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Gentle remedies: Restoring faith in the first step of nonpharmacological infant mental health care for the prevention and treatment of "disruptive behavior"

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ABSTRACT

Parents and healthcare providers are reported to be "desperate" for solutions for dealing with temper tantrums and other extreme "disruptive behaviors." Reports state that at least 10,000 and as many as 20,000 infants under the age of two in 2014 were prescribed drugs such as risperidone, quetiapine, and other antipsychotic medications, suggesting that parents may have lost faith in their inner abilities to create an environment for their infant. Dr. Maria Montessori, concluded from her work that the nervous troubles of many "difficult" children can be traced to one of the most "harmful forms of repressive action" an adult can take, that of "interference" with or interrupting a child's self-chosen activity. This paper explores alternatives to adult interruption that begins with shushing crying infants and may extend to demanding medications with the intention of stopping behaviors. It discusses a tiered infant mental health care system in which conservative care, the first tier or step can be restored with nonpharmacological gentle remedies. Gentle remedies are neither better than nor are they a replacement for pharmaceutical drugs, the fourth and last step of the tiered system due to their known short term and potential long-term risks. The gentle remedies first step approach begins with parents engaging in environment and lifestyle management. Examples of other gentle remedies discussed for use in helping infants to discharge stress and frustration include lullabies, hot water bottles, infant massage education, oatmeal baths and other herbal simples, and Bach Flower Remedies.

Parents are the guides for their infants when they take their first steps of their walk through life. The role of health care providers is to find ways to restore and maintain parents' faith in their ability to meet the challenges of parenting their infant. T. Berry Brazelton, a renowned pediatrician, inspired faith by offering supportive statements as, "While an irritable baby will be trying for new parents, they won't benefit from blaming themselves. Instead, recognizing this as the baby's response to his immature, raw nervous system can help parents to learn techniques that help him gradually learn ways to calm himself" (p. 27). Brazelton, recently deceased, began the faith-building process with parents immediately during the first infant physical assessment. While testing an infant's Moro reflexes, he modeled how parents could "get to know the baby when he cries as well as I know him when he's quiet" and to begin to learn from the infant "how to help calm him when he needs it" (p. 33). From birth, health care providers are in a perfect position to provide coaching and support for parents as they become the first influence in an infant's mental health and their development of spiritual, psychological, and emotional resilience and regulation.

Parents and caregivers require a circle of supportive health care providers who have faith in their innate ability to love and care for their infant and demonstrate that care by learning the *skill* of child rearing. One of the first lessons health care providers learn when working with infants and their parents in infant mental health care is to restrain oneself from any action that would suggest that the parent is incapable of caring for their infant. Providers must resist the impulse to take over the care of or parenting of the infant.

The problem

Parents, teachers, and caregivers often identify "disruptive behaviors" in infancy, birth to age five, to include: colic, temper tantrums, biting, screaming, head banging, and breath holding. It seems natural that a parent would ask the question about how they can *stop* a behavior. In a brief acute or wellness care visit, it can be daunting for a provider to even consider the task of discussing let alone trying to analyze and treat disruptive behavioral problems. Yet it is common

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knowledge based on decades of research across disciplines that the best time to work on behavioral problems that emerge in early life is in infancy and that parents' and adults' understanding of the infant is "created by the interaction" (Emde, 1995, p. 31). Parents, caregivers, and health care providers are co-creators in the growth, development, and emergence of a new person. Therefore, if adults, given their own stressors and environmental challenges, choose to repress infant behaviors deeming them disruptive (which they are) but without seeking to understand them by entering their complex world and their point of view, they are in effect taking over the co-creation of the infant's world, because they can. The purpose of this approach is the medication of an infant in faith that the medication will stop the behavior. However, disruptive behavior can be somewhat akin to volcanic eruption in which the lava has already formed and has been bubbling beneath the surface for some time. Any attempt to stop the eruption of a volcano once it is ready to blow, like disruptive infant behavior, is not likely to be successful. Health researchers, just a few of whom are cited in this paper, have dedicated their careers to building a body of scientific literature supporting the hypothesis that promotion of healthy growth, development, and socialization can prevent explosive disruptive behaviors as well as so many other pathologies.

Mental health begins in infancy. Yet by the time parents are in crisis, thought processes are not about co-creation with the infant. They can lose faith in their inner abilities and the environment to provide comfort and support when the lava erupts. Infants and their parents need support from their circle of providers to restore and renew the faith in their ability to find those special ways that will answer their infant's needs and soothe their spirit before the crisis while they still have the energy to enter the process of creating solutions. Despite the efforts of many, the early cries and concerns of infants and parents do not seem to have been heard.

In December 2015, *The New York Times* published an article, "Still in a Crib, Yet being Given Antipsychotics," which reported that thousands of infants are prescribed pharmaceutical drugs designed for adults and "warily accepted for certain school-age youngsters" (Schwartz, 2015). The Times reporter cited the source of his data as IMS, a prescription data company that states that at least 10,000 and as many as 20,000 infants under the age of two in 2014 were prescribed drugs such as risperidone, quetiapine, and other antipsychotic medications. There also were 83,000 prescriptions written for fluoxetine in 2014 to children under the age of two. The article also reports that Centers for Disease Control and Prevention found that at least 10,000 children ages 2–3 years were diagnosed with attention deficit hyperactivity disorder and prescribed medication despite guidelines to the contrary by the American Academy of Pediatrics (Schwartz, 2015).

The problem is that parents and healthcare providers are said to be "desperate" for solutions for dealing with temper tantrums and other extreme "disruptive behaviors" shown in one study to represent two-thirds of child visits for antipsychotics from 2005 to 2009 when there were no FDA-approved medications for their treatment (Olfson, Blanco, Liu, Wang, & Correll, 2012). Prescription of the drugs, such as risperidone occurs despite the dearth of research as to its benefits and risks.

The 2015 *New York Times* article was not the first report put before the American public about the prescription of antipsychotic medications in infants. *Time* magazine reported in 2012 that the prescription and dispensing of off label atypical antipsychotic medications had increased by a factor of eight in children (Szalavitz, 2012) raising questions about the possibility of *over*-prescription of the drugs in young children. The American Academy of Child Adolescent Psychiatry and the American Academy of Pediatrics have no guidelines or positions statements for the use of antipsychotic or antidepressant medications in children under the age of 3. Renowned infant researcher, Ed Tronick, Professor of developmental and brain sciences at University of Massachusetts Boston, who also trains healthcare providers who work with infants and their families, is cited in the New York Times article as a proponent of behavioral treatments rather than medications. He is quoted as saying, "There's this very narrow range of what people think the prototype child should look like. Deviations from that lead them to seek out interventions like these. I think it's just nuts" (Schwartz, 2015, p. 3). He was referring to the practice of medicating young children for purported psychiatric disorders, and using chemical attempts to suppress and stop behaviors.

We get to know the person of a nonverbal or preverbal infant first and foremost through their behavior. That is their primary mode of expression. It is not surprising that they then use their hands to explore their world through touch as their hands engage everything. This *stereognostic* sense using tactile and movement sensations aid in development of intelligence particularly from birth to age three (Montessori, 1965, p. 105). Dr. Maria Montessori (1870–1952) renowned pediatrician whose evidence-based international work in the "cultivation of the human individual" and "education from birth" trained Jean Piaget and many others in the science and spirit of cultivating human potential, in hope that society not abandon mankind in their most formative period, warning that to do so would lead to mankind "growing up as the greatest menace to its own survival" (1967, p. viii).

One common example of this abandonment of mankind, specifically the infant, is by pathologizing normal behavior, such as when young healthy children are diagnosed as hyperactive when they are rarely if ever biologically hyperactive (unable to still their body in a variety of environments and circumstances) when viewed within the proper developmental psycho-cultural framework. Montessori's research observations seem to challenge views of hyperactivity in that she describes constant disorderly movements of young children as the "special characteristic of the little child" who needs the adult world to "desist from the useless attempt to reduce the child to a state of immobility" and rather to provide activities that "give order" to their movements (1965, p. 52). "Normal" two-year-old behavior includes lots of physical activity spurred by curiosity and joy. According to Dr. Elizabeth Caspari, co-founder of the Pan-American Montessori Society and personal friend to Maria Montessori, movement is the "law of their being" (Personal communication, 1987).

Montessori's early childhood development work focused on the period she refers to as "the absorbent mind" when infants and young children from birth to age six from cultures around the world, are known to have the "power to teach themselves" (p. 6). This is exemplified in their remarkable propensity for language acquisition. Montessori states that a child *absorbs* impressions from the environment "not with his mind but with his life itself" (1967, p. 24). She found in her research that infants and young children have an "intense and specialized sensitiveness in consequence in which the things about him awaken so much interest and so much enthusiasm that they become incorporated in his very existence" (p. 24). This scientific and cultural awareness should be enough evidence to suggest a period of reflection before adults would attempt to suppress and repress the behavior of an infant with powerful pharmaceuticals.

Requirements that infants fit in to or conform to the adult world with its behaviors, environments, beliefs, structures, and movement patterns can *lead* to disruptive behavior and illness. Montessori, concluded from her work that the "nervous troubles" of many "difficult" children can be traced to one of the most "harmful forms of repressive action" an adult can take, that of "interference" with or interrupting a child's self-chosen activity (1967, p. 160). A child's hands lead them in healthy brain and mind development. Repressive adult caregivers' behaviors do begin in infancy with simple acts such as interruption. Repression can also be observed from birth when adults seek to stop infants from crying, also known as "shushing," rather than supporting their emotional expression.

Crying

Entire books have been devoted to explaining the need of infants to cry with support rather than interference from their parents and

caregivers. Dr. Aletha Solter's book, *The Aware Baby*, demonstrates how infants can heal from their birth and post-birth traumas (i.e. circumcision) when given the emotional and psychological support they need through carrying, gentle rocking, and mindful communication. Solter, a student of Piaget, found that when infants are shushed in any way rather than encouraged to cry as their expression of emotion, they do not discharge the energy associated with those strong emotions (Solter, 2001). A pattern begins in which the infant does not learn to self-soothe during periods of stress but instead demonstrates disruptive behaviors, the manifestation of accumulated bad feelings that have been given no other outlet. For example, if parents take away a pacifier without then allowing the infant to cry the infant may begin to overeat or exhibit violent behaviors (Solter, 2001). The problem is not necessarily pacifiers, but that the infant is using the pacifier to deal with difficult feelings. Instead, if parents or caregivers give full attention and show acceptance for the crying, the infant can potentially emerge calm and relaxed. When infants have discharged their emotions, they are better able to demonstrate their awake alert periods throughout the day when they are ready to learn and interact. Parents who have discharged their own feelings and are feeling calm and relaxed are also more likely to be able to determine when their infant has a need to discharge his or her feelings. Infants who have had enough time discharging feelings through crying are "relaxed (but not passive), aware and alert, curious and eager to learn and to explore" (Solter, 2001, 63). Alternatively, infants with suppressed feelings act out, sometimes violently.

Psychopharmacology is a not the only solution for attempting to resolve violent and disruptive behavior. Each infant is unique and the dynamics of violent disruptive behaviors are unique; however, there is a general emotional pattern that is known to lead to violent disruptive behavior. His Holiness, the 14th Dalai Lama has taught this pattern for many years. He repeated the teaching to an audience in Hawaii in 2012 saying, "The real destroyer of inner peace are things like fear and distrust. Distrust leads to fear, which in turn leads to frustration and to anger. These lead to violence and are applied at both the national level as well as the family level" (Dalai Lama, 2012) His Holiness stated that non-violent approaches were the solutions to violence. He has also taught de-escalation in that the best approach to preventing violence is to deal with fear and frustration before it turns into anger and then unresolved anger turns into violence.

Infants can experience fears and frustrations. Their communication style of alerting adults to these feelings is predominantly non-verbal requiring adults, who are most focused on verbal communication, to learn their language expressed in movement and vocalizations. Early communication can be very frustrating for infants and little children, which is why some parents use sign language as a child is learning to speak. When an infant's frustrations are left unresolved, they can become angry, and their emotions can become trapped in their body especially when they are not provided with a path for meaningful discharge. Infants need to be held while they cry. They should not be left alone to "cry it out." "The loving attention of another human being is essential for the crying to be effective because it provides the safety that is required for reliving and releasing the pain" (Solter, 2001, p. 47). There are many methods that do effectively stop infants from crying, but they do so because the infant represses the emotions to appease the parents. The interventions that support long term mental health, are those in which parents and caregivers communicate with their infant, demonstrate verbally and nonverbally that the infant is loveable even when they cry and that they are loved and accepted at all times.

When newborn infants are not given the full attention of a parent and time to cry and discharge, their cries often cease. These babies are often labeled "good" babies who "never cry." That report raises concerns for infant mental health providers rather than relief. After a period of time, such as by the time that the infant begins to walk, talk, and explore the world on his own, the repressed frustration of being unable to communicate can turn into anger that intensifies and explodes into violent behaviors toward self, others, and the environment. The two year olds who yell (i.e. explode) "NO" to their parents are typically those who are reflecting what they have learned from those who have said "no" to them much of the time.

Montessori's book on the absorbent mind, a complete treatise on the development of the spiritual will of the child, includes wise counsel as to what adults can expect of an infant's ability to demonstrate *obedience*. The Montessori system of education is predicated on creating an environment of freedom in which virtues, such as patience are expressed in relation to others. "Conscious will is a power which develops with use and activity…If the child is not yet master of his actions, if he cannot obey even his own will, so much the less can he obey the will of someone else" (Montessori, 1967, p. 254, 259). During the infant's formative years, Montessori writes in her work on social development that the child moves through three phases in the of development of his ability to become "filled with a joy" to "take direction from a superior life," such as a parent whereas a young child often is "anxious and impatient" to obey (Montessori, 1967, p. 260). The key in early development of spiritual will and obedience is creating an environment, such as what is done in Montessori classrooms, in which the infant is free to engage in experiences that include action and restraint from action. Adults are those "superior" lives to the infant, who can create an environment in which infants can first express their spiritual will through crying and then discover the joy of engaging their own will and the will of others in harmonious social interaction.

Overriding will

Adults not only have the power to override the will of an infant through discipline of various means. They also can exert their power in the relationship to use medication as a means of expunging disruptive behavior. In order to prescribe medication, there must first be a diagnosis that suggests an abnormality in the infant and evidence that the medication has potential to correct it. However, as Montessori and other developmental scientists have discovered, defining "normal" two-year-old behavior can be troublesome for parents who live with the child all the time, let alone the prescribers who must justify that the benefits of their medical interventions outweigh the risks. Prescribers are hard pressed to make sound judgments of infant behavior in a single primary care visit. Yet, there is a time and place for the use of medication in infants.

Infants do indeed experience psychopathology hence the utility of the *Diagnostic Classification of Mental Health and Developmental Disorders of Infancy and Early Childhood* (Zero to Three, 2005). However, in order to justify prescribing drugs for infants, one must establish according to best practices for any age group, that the benefits of psychopharmacology treatment will indeed outweigh the risks. Due to the risks associated with the use of psychopharmacology in infants, considerations prior to the use of psychopharmacology in infants include that: (1) a disorder exists and is thought that it will cause suffering in the present and future, (2) psychopharmacology will reduce distress and future morbidity, (3) there are known biological correlates that the psychopharmacology will target, (4) the use of psychopharmacology is an appropriate consideration in the regulatory, scientific, and societal context (Zeanah, 2009, p. 516).

The challenges in establishing known risk are still great in that the biological and physical risks are virtually unknown because clinical studies are not typically conducted in infants. This has been the prevailing ethical practice because there is research on the benefits of therapy and other less invasive means. However, the escalation of over prescription of antipsychotics and other drugs in infants as indicted in the *New York Times* and *Time* magazine articles has encouraged the call for more research in infants. One might not argue the need for research on prescription medication use in infants' disruptive behaviors if parents and providers could show that the limits of nonpharmacological care had been exhausted. That is not the case as yet.

The dialog and controversy surrounding medication of infants is not a new problem and it is not consigned to mental health care alone.

There has been an ongoing discussion in the medical literature regarding the prescription of drugs in pre-term infants with gastroesophageal reflux (GER) for example. Increases in the prescription of drugs for GER, as with psychopharmacology, have risen exponentially in recent years both in Neonatal Intensive Care Units and after discharge. This trend has occurred despite the evidence for increased risk of serious adverse effects: the link between gastric acid inhibitors, histamine-2 blockers and proton pump inhibitors, to increased rates of necrotizing enterocolitis and overall infections, sepsis, pneumonia, and urinary tract infections (Corvaglia et al., 2013). Nonpharmacological treatment of preterm infants is referred to in the literature as "conservative care" and the suggested best practice is, "A stepwise approach, promoting at first *nonpharmacological* interventions such as body positioning, milk thickening, or modifications in feeding modalities, should be considered the most advisable choice to manage gastroesophageal reflux in preterm infants" (Corvaglia et al., 2013, p. 5).

Restoring the first step

In a stepwise best practice approach to infant mental health care, the use of pharmacological treatment should be the highest or last step in that it carries the highest risks. The use of the medications associated with the last step are limited to those infants who experience complications or whose symptoms do not improve after the first steps of more conservative care. These conservative first step measures are referred to here as *gentle remedies*, a term borrowed from history. Traditionally, natural remedies that engage elements of the environment, such as water, plants, and people, have been viewed as gentler and bearing less risk to the user than invasive surgeries and procedures and synthetic drugs (Libster, 2004).

Infancy, more than any other time in human development, is a time for a gentle approach to care and comfort as a first step. Gentle remedies are typically easily accessible, affordable at low or no cost, and effective. The examples of gentle remedies provided in this paper follow a centuries-old theoretical framework found in numerous culture's healing traditions around the globe, including professional nursing (Libster, 2008) in which health problems are first addressed by adjustments in environment and lifestyle to include cleanliness, order, sound/noise, water, movement/activity, sleep/rest, and relationships. All adults, parents, nurses, and caregivers who recognize infant distress in its earliest stages and are equipped to intervene with gentle remedies can potentially prevent the violent behavior and the violent over-treatment of infants.

One term that has been used to refer to the first step in a stepwise medical approach is "watchful waiting" (Fries & Vickery, 2017, p. 6275). Another term, "self-limited disease" (Bigelow, 1859) has been used by nurses and physicians who were keen to observe patients and disease patterns but let "nature" run its course. Florence Nightingale (1980, p. 110) wrote in her advice book *Notes on Nursing* in 1859: "Nature alone cures... and what nursing has to do in either case, is to put the patient in the best condition for nature to act upon him". The promotion of the recognition of self-limited disease was a response to over-treatment by physicians in the 19th century when many citizens and health providers opposed the excessive use of "heroic therapies," such as bloodletting and elemental mercury called "calomel" (Libster, 2004). However, health providers are not passive during periods of self-limited disease and watchful waiting. Nurses assist the patient in "alleviating pain, procuring sleep, and guarding the diet" (Bigelow, 1859, p.47) actions that today are referred to as *environment and lifestyle management*.

Environment and lifestyle management

Gentle remedies first step approach begins with environment and lifestyle management. Parents and caregivers *are* an infant's environment. Everything that they do with the infant is perceived and absorbed by the infant and is imprinted upon their memory. Nurses assist parents and caregivers to be the infant's environment in times of sickness and in health. The seeds for gentle remedies environment and lifestyle management are four assumptions that can guide parents as they seek create an environment that will support their infant's growth and development. These assumptions are that: (1) Infants know what they need; (2) "If infants' needs are met and if they are not hurt, they will be intelligent, joyful and loving;" (3) Experiences in early life can have long- lasting effects; (4) Infants have the "ability to recover spontaneously from hurts if they are allowed to release their hurt feelings" (Solter, 2001, p. 4).

When a parent, teacher, or caregiver becomes distressed and seeks help in dealing with an infant's disruptive behavior, the nurse's first responsibility is to provide an objective assessment of the behavior and the environment in which the behavior occurs. In partnership with the parents, the nurse determines the relationship between the infant's disruptive behaviors and the environment. According to research in cultural neuroscience, parents' culture, including their beliefs, behaviors, and the environment that they create interact to "construct the full ecology of development" and therefore brain growth (Blackwell, 2001, p. 341). Infants are particularly attuned to any and all changes in movement within themselves and as a flow of energy around them and within their environment including that which comes from people in that environment.

Movement of energy is described differently in scientific disciplines. For example, developmental science describes all human behavior manifest as movement, thought, or feeling by its elements: duration, speed, rhythm, effort, form, tension, amplitude, or a combination of any or all elements (Blackwell, 2001). The science of movement therapy, cites four components using the Rudolf Laban *Effort-Shape Movement Analysis System*: flow, weight, time, and space/direction (Dell, 1977). All of these movement qualities can be used as structures to be used by adults seeking entrée into communication with an infant. The goal is to understand the physical, emotional, mental and spiritual self of the infant, their non-verbal and preverbal perspective of the world, and their unique personality, spirit, and needs.

In addition to movement, adults are also responsible for creating and sustaining balance within the physical environment for the infant. The purpose is for the infant and his or her family to seek *allostasis*, a place of stability "mediated by physiological as well as behavioral alterations" and the "adaptive effect of learning" (Tonhajzerova & Mestanik, 2017, p. S174). One of the greatest risks to an infant from the environment is overstimulation. Resilience is the process by which infants adjust to environmental demands, such as overstimulation, and recover from stress (Atkinson, Martin, & Rankin, 2009). Each infant demonstrates their ability to adapt and adjust to environmental stressors. The qualities of this ability is known as infant temperament, the "early and stable emotional predispositions that appear to modulate the interaction between the child and his or her environment (Zeanah, 2009, p. 51). Parents and caregivers strive to create environments that do not require their infant to always tap their resilience energy stores. Infants thrive in environments that are organized, clean, and ready for the exploration of their flow of freedom of movement albeit disorderly by nature (Montessori, 1965, p. 52).

Lifestyle management, in nursing typically focuses on sleep and rest; activity; diet and eating habits; and relationships. In infant mental health care, lifestyle management is linked to the creation of an optimal healing environment. Decades of implementation of Montessori's work in education have demonstrated that a "children's house" lifestyle approach is highly supportive of growth and development. The children's house is a real house and garden with equipment and furniture adapted for children (Montessori, 1965). Seats are small and tables are low. The child's play is his work. Sensory work, such as pouring from cup to cup and practical life activities, such as ironing hold as much importance as tracing letters with fingers.

If parents are requesting psychopharmacology for infants, who do not have these opportunities for learning by doing, they must be reminded about the truth about their infants. Movement is the law of their being! Creating an environment in which they can move and be themselves within the structure or lifestyle management that parents and teachers provide, is the gentle remedies first step in nonpharmacological prevention and care of infants with disruptive behaviors.

Gentle remedies for infant stress and frustration

The following are examples of nonpharmacological gentle remedies that can be used to create changes in the infant's environment within and without that will discharge infant stress and frustration.

Lullabies

Infants learn different ways to comfort and soothe themselves by thumb sucking, sleeping, and clutching a favored blanket. Most of these habits are effective ways for infants to relieve tension during their early life when they experience the normal stress that accompanies this period of inherent psychological and biological openness and plasticity in terms of brain development. Adults also assist by rocking, touching, and singing to babies. Singing to infants, such as lullabies and playsongs, is an age-old comfort measure that adults do around the world that has been shown to be more effective than maternal speech in affecting infant's' self-regulation (Trehaub, Ghazban, & Corbeil, 2015).

Infant-directed singing is preferred by infants. Infant-directed songs include two major song types: playsongs and lullabies. One well known lullaby is the first stanza of an English poem, *The Star* by Jane Taylor:

Twinkle Twinkle Little Star,
How I wonder what you are!
Up above the world so high
Like a diamond in the sky
Twinkle Twinkle Little Star,
How I wonder what you are!

One resource on the web for learning the melody for this short lullaby is the Youtube performance by Harpist, Kaori Otake, https://www.youtube.com/watch?v=gG1S5HTdp0I.

"Lullabies are often used to calm and soothe an infant to make them ready for sleep and are typically sung at a lower pitch and slower tempo in comparison to playsongs" (Conrad, Walsh, Allen, & Tsang, 2011, p. 168). Lullabies that are sung live to preterm infants have shown greater beneficial impact in preterm infants' sleep state that recorded lullabies (Garunkstiene, Buinaiskiene, Uloziene, & Markuniene, 2014). Infants age 6–7 months have been found to prefer playsongs that are sung at a fast tempo and higher pitch level with the intention of stimulating the infant (Conrad et al., 2011).

Singing lullabies is very helpful for those parents who may have their own issues of self-regulation and are quick to react to infant stress and crying. One Australian study on the effects of lullabies and playsongs on maternal-infant attachment found that "singing facilitated a flow of interconnections between positive mental and emotional states… and that the therapeutic potential of singing to impact attachment lies within the positivity and flow of the mothers' intrinsic experience of singing" (Creighton, Atherton, & Kitamura, 2013, p. 17). The parent's experience of singing is conveyed to the infant as much as are the sounds, tones, and rhythms that they make when singing. One main conclusion of the study was that singing provides a platform for parents to practice new skills and understanding of how they can assist the infant in regulating their emotions.

When coaching parents to sing lullabies to their infants, it is best to have the infants present so that the parent can sing directly to their child. Research has shown that parents' voices are a product of the emotion that they feel for their child. The expressiveness and emotionality of parent singing increases when the infant is present. Infants' characteristic response to their mothers' singing is "intense engagement, as reflected in prolonged visual fixation of the mother's face and reduced body movement" (Trehub, Plantinga, & Russo, 2016, p. 679).

Hot water bottles

Hot water bottles are one of the simplest gentle remedies for easing pain and tension anywhere in the body. Hydrotherapies, such as hot water bottles, have been incorporated into psychiatric nursing care for centuries (Libster & McNeil, 2009). There is a science and an art to applying them safely. Hot water does not just provide comfort, and it is not just a placebo effect. Hot water of more than 43 °C or 109 °F, when applied to the skin near where internal pain is felt, has been shown to switch on heat receptors at the site of pain that block the body's ability to detect pain in response to heat at around 104 °F (Patwardhan et al., 2010). Hot-water bottles can gently reduce the physical pain and inflammation involved in infant pain, such as colic.

A hot-water bottle is a thick rubber bag with a stopper. It should be checked for damage and signs of leakage before using with an infant. Fill the bottle to 75% capacity with water that is less than 120 °F. *Never use boiling water*. After filling the bottle, screw in the stopper part way and then burp the bag to release any air trapped in the bag. Dry the bottle and place it in the cotton bag cover. Some parents make covers out of materials used to make teddy bears. The covered bottle can be held anywhere by the young child as they might do with a teddy bear, to warm their tummy, chest, or feet. Do not leave a hot-water bottle in an infant's crib or bed when they are unattended.

Infant massage education

Some challenging infant behaviors are related to physical concerns, such as pain. As in adult care, nurses help families to identify the location of the pain, understand the human physiology involved, and what the infant's body is communicating. The nurse often is in a position to make suggestions about self-care for pain relief.

Touch, according to Dr. Ashley Montague (1986, p. 282) famed researcher on human touch, is capable of "soothing ruffled feelings, assuaging pain, relieving distress, giving reassurance and in making in short, all the difference in the world". It is an infant's first form of communication. Infants are first touched during gestation by the sides of their mother's uterus. Touch is a powerful communication skill to use with non-verbal and pre-verbal infants who come to know their environment through touch. While there are definite benefits to the physical health of the infant receiving massage, the purpose of infant massage education as a touch therapy modality is to provide an opportunity for parents and infants' caregivers through educational instruction in massage to learn how they and their infant communicate and connect with each other. They also learn how best to respond to their infants' crying, cues, and communications during massage. Those who are certified in infant massage teach parents and caregivers and do not actually massage babies. They do not need to be licensed to touch.

The International Association of Infant Massage (IAIM) was founded by Vimala Schneider McClure with the purpose of "promote nurturing touch and communication through training, education, and research so that parents, caregivers, and children are loved, valued and respected throughout the world community" (International Association of Infant Massage, n.d.; McClure, 2017). The first step of infant massage is to ask an infant's permission to touch them. The parent then warms a small amount of a cold-pressed vegetable oil in their hands before massaging the infant. Scented oils, including all natural, organic essential oils can, even in small amounts, be overwhelming for infants, especially newborns. Unscented oil is best.

All of the strokes and techniques used in infant massage can be taught in 3–5 sessions. Caregivers are taught to start a massage with the

feet and legs rather than the head and face. However, if babies have injuries, such as sore places on their heels from where they were poked for a blood draw in the hospital, caregivers will need to move slowly. Strokes that are calming to the infant are longer strokes that move from the center of the body to the extremities. There are other strokes used in infant massage, such as “Indian milking” of the ankle and “toe squeezes” that target relief for specific areas of the body.

When parents and caregivers are completely focused on the massage of their infant, the baby reciprocates the feelings and experience through behaviors that demonstrate that they have felt the connection through calm vocalizations, smooth breathing patterns, smiles, and bright eyed focused attention on the massager. This parent-infant communication, just as in adult communication, includes miscommunications. Infants respond with a cry when they are touched too deeply or in a sore spot for example. As parents massage they observe changes in infant behavior and learn to piece together a full picture of those behaviors and communications that have emerged through the massage into meaningful patterns upon which they can act. Infant massage provides entrée for the parent and caregiver into the nonverbal pre-verbal infant's world. This touch-focused communication between parents and infants begins the process of building a trusting relationship. Through the process, the child learns that his or her parent is inviting them to share their experience and feelings, will listen, hold them as they cry, and adjust the touch in response. After learning about massaging the infant's feet and legs, subsequent sessions focus on the abdomen, chest and arms, face, and back during which the instructor conveys unconditional positive regard for parents and babies (McClure, 2017) while helping with infant cue and communication interpretation.

Research shows that the most common risk factors to infant physical, mental, emotional and spiritual health are poverty, parenting skill, maternal depression, and preterm birth (Zeanah, 2009, p. 134). Infant massage is inexpensive, assists parents in developing their infant communication and caregiving skills, and is an effective modality for parents, including mothers who experience postpartum depression, to use when seeking to promote their infant's health and balance. A systematic review of literature on infant massage describes the “positive effects on children's growth, health and behavioral development, and beneficial effects on the mothers' psychological well-being when they gave their children massage” (Garmy, 2012). However, some high-risk infants and their parents may not benefit from an infant massage education program alone.

Infant massage is very helpful for healthy newborns experiencing transition to extra-uterine life. Newborns have a great need for help in neuromotor organization and self- regulation after going through a vaginal delivery or cesarean section birth. Premature infants, with disorganized nervous systems, are at particular risk for delays in bonding and parental attachment. Studies have shown that massage (head-to-toe 15-min massage three times per day for 5 days) given to premature neonates by their mothers on a daily basis can promote and maintain emotional attachment between the mother and her infant (Shoghi, Sohrabi, & Rasouli, 2017). Massage, specifically passive limb movements, has been shown to promote growth and development in preterm infants as well as improved bone density (Field, Diego, & Hernandez-Reif, 2010b). Studies have shown that the use of moderate pressure massage is essential for improving neurobehavioral outcomes in full-term infants (Field, Diego, & Hernandez-Reif, 2010a). Evaluation of the amount, frequency, and quality of touch that the infant receives as a newborn, a toddler, and then young child is often helpful in determining the need for infant massage education intervention. As infants grow and start to step away as toddlers their attention span for receiving massage interaction with parents is often considerably shorter. Infant massage classes can also be continued as “check-ins” to support new parents through these phases of infancy as well.

Oatmeal baths and other herbal simples

The focus of gentle remedies for newborns is adjusting their environment and lifestyle management, but as the infant begins to eat foods in addition to nursing or taking formula in a bottle, other gentle remedies can be suggested. Culinary herbs, the common herbs used in cooking, such as lemon and mint, have been used for centuries in the care of infants experiencing colds and other common health concerns. There are also herbal simples (i.e. one herb gentle remedies) that are helpful for supporting infants as they move through the process of adapting to the stress of extra-uterine life. Herbal remedies are not used internally in a *newborn* (up to age 15 months) because his liver is immature and plant remedies, like many foods, are metabolized through the liver; however, the herbal simples listed here have a safety record that is comparable to foods. They are also plant-based foods. In addition to internal use in the form of syrups, teas, and soups some herbal simples are applied topically to the skin or added to baths. Consultation with a knowledgeable practitioner is best practice before using medicinal amounts of herbs internally in an infant age 15 months to age 5 (Libster, 1999).

One of the first challenging behavior periods to appear in some infants is related to colic. Colic is abdominal pain demonstrated by unrelieved crying and pulling legs up from age 2 weeks to 3–4 months. It is thought to be related to the immaturity of the infant's nervous and gastrointestinal systems, and stimulated perhaps by noise, over stimulation, and strong emotions, such as fear. After the infant has been held and comforted while crying, there are other gentle remedies that can ease colic pain. A parent can perform a colic hold with the infant on his abdomen across the parent's forearm and with the infant's head slightly higher than his or her feet. There are infant massage techniques that are helpful for relieving spasms and pain in the baby's abdomen too.

The herbs and foods that are known to relieve colic pain include dill seed tea (taken by the mother), chamomile compresses to the infant's abdomen, and oatmeal baths. The recipes are below. Dill seed tea (*Anethum graveolens*) taken by a mother is known to help abdominal pain in the breastfeeding infant (Humphrey, 2003, p. 127). Chamomile tea (*Matricaria recutita*) can be used externally as a warm compress on the infant's abdomen to relieve the cramping and spasms that cause an infant to writhe in pain. Chamomile tea also has a long history of use internally in small dilute amounts for such common concerns as diaper rash, teething, irritability, abdominal gas, sinus congestion and pain, and restless sleep (Libster, 2002, p. 404). To reiterate, these remedies are complementary to not a replacement for supporting the discharge of tension and hurts through crying.

Recipe for Chamomile Tea: 1 tsp. chamomile flowers in 1 c of boiled water. Cover and steep for 5 min. Chamomile tea can be poured into the bath. Use just enough to raise a slight smell (apple-like smell) and slight coloration of the bath water. Internally, use ½ - 1 tsp. of tea prepared as described above in ½ c breast milk or formula to relieve abdominal spasms.

Recipe for Dill Seed Tea: Soak ½ c Barley (regular, pearled) overnight in 3 c cold water or boil for 25 min. Strain the barley to be used in cooking. Refrigerate the barley water. Heat 1–2 c barley water and pour over 1 tsp. dill seed and steep (let it sit with a cover on it) for 20–30 min (Humphrey, 2003).

Recipe for Oatmeal Baths: In herbalism, oats (*Avena sativa*) are classified as a nervine (Felter & Lloyd, 1983). The green tops of the plant produce the oat milk that is so helpful to the nervous system. Common oatmeal is made from the cooked fully developed seeds of the grain plant. The colloidal (gelatinous) fraction of oatmeal is sold over the counter in pharmacies typically for use in baths to relieve itching and irritation of dry skin, eczema, and chickenpox. To make an oatmeal bath from scratch, fill a small cloth bag with oats and submerge in the bath as the tub is filling. Squeeze the bag to release the milky fluid from the oats. Children can also eat oatmeal before bed to help with sleep. Oat straw is the stem of the *Avena* plant and has a different use.

Bach flower remedies

The original Bach Flower remedies system originates in the United Kingdom with Dr. Edward Bach (pronounced Batch, 1886–1936). Dr. Bach was an infectious disease physician turned homeopath who found a way of potentizing the essences of 38 "healers," most of which are flowers, by using the rays of the sun. The Bach Flowers are liquids that come in 10 and 20 ml "mother" bottles. The liquids are the essence of the substance used in the remedy preserved in a small amount of brandy. As is the case with homeopathic remedies, Bach Flowers are essences or energetic remedies.

Two drops from the mother bottle of the specific Bach Flower remedy are placed in a 1 oz glass dropper bottle that is filled with water. Because the Bach system is an energetic plant remedy system, using more than two drops in a bottle is not harmful but is also unnecessary as it is not more useful. The most important part in the use of the system is picking the correct remedy. There are books and the original Bach website (www.bachcentre.com) that provide Bach's descriptions of the patterns of behaviors and health patterns associated with each of the remedies. For example, those who feel overwhelmed by their responsibilities can try taking "elm."

The remedies are also powerful healers in infants and children. Behavior changes can be immediate with the use of the right remedy at the right time. The key is getting to know well the specific patterns of each of the 38 healers. The nurse who is knowledgeable of the 38 healers can then better perceive the patterns reflected in the infant's behavior and then suggest the remedies that parents might want to read about. For example, walnut is used for those experiencing emotional difficulties related to transition and change. When a new infant is born, other children go through significant change and transition in their view of the world which is their family. Walnut can help all of the children if and when they exhibit signs of distress. Walnut is also helpful when infants are teething. Parents often ask whether a person who is allergic to walnuts would be allergic to the walnut flower essence Bach remedy. "The active ingredient in a flower remedy is an energy from the plant, not a physical substance" (Bach Centre, n.d.). It should not cause allergic reactions and should not interfere with the physical action of other remedies and medicines.

Illness is defined by Bach as it is in many healing traditions as the stagnation of energy flow. The remedies help to move people through emotion; they do not suppress emotions. Bach writes that, "the action of these remedies is to raise our vibrations and open up our channels for the reception of our Spiritual Self, to flood our natures with a particular virtue we need, and wash out from us the fault which is causing harm. They are able like beautiful music…to raise our very natures, and bring us nearer to our Souls…They cure not by attacking disease, but by flooding our bodies with the beautiful vibrations of our Higher Nature, in the presence of which disease melts as snow in the sunshine" (Howard & Ramsell, 1990, p. 62).

The Bach remedies move emotions but they do so very gently. Two drops of any remedy diluted in 1 oz of water can be put in the infant's mouth or on their skin. One way to get to know the Bach Flower remedy system is to try the Rescue Remedy first, a combination of five of the 38 healers used in cases of stress, anxiety, and trauma. Four drops of Rescue Remedy can be put into any size container of water and then given in sips to help infants experiencing intense stress. For example, I once had to participate in the suturing of the forehead of a two-year-old. He was brought to the clinic by his father, a veteran who had seen combat. The child, who was normally curious and friendly, was wild with fear. He thrashed about with his head throwing blood everywhere. The nurses had a standing order to give Rescue Remedy to any patient and so we got permission from the dad and squirted a dropper of the remedy in his mouth while telling him that the flower remedy would help. It did. The child immediately stopped his thrashing. He did not stop crying or saying "no" as he held onto his father's hand. But he was whimpering rather than thrashing about as we took care of his wound. The trauma and subsequent memory were abated.

It is just a better first step

These are just a few of the gentle remedies that can be applied or taught to parents in the mental health care of infants. Environment and lifestyle management along with other gentle remedies complement the support for crying that parents and caregivers must provide during the infant's adaptation to extra-uterine life. In summary, gentle remedies are just a better first step in the rebuilding of a tiered system of infant mental health care. They are neither better than nor are they a replacement for pharmaceutical drugs, the fourth step of the tiered system. Gentle remedies can also continue to be used even when parents move to the second, third, or fourth steps in the tiered system. The second step is seeking advice of family, friends and advice books, such as *Touchpoints* (Brazelton and Sparrow, 2006) or *Taking Care of Your Child*, (Pantell, Fries, & Vickery, 1993). The third step is when parents access community caregivers, including nurses, for their support experience, and knowledge. This is also the step in the tiered system where parents may choose to seek professional Child-Parent Psychotherapy to help them resolve their concerns. Child-parent psychotherapy is a relationship-based treatment for infants, toddlers, and preschoolers, who are "experiencing mental health problems or who are at risk for such disturbances due to parental mental illness, maladaptive parenting practices, discordant parent-child temperamental styles, and/or adverse life circumstances, including traumatic stressors" (Zeanah, 2009, p. 439). Advanced practice psychiatric nurses, physicians, licensed professional counselors, and social workers may provide child-parent psychotherapy. Examples of concerns referred to child-parent psychotherapists for infant mental health care include disruptive behaviors, hospitalization or separation, eating and sleeping problems, adoption, autism, inability to self-soothe, destructive behavior, and the infant shows no emotion or may not accept care and comfort. Through joint sessions with the infant and parents, the purpose of child-parent psychotherapy is realized as the promotion of healthy development of the infant and the new family in transition.

There may be very little apparent difference in the actions that parents and families take to address health problems, such as disruptive behavior, between the first and second tiers of self-care and consumer health, and the third tier when they engage the help of nurses and other health providers. The differences may be in the intensity of the concerns and the parents' needs for assistance in implementing cares. The purpose of the interventions in the third tier is to help infants and their families navigate health choices, weigh the benefits and risks of those choices, implement and evaluate the effectiveness of chosen remedies, and then create and manage decision points for knowing when and if ever to move to the fourth step of biomedical treatment with pharmaceutical drugs.

Psychopharmacology must be the fourth or last step in infant mental health care. Gentle remedies conservative care and self-care must be part of the plan if parents are to be able to keep their faith in their ability to raise their children. Seemingly simple caregiving practices have been deemed "noninstrumental 'niceties' that somehow did not really count as knowledge and skill at all compared to medicine's therapeutic and curative enterprise" (Benner, Sutphen, Leonard, & Day, 2010, p. 23). Nurses are partners with parents ensuring that they receive quality infant mental health care that includes weighing the benefits and risks of "niceties" and "curative" measures alike.

In 1840, American nurse, Sister Matilda Coskery, considered an "oracle" in the holistic care of the mentally ill by her physician colleagues and nurse companions, wrote in her advice book to nurses that the "curative point" in the care of the ill "mostly rests in the hands of the nurse" (as cited in Libster & McNeil, 2009, p. 187). Nurses are too often challenged professionally to make "an oversimplified choice…to represent themselves either as highly effective interventionists who are knowledgeable and skillful in science and technology or as nonskilled

nurturers ... two mutually exclusive options, neither of which accurately represents the complexity of nursing care" (Benner et al., 2010, p. 24). Current studies, such as the Carnegie Foundation Report by Benner et al., recognize the need for nurses to continue their healing tradition, as complex and challenging as it may be, to fully integrate all of the "niceties" and nurturing skill historically developed as the science, art, and skill of gentle remedies with emerging science and technologies. The focus of mental health promotion and mental illness prevention services is reducing the risk of a person developing a behavioral health problem including disruptive behaviors in infants. The contributions of nurses and parents to mental health promotion and disease prevention begins in infancy. Infant mental health is the perfect place for the introduction of a health and healing culture in which the first steps are gentle remedies well known to hold a special power for the restoration of faith in the infant and new family moving through transitions in body, mind, and spirit.

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