Consanguinity and Its Negative Health Effects in Northern Jordan Valley

Munna Ahmad Mohammad Tayyem
(B.S. in Nursing, 1991)
Jordan University of Science and Technology

Thesis to be Submitted in Partial Fulfillment of the Requirements of Master Degree of Biological Anthropology in Institute of Archaeology and Anthropology of the University of Yarmouk

Committee

Dr. Mahmoud El-Najjar ....................... Supervisor

Dr. Jerome Rose ....................... Member

Dr. Mohhama Haddad ....................... Member

1997
Abstract

The relationship of consanguinity to the incidence of hereditary and congenital diseases and handicaps was studied in a sample of 100 affected children ages 6 months to 15 years drawn from the northern Jordan Valley. Factors were also studied which may affect either occurrence of consanguineous marriages or the incidence of congenital or hereditary diseases or handicaps found in the sample.

The most significant findings included: (1) overall consanguinity of the parents was 74% and the inbreeding coefficient was 0.025504; (2) multifactorial causation was the major source of handicaps (65%); (3) males were more affected by diseases and handicaps than females (3.1:1.8); (4) most children (68%) with diseases and handicaps had parents with less than high school education; (5) the great majority (81%) of less educated parents had consanguineous marriages; (6) consanguinity was significantly related to the overall incidences of diseases and handicaps, with main effects seen in first and second cousins; (7) maternal age was significantly associated with incidence of diseases and handicaps, with oldest mothers (40%) followed by youngest mothers (33%) having the most affected children, (8) mental handicap severity was significantly associated with level of consanguinity, with most severe cases from first cousin marriages and mildest cases from non-relative marriages.
Recommendations based upon the study findings include: (1) collect national and regional statistics of hereditary diseases, congenital malformations, and congenital disorders, as well as consanguineous marriages; (2) encourage marriage to nonrelatives through popular radio and television media, such as soap operas and talk shows; (3) encourage childbearing between ages 20 to 35 through family planning and marriage after 20; (4) train community health care physicians to recognize diseases, disorders, and handicaps that are prevalent in related families and discourage consanguineous marriages especially for these families with affected children and to refer consanguineous couples for genetic counselling if they have abnormal offspring.