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Newborn care: what we can learn from the kangaroo mother

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Keywords: newborn, neonatology, pediatrics, human development, kangaroo method, kangaroo mother care, skin-to-skin care

INTRODUCTION

The word “kangaroo” comes from the Guugu Yimithirr word “gangurru,” which refers to gray kangaroos [Macropus fuliginosus (Western); Macropus giganteus (Eastern)] (1). The name was first written as “Kangu” on July 12, 1770 by Sir Joseph Banks (1743–1820), who was with the famous Captain James Cook (1728–1779) at the modern Cooktown in Australia, while they were repairing their ship—the HMS Endeavour damaged on her historic voyage to the Great Barrier Reef (2). The language of the indigenous people of Cooktown is Guugu Yimithirr.

The brooding young joey (infant kangaroo) crawls over the mother kangaroo’s fur in approximately 3 min to arrive at the mother’s pouch, which contains four teats to feed the baby; milk of different chemical compositions are provided to the esurient baby by the different quad-teats (3, 4). The mother kangaroo seems to have little interest in her newborn at first, but the joey stays in the pouch feeding and growing—eventually leading to a powerful, henotic bond between mother and baby. The young kangaroo joey first absquatulates the pouch for a few minutes at 198 days of life and then abscesses at an average of 235 days at an average weight of 4–5 kg. Though outside the mother’s pouch, the baby (infant) will suckle for another 4 months until a year of age. This joey has a close vinculum with its mother for sometime thereafter due to the healthy touching that the pouch-suckling milieu created (3, 4). Koala (Phascolarctos cinereus) mothers have developed the same feeding technology over the millions of years of their evolution leading to a successful bond between this manuetsudine mother and her bonhomie baby who like all marsupial newborns is called a joey (5, 6).

Though the kangaroo mother figured out the best way to feed and bond with her joey millions of years ago, it took Homo sapiens much longer to learn about caring for its newborn and to be taught this “kangaroo” care (7). Modern neonatology has developed over the past few centuries and has acquired amazing technology in the twenty-first century (7). However, it was not until 1978 that Dr. Edgar Rey Sanabria, professor of neonatology, established “kangaroo care” for premature and low-weight newborns (8). Kangaroo care was found to be an effective method in the premature newborn and the mother and baby who like all marsupials evolved in the pre-ecclesiastical years of their evolution leading to a successful bond between the mother and her bonhomie baby (9). This method of newborn care was promoted by the World Health Organization (WHO) in 2003 (11). Its actual acceptance over the years by various professional groups is due to the adiaphorous method as some studies have found that it may fail to find reduction in mortality or other benefits already known for millions of years by marsupials (12).

Other studies, however, have found beneficial effects from this method and it has been used by various newborn units and newborn intensive care units around the world (10). An article by Suzanne Rutgers Greydanus and Sheryl Meyers (13) provides more details on this method of newborn care adopted from the famous Australian marsupial named in 1770 from the Guugu Yimithirr language native to Cooktown, QLD, Australia.

As researchers study the exact benefits of kangaroo mother care (KMC), one issue behavioral scientists point out is the importance of touch for normal health in both humans and non-human animals. Human skin has evolved over millions of years of life’s development from a simple envelope to cover the ancient microorganisms to the complex covering

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of humans we call skin (14). The skin is a barrier needed for human existence and consists of the epidermis (stratum corneum, stratum lucidum (palms, soles), stratum granulosum, stratum spinosum, stratum basale/germinativum), and the dermis (stratum papillare and stratum reticulare) (15). The impenetrable skin and the complex central nervous system have evolved in a concinnous manner over millions of year together and also develop in utero for each human from the beginning of the human's embryological development (14).

This delicate démarche or dance between the largest organ of the body (the sanguineous skin) and the intricate central nervous system (including the sympathetic and parasympathetic nervous systems) has profoundly felicitous effects on the medical and psychological health of the human being from birth to death. Research has shown that touch is an important aspect of allowing as well as promoting normal growth and development in both animals [i.e., roundworm larvae (Caenorhabditis elegans), rat pups (Rattus norvegicus)] and human infants (H. sapiens infants) (16). Thus, one can a priori speculate that the kangaroo skin-to-skin method will provide important touching sensation between mother and baby that is critical for vital cellular and molecular mechanisms leading to improved medical and psychological health in the vulnerable newborn (14, 16–19). Such touching is also beneficent-initiated erotic touching, and others)- remains essential to normal human development (14).


REFERENCES