Editorial

Cousin Marriages: Pakistan's Genetic Time Bomb

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Cousin marriages or consanguineous marriages in Pakistan are a health pandemic we can no longer overlook. Marrying within the family, especially between first cousins, is a tradition passed down through generations. However, over the last two decades, increasing research indicates that this decision incurs significant costs, e.g., increased prevalence of genetic abnormalities, newborn mortality rates, and cognitive implications in subsequent generations, imposing burdens on both families and the national public health structure.

Consanguineous marriages particularly between first cousins represent about 65% of all marriages in Pakistan, one of the highest rates globally.[1] From 1990 to 2018, this rate hovered steadily between 63% and 68%, indicating resilient cultural patterns.[1]

These marriages are associated with increased reproductive risks: stillbirths, low birth weights, neonatal mortality, congenital anomalies and, crucially, inherited genetic disorders.[2,3] In Gujranwala, a local study revealed alarmingly higher infant deaths and miscarriages in children born from cousin unions: among 288 couples in consanguineous marriages, 84 experienced miscarriages or stillbirths, compared to just 4 among 112 non-consanguineous couples.[4]

Genetic disorders linked to consanguinity range widely from congenital heart disease and thalassaemia to sensory impairments and cognitive disabilities.[5,6] Evidence also points to a rise in neonatal death and small-size births, both serious public health indicators.[7] Moreover, cognitive development can also suffer. Studies suggest a marked increase in intellectual disabilities and developmental delays among children of closely related parents.[8] While precise IQ (intelligence quotient) impacts are harder to quantify in national surveys, the pattern of autosomal recessive disorders undermines cognitive potential across generations.[9]

The repercussions extend beyond individual families. A larger prevalence of genetic and neonatal disorders inflates healthcare costs[10,11] due to (i) long-term care needs, including lifelong support for congenital disabilities; (ii) increased demand for specialized services, genetic counseling, neonatal intensive care, and rehabilitative services; and (iii) strain on rural healthcare systems.

Research underscores that consanguineous marriages are more common among less educated, rural, and lower income women, a convergence of vulnerability that perpetuates disparities in maternal and child health.[1] Encouraging non-consanguineous marriages is not about evading tradition, but about empowering families with safer choices that yield healthier, more productive generations. Ensuring genetic diversity through non-consanguineous marriages lowers the risk of hereditary disorders. Likewise, it reduces infant and perinatal mortality, and better birth outcomes, strengthening life expectancy and human capital. Henceforth, pertinent stakeholders and politicians should launch public awareness campaigns that extend beyond mere warnings, providing realistic alternatives and endorsing genetic counselling, prenatal screening, educational programmes, and media outreach.

As Pakistan seeks to uplift its public health and human capital, addressing the genetic toll of cousin marriages is not optional, it's essential. A small shift in marital choice can yield significant benefits: healthier children, smarter societies, and a more productive nation.

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