M51. ESTIMATION OF RISK OF SCHIZOPHRENIA IN FIRST DEGREE RELATIVES AN INDIAN SAMPLE

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Background Schizophrenia (SZ) is a chronic disabling brain disease that clusters in many families with estimated heritability of 64-88%, based on twin studies. Conventionally, family history of psychosis is the best predictor of risk but environmental and epigenetic factors are equally important. Recurrence risk calculation and stratifying risk may make recurrence more understandable while elucidating environmental risk factors. The present study was conceptualized to stratify the risk of schizophrenia in first degree relatives into above average, moderate and high risk categories so that it is easier for family members to understand their risk for SZ.

Methods We recruited prospectively families (n=128) with at least one person affected with SZ and at least one healthy sibling or offspring (18-60 years of age) from OPD of a Government hospital after informed consent process. After ascertaining diagnosis detailed family history on Family Interview for Genetic Studies (FIGS) was obtained and environmental risk elicited.

Based on previous studies reported in the literature, we used the beta coefficients for the different risk factors to derive an equation for susceptibility

$$Y=\beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 x_5$$

Where x_1 = Type and number of affected members; x_2 Age of at risk person;. x_3 Gender of at risk individual; x_4=Paternal age at conception; x_5=Gender of the affected individual Male/Female. We applied this equation to data on each of the siblings and offspring of cases to obtain an "estimate of risk of illness".

Results The mean estimated risk was 5.615±0.337. The distribution of risk of the sample was high (n=19); moderate (n=75) and above average (n=34). The formula was validated against a separate set of sample which was recruited for other studies. The risk of already recruited first degree relative diagnosed with schizophrenia was in high or moderate category according to the formula.

Discussion The study stratified the first degree relatives of schizophrenia probands into high, moderate and above average risk categories considering not only their family history but also other factors which affect susceptibility to schizophrenia. This formula is not meant for use in normal populations as the prevalence of schizophrenia is 1% but in families where already at least one person is affected the risk is known to be increased. Risk calculation is important and a fundamental element of genetic counseling.

*Prof. Gottesman had contributed in the manuscript writing based on the data, but unfortunately he passed away before this abstract was submitted. This paper is dedicated to his memory.

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