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Hospitalizations for psychiatric disorders in women with fertility problems ó a large Danish register-based cohort study

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Introduction: Several studies have investigated the relationship between infertility and psychological distress. The majority of these studies have reported a high prevalence of anxiety, mood disorders and depressive symptoms in infertile women. In contrast, results from a few other studies have suggested a healthy patient effect among women entering fertility treatment. However, many of the previous studies investigating the mental health of infertile women have methodological limitations. The objective of this study was to investigate whether women without a child after the initial infertility evaluation had more hospitalizations for psychiatric disorders than women who had a least one child after the initial infertility evaluation. To our knowledge, our cohort represents the largest cohort of women with fertility problems compiled to date, and the present study will be the first to examine the association between fertility problems and risk of psychiatric disorders in a population-based cohort study design.

Material & methods: A cohort of 98,737 women evaluated for fertility problems in 1973ó2008 in Denmark was linked to four Danish population-based registries using the unique Danish personal identification number as key identifier. From the Danish Psychiatric Central Registry the number of hospitalizations for psychiatric disorders was obtained. Based on the ICD-8 and ICD-10 diagnosis codes, we divided the psychiatric diagnoses into one main group labeled: 'All mental disorders' and six main discharge subgroups labeled: alcohol or intoxicant abuse, schizophrenia and psychoses, affective disorders including depression, anxiety disorder and OCD (obsessive compulsive disorder), eating disorder, and a group called 'other mental disorders. All women were followed from the date of her initial infertility evaluation until date of event, date of emigration, date of death, date of hospitalization for schizophrenia or December 31, 2008, whichever occurred first. Cox proportional hazard regression models were applied to estimate hazard ratios (HRs) and corresponding 95% confidence intervals (CIs) for hospitalization for psychiatric disorders.

Results: During an average follow-up time of 12.6 years, the 98,737 women included for analyses contributed 1,248,243 person-years of follow-up for all mental disorders. A total of 4,677 women in our cohort were hospitalized for a psychiatric disorder. Women without a child after the initial infertility evaluation had a statistically significant increased risk of hospitalizations for all mental disorders (HR 1.20, 95% CI 1.13; 1.27), alcohol/intoxicant abuse (HR 2.06, 95% CI 1.73; 2.46), schizophrenia/psychoses (HR 1.49, 95% CI 1.20; 1.86) and other mental disorders (HR 1.46, 95% CI 1.31; 1.63) compared with women who had at least one child after the initial infertility evaluation. In contrast, women without a child after the initial infertility evaluation had a decreased risk of hospitalizations for depressions (HR

0.88, 95% CI 0.80; 0.98), whereas the risk of hospitalizations for anxiety and obsessive compulsive disorders and eating disorders was not significantly affected.

Conclusions: Our results showed that women with fertility problems who did not have a child after the initial infertility evaluation may face an increased risk for psychiatric disorders including abuse, schizophrenia/psychoses and other mental disorders, but a decreased risk for depression. Our study thus adds an important component to the counselling of women with fertility problems.