- Disseminate provider resources to community-based family support centers i.e. The Janet S. Munt Family Room, Dad's Guild
- Translate patient information pamphlets to ensure equitable access upon distribution
 - Most common non-English patient languages at CHCB: Nepali, Somali, Vietnamese
- Replicate methodology to create antenatal education resources for providers and patients on other topics, including but not limited to:



1st Trimester

Antenatal Nutrition
Teratogens
Resource Referral

2nd Trimester

Child Birth Education
Family Planning
Preterm Labor

3rd Trimester

Labor Day
Breastfeeding
Birth Certificate

Postpartum

Engaging Baby
Mood Changes
Paternal Role

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