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Background: The prevalence rates of depression and generalised anxiety disorders (GAD) have consistently been found to be higher in women than men. The question is whether this is a true difference or an artefact of definition.

Methods: In the Zurich study, a young adult sample representative of a geographic area was investigated by six interviews from age 20/21 to 40/41. Major depressive episodes (MDE) were diagnosed by DSM-III-R and GAD by DSM-III criteria. 27 symptoms of depression and 21 symptoms of anxiety were assessed; in addition eight self-assessments were carried out with the Symptom-Checklist 90-R including the depression sub-scale (13 items) and the anxiety scale (10 items).

Results: 192 subjects suffered from MDE (72 males, 120 females) and 105 from GAD (43 males, 62 females). Up to the age of 40/41 the cumulative incidence rates for MDE were 22.8% (16.9% males, 28.6% females) and for GAD 14% (12.2% males, 15.6% females).

In both diagnostic groups women suffered more often than men from work impairment, social impairment and distress; they also reported more symptoms than men in the interviews and self-assessments. The greatest gender differences were found in the following symptoms of depression: worse in the morning, fearful, fear of bad luck, lack of sexual desire, low self-esteem, guilt, hopelessness, crying easily, muscle tension, tiredness, increased appetite, weight gain and loss, and symptoms of anxiety: easily startled, dizziness and frequent urination.

Conclusion: Compared to men, women suffer more often and more severely from both major depression and generalised anxiety disorder.

S02.02

Familial aggregation of mood disorders: Is there a sex of proband effect?

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Background and Aims: The effect of the proband's gender on the familial aggregation of psychiatric disorders has rarely been investigated. Consequently, the goals of the study were to assess the effect of the proband's gender on the familial aggregation of Major Depressive Disorder (MDD) and Bipolar-I Disorder (BP-I).

Methods: The present paper was based on data from a family study of 130 bipolar-I probands, 158 unipolar depressive probands and 97 normal controls as well as their adult first-degree relatives (n=1651). Diagnoses were made according to a best-estimate procedure based on a semi-structured interview (DIGS), medical records and family history information. Analyses were performed using logistic regression models.

Results: The major findings were that the relatives of female probands with MDD had an almost doubled risk of suffering from recurrent MDD as compared to the those of male probands with MDD. Moreover, the relatives of female probands suffered from anxiety disorders and committed suicidal attempts more frequently than those of male probands. In contrast, the proband's gender was found to have no impact on the familial transmission of bipolar disorder. However, there was a two-times increased risk for alcohol dependence in the relatives of female as compared to male bipolar probands.

Conclusions: Our data provided support for the influence of the proband's gender on the familial aggregation of MDD, suggesting higher genetic loading in depressed females as compared to males. A similar effect of the proband's gender could not be observed for bipolar disorder.

S02.03

A community study on gender differences in mental health indicators and mediating effects of stalking victimization

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Background and Aims: Studies on the impact of stalking on victims suggest that stalking may have serious psychosocial consequences. Using data from the Mannheim stalking study (Dressing, Kuehner & Gass, 2005) the present report analyses gender differences with regard to various mental health indicators and potential mediator effects of stalking victimization. Furthermore, we were interested in whether the impact of stalking on mental health was comparable for men and women.

Methods: The study included a postal survey of 675 community residents on the experience of intruding harassment and on mental health indicators.

Results: In the Patient Health Questionnaire (PHQ-D) women scored higher on most of the subscales. Furthermore, more women fulfilled criteria for at least one threshold or sub-threshold mental disorder syndrome according to DSM-IV, and more women than men used psychotropic medication. However, identified associations were completely mediated by the higher prevalence of stalking victims in women. In contrast, the associations of stalking victimization with poor mental health, psychosocial functioning, and use of medication were largely comparable across gender.

Conclusions: Our study indicates clear associations between stalking victimization and impaired mental health, quantified at diagnostic levels in the general population. Furthermore, the experience of being a stalking victim seems to act as a substantial mediator of the associations between gender and mental health outcomes in the community.

Reference

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S02.04

Gender differences in caregiver burden and depression: A population-based study in Germany

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Background and Aims: To examine the influence of gender on burden experience and depression among informal caregivers of frail older people.

Methods: The study was part of a large survey in private households in Germany headed by TNS Infratest Social Research. Based on a probability sample of the German population (n = 52,916), we contacted all people who were 60 years of age and older and who screened positively for at least one deficit in a range of activities of daily living as well as for

cognitive impairment. Characteristics of the frail person and the care situation were assessed and - if an informal caregiver was available - burden measures and the CES-Depression Scale were applied.

Results: The care of the frail old people ($n = 306$, attrition: 39%; mean age: 80.2 years; female: 68.6%) was provided mostly by family caregivers ($n = 262$; mean age: 61 years; female: 73%). Both the burden experience and the depressive symptoms were higher among the female than among the male caregivers. Multiple linear regression analyses confirmed that caregiver's gender was one of the strongest predictors of burden experience as well as of depression. Structural equation modeling suggested that burden mediates depression; it further proposed that there should be separate models for female and male caregivers.

Conclusion: The results provide a basis for the development of strategies to reduce or even prevent serious distress and psychiatric disorders among informal caregivers. Furthermore, they point to the need for gender-specific interventions in this field.

S02.05

Sex differences in the occurrence of late-life dementia

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Background and Aims: As a result of the higher life expectancy of women, age-related illnesses such as dementia occur with quite different frequencies in men and women. The present contribution provides a survey of sex-related differences in the prevalence, incidence, diagnostic distribution and duration of late-life dementia.

Methods: Review of epidemiological studies.

Results: In western industrialized countries, more than 70% of the dementia patients are women; less than 30% are men. Since women with dementia are on the average older and more frequently widowed than male dementia patients, the consequences are correspondingly different. Women are in greater need of care in an old-age home, whereas men have better chances of being cared for in a home environment. Epidemiological studies indicate a more frequent incidence of vascular dementia among men and of degenerative dementia among women. Furthermore, the results give rise to the suspicion that the incidence among women is higher in the most advanced age groups and that some risk factors are more closely associated with the occurrence of a dementia in women than in men.

Conclusions: There are considerable sex differences in the prevalence, incidence, duration, the lifetime risk and the consequences of late-life dementia. The risk of contracting the illness possibly increases with age more steeply for women than for men. This could be an indication that the illnesses are at least partly determined by different risk factors or that there are sex-risk-factor interactions.

S03. Symposium: ANTIPSYCHOTICS: MODE OF ACTION HIGHLIGHTS

S03.01

Antipsychotics: Mode of action highlights

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Dopamine D2 receptor blockade is the main mode of antipsychotic action. The optimal occupancy of D2 receptors seems to be crucial

to balancing efficacy and adverse effects such as extrapyramidal symptoms or hyperprolactinaemia. Partial D2 receptor agonism, different pre- and postsynaptic D2 receptor antagonism, serotonergic antagonism and modulation, and neurotrophic effects contribute to differentiated antipsychotic efficacy, less side effects, favourable effects on the negative and cognitive symptoms of schizophrenia, etc. In addition, neurotrophic effects of the 2nd generation antipsychotics increase neuronal plasticity and synaptic remodelling in the striatum, in the prefrontal cortex and hippocampus, which may normalise glutamatergic dysfunction and structural abnormalities postulated by the neurodevelopmental disconnection hypothesis of schizophrenia. We demonstrate these mechanisms using various antipsychotics and serotonin manipulations in animal models of schizophrenia (MK-801).

References

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S03.02

The complexity of using D2-dopamine antagonists in the treatment of patients with schizophrenia

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Schizophrenia is a complex disorder and the view that schizophrenia is caused by hyperdopaminergic activity is an oversimplification. In fact, there are clinical evidence in accordance with a hypodopaminergic condition. Thus, untreated patients show motor disturbances in line with a decreased dopamine activity in the extrapyramidal system, likewise cognitive deficits and negative symptoms.

In our research we have explored the evidence of schizophrenia as a hyper- or hypodopaminergic condition. With Positron Emission Tomography (PET) we have not seen any evidence of increased D2-dopamine receptors in the brain of never medicated patients. The major dopamine metabolite homovanillic acid (HVA) was lowered in CSF in line with a decreased dopamine turnover in the brain. Tyrosine is precursor to the synthesis of dopamine and for that aim we have made transport studies in an in vitro model with fibroblasts to determine tyrosine kinetics. The results demonstrated that tyrosine transport is lower in patients with schizophrenia in comparison to healthy controls. Tyrosine kinetics measured with PET demonstrated dysregulation of tyrosine transport into the brain.

We have found evidence of schizophrenia as a hypodopaminergic condition. This fact is a problem realizing that our antipsychotics are D2-dopamine antagonists, thus decreasing dopamine activity even further. The concept of schizophrenia as both a hypo- and hyperdopaminergic condition may explain why clozapine, a weak D2-antagonist, works more efficiently than other antipsychotic compounds. It should be recognized that positive symptoms are, at least partly,