
**Abstract**

Familial correlations in cardiovascular risk factors were investigated with use of data from a community-based sample of 1319 nuclear families involving 4178 adult persons collected in the Busselton Population Health Surveys over the period 1966 to 1981. The risk factors considered were systolic blood pressure, diastolic blood pressure, body mass index, triceps fatfold, and cholesterol. All risk factors showed positive familial correlations, with correlations generally being lower for spouses than for parent-offspring pairs or for siblings. Spouse correlations showed little variation with age, suggesting that observed correlations are primarily due to assortative mating and not to cohabitation. The parent-offspring correlations tended to decline with age of (adult) offspring; this observation suggests that the effect of a shared household environment during childhood and adolescence diminishes over time when living apart during adulthood. The sibling correlations decreased with age for blood pressure and serum cholesterol and increased with age for body mass index and triceps fatfold. The estimated heritabilities were 27% for systolic and diastolic blood pressure, 37% for serum cholesterol, 52% for body mass index, and 23% for triceps fatfold. These results confirm that substantial familial aggregation of cardiovascular risk factors occurs and that much of this aggregation has a genetic basis, although assortative mating (in spouses) and environmental influences (in offspring and siblings) are also present. The nuclear family should be considered as a point of intervention in cardiovascular disease prevention programs.