Transgenerational Karma

**Karma**

The concept of karma is an integral part of the centuries-old Hindu, Buddhist, and Tao philosophies. The literal translation of karma is fate or destiny. Simply put, karma implies that actions (and intentions), carried out in previous existence or lifespans, influence fate or destiny (health and other outcomes) in a future existence, or rebirths. As a corollary, karma suggests that one can practice “good” actions, with “good” intentions, to achieve a healthy destiny in future lives. The trans-existential framework of karma is associated with a transgenerational component as well: This proposes that actions (and intentions) of parents influence the lives of their children and succeeding generations as well.

**Transgenerational Karma**

While the term “trans generational karma” has been used in Buddhist thinking,[1] we propose this as a rubric to convey the influence of maternal health status on outcomes, both short-term and long-term, on health of offspring. Transgenerational karma builds on earlier terminology such as vascular legacy, glycemic legacy, metabolic memory, and metabolic karma.[2-5] These phenomena describe the effect of blood pressure, glucose and comprehensive control on long-term health.

Transgenerational karma, on the other hand, can be defined as the effect that maternal health, before, during and after pregnancy, can have on short-term and long-term outcomes in offspring. It has multifactorial etiology, including glucose control, blood pressure, prepregnancy body mass index, weight gain during pregnancy, exposure to drugs (prescription drugs, alcohol, tobacco, illicit drugs before and after conception), and breastfeeding.[6-14]

**The Abhimanyu Syndrome**

Such a phenomenon is highlighted in many episodes in Indian literature. A unique case of “in utero programming” is the description of Abhimanyu, son of Subhadra and Arjuna. While Abhimanyu was in utero, he overheard a conversation between his mother and maternal uncle (Lord Krishna). Through this, he learnt how to enter a battle formation known as the Chakravyuha (cyclone). Unfortunately, Subhadra fell asleep when Lord Krishna was describing the technique of exiting the formation, and the unborn Abhimanyu could not listen to this part of the war strategy. When Abhimanyu was sixteen, he took part in the epic Mahabharata war. On day 14, he entered a Chakravyuha formation created by his opponents, and single-handedly killed many soldiers; however, he was unable to come out, and lost his life.[15] Thus, in utero exposure (or the lack of it) to maternal karma (knowledge) can have strong positive (and unwanted) effects in future: this is the essence and legacy of transgenerational karma.

**Phases of Transgenerational Karma**

Good actions (e.g., tight glycemic control) and intentions (i.e., achieving glycemic control with safe drugs such as insulin), in the preconception, antenatal and postnatal phase[16-18] allow the offspring to enjoy good karma, i.e. fate or destiny (such as lower risk of metabolic syndrome). The fruit (Phala) that results from good karma is evident in various fetal, neonatal, childhood and adulthood outcomes. It includes the influence on anthropometric, biochemical, metabolic, endocrine, vascular, and cognitive function.[19-22]

The role of achieving and maintaining comprehensive metabolic health in the preconception phase is well-known and forms the noesis of preconception counseling. Poor glycemic control and high body mass index, before pregnancy, have a detrimental effect on feto-maternal outcomes. Exposure to teratogenic drugs during this vulnerable period and during the first trimester may have similar influence.

During pregnancy, glucose, blood pressure, and weight management are important drivers of transgenerational outcomes. These factors modulate fetal, perinatal and neonatal outcomes they also influence short-term and long-term health of offspring. While some of these influence are visible within a few years, others manifest at puberty, and yet others in adulthood.

Transgenerational karma continues to exert its action from the postpartum period as well. Breastfeeding is known to be a preventive strategy against the development of metabolic syndrome. At the same time, use of top milk, and/or nonuse of breast milk is associated with multiple undesirable health-related effects. Maternal intake of harmful drugs or other substances may also lead to such unwanted health outcomes.

**Scientific Evidence**

The pathophysiologic mechanisms which mediate maternal influence on health of offspring are well characterized. The modified Pederson hypothesis, epigenetic changes, fetal metabolic programming,[23-24] and metabolic memory are documented and discussed extensively in literature.

These hypotheses have been supported by results of large randomized controlled trials such a Hyperglycemia Adverse Pregnancy Outcome, Exploring Perinatal Outcome among Children, and Metformin in Gestational Diabetes trials.[25-27]
The concept of transgenerational karma is useful in explaining the importance of preconception care for diabetic women for improving maternal and fetal outcomes: A systematic review and meta-analysis. BMC Pregnancy and Childbirth 2010;10:63.

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