A comparison of psychopathology, socio-economic status, cognitive function, personality traits and salivary cortisol in twins with and without a co-twin history of affective disorder

Maj Vinberg

This PhD dissertation was accepted by the Faculty of Health Sciences of the University of Copenhagen, and defended on November 24, 2006.

Official opponents: Per Vestergaard, Annette Gjerris and René Klysner.

Tutors: Lars Vedel Kessing and Tom Gert Bolwig.

Correspondence: Maj Vinberg, Blegdamsvej 9, 6234, 2100 Copenhagen Ø, Denmark.

E-mail: maj.vinberg@dadlnet.dk

Dan Med Bull 2007;54:69

ABSTRACT

The aim of the present PhD dissertation was to investigate whether certain risk factors for affective disorder are associated with a family history of affective disorder.

The study is a high-risk study conducted at Psychiatric Research Unit, Rigshospitalet; the High-Risk design gives an opportunity to investigate healthy individuals before they develop a disorder. High-risk individuals were identified through record linkage between the Danish Twin Registry and The Danish Psychiatric Central Research Register. Four groups of individuals with different heritability for affective disorder were identified. Twins at high risk (MZ twin, co-twin affected) and twins at moderate risk for development of affective disorder (DZ twin, co-twin affected). Twins moderately protected (DZ twin, co-twin unaffected) and twins at low risk for development of affective disorder (MZ twin, co-twin unaffected).

The register linkage identified 204 high-risk twins and 204 low-risk twins who were invited to participate in the study. In the present cross sectional investigation, psychopathology, socio-economic status, cognitive function, personality traits and salivary cortisol levels of 234 high- and low-risk twins were compared.

It was found that the high-risk twins had a higher level of subclinical depressive and anxiety symptoms, and a higher rate of minor psychiatric diagnoses (e.g. phobia, alcohol abuse, and stress reactions). They had a lower educational level and a lower work position. Their ability to solve complex cognitive tasks and memory capacity were impaired, and the high-risk twins had a higher evening salivary cortisol level.

In conclusion, individuals with a family history of affective disorder more often present with known risk factors for affective disorder than individuals without. This seems mainly caused by the genetically heredity, but environmental factors, interactions between genes and environment and interrelations between different risk factors may also play a role.

Clinically, this knowledge could be a target for selective prevention programmes focusing on subgroups whose risk of developing an affective disorder is higher than average, e.g. family members of affective ill patients. In future studies, it is suggested to follow large cohorts (birth-, twin- or family-cohorts) through several years using repeated standardized biological, social and psychological measures.