

30 - Family studies

Family studies

© SPMM Course Family studies There are two types of family studies. The family history method is simple but unreliable; here psychiatric history is taken from the probands himself/herself. A comparison can be then made as to how many relatives are affected in one group compared to another. A more thorough but more timeconsuming approach is the family study method. Here all available relatives are directly interviewed. See below for other major disorders. From McGue M & Bouchard TJ Jr. Genetic and environmental influences on human behavioral differences. Annu Rev Neurosci. 1998;21:1-24.

Complete case ascertainment refers to the identification of all affected individuals in a given population. This is rarely possible. In multiple incomplete ascertainment consecutive referrals are identified; there is a chance that more than one probands may come from same family. Most genetic studies are concerned with in the proportion of individuals who have ever had the disorder (lifetime prevalence). But not all family members may have reached the age of risk for the disorder, and some may have died prematurely before the age of risk. Hence, age correction is important while ascertaining cases. There are many methods of age correction; Weinberg's shorter method is the often used as it is simpler. (note that such standard age correction methods do not exist for twin studies; it is a problem in MZ twins with psychiatric disorders as there is a high correlation between age of onset; sometimes survival analysis can be used for non-psychiatric phenotypes in twins) Relative risk of common psychiatric conditions derived from family studies Adapted from Johnstone, EC. Et al (Ed)Companion to Psychiatric studies Page 158

Disorder MZ Concordance DZ concordance Male alcoholism 41% 22% Female alcoholism 34% 31% Panic disorder 24% 11% Bulimia 23% 9% ADHD 58% 31% Autism 64% 9% Tourette's 53% 8%

Advantages Disadvantages Family History Method Practical Many false negatives Few false positive

Family Study Few false positives or negatives Expensive Disorder Relative risk ADHD 55 times Autism 45 times Schizophrenia 10 times Bipolar disorder 7- 11 times Alcoholism 4 to 6 times Anorexia 2-4 Somatisation 3 times Unipolar depression 1.5-3 Generalised anxiety disorder 2-5 Alzheimer's (late onset) 2 times Panic disorder 3 -8 (summarized as 5 by Hettema, 2001)

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