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COMPARATIVE BENEFITS OF ATYPICAL ANTIPSYCHOTICS

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Atypical antipsychotics are used to treat both positive and negative symptoms of schizophrenia. Treatment of the acute phase focuses on the control of positive symptoms while long term treatment builds on these achievements and also incorporates relapse prevention, control of negative symptoms, minimisation of adverse events and compliance. Improving quality of life and psychosocial integration are important and achievable goals. Comparative studies of the efficacy, tolerability and safety of atypical antipsychotic agents show that their profiles vary. Not all agents are equally effective for each patient and side effects that can limit compliance in one patient may not occur in another. As a result switching from one atypical agent to another is common. Approximately one third of outpatients suffering from schizophrenia change their medication in a year. Persistence of symptoms, restlessness, tiredness, weight gain, sexual dysfunction and tremor are some of the reasons commonly given for switching medication. This presentation will focus on clinical trials which have compared the benefits of a variety of atypical antipsychotic agents and will also present data on safe and effective strategies for switching from one agent to another.

EVIDENCE-BASED MANAGEMENT OF DEPRESSION IN SCHIZOPHRENIA

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Although the role of the depressive symptoms in schizophrenia has previously been well described, little attention has been given to the impact of these symptoms on the relapse rates, suicide rates and overall outcome of schizophrenia (Roy et al., 1993). The evaluation of depressive symptoms is clouded by the presence of primary negative symptoms, social and emotional deficits due to primary positive symptoms, neuroleptic-induced dysphoria and akinesia, and cognitive impairment (Emsley et al., 1999). Several comorbid disorders occur with schizophrenia. Depression rates vary around 25%, with post-psychotic depression and depression during psychosis being the most prominent (Siris, 2000). Suicide rates in schizophrenia range between 8-13%, where depression as a risk factor has the highest odds ratio of 36 (de Hert et al., 2001). Considerable evidence now exists for the treatment of depression in schizophrenia. While the new generation antipsychotic agents have shown to be effective, the evidence for the use of antidepressants is limited. Antidepressants seem to improve patients' subjective quality of life, reduce relapse rates and reduce suicide rates, and should be considered for post-psychotic depression and when depression symptoms persist.

SECOND GENERATION ANTIPSYCHOTICS: AN AFRICAN UPDATE

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Second generation antipsychotic (SGA) agents are increasingly recommended for use in schizophrenia, bipolar mood disorder and behavioural disturbances in children and dementia. Their use in South Africa is restricted by health care funders on the grounds of a perceived lack of evidence and relatively high acquisition costs. Motivation for their use in keeping with modern treatment guidelines requires an understanding of the relative pharmacological profiles of this heterogeneous group of agents, evidence of efficacy and safety in clinical use and an awareness of pertinent health economic issues. This update proposes a clinically based classification of the SGA's, reviews the available evidence of efficacy and safety in schizophrenia and bipolar mood disorder, and takes cognisance of broad health economics in order to inform motivations for their more widespread availability and use.

THE DRUG MANAGEMENT OF PATIENTS WITH HIV/AIDS IN THE MENTAL HEALTH CARE SETTING: A THERAPEUTIC CHALLENGE

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HIV/Aids has presented the psychiatrist with multiple challenges in terms of diagnosis and management of mentally disordered patients. In the SAcontext, particularly in the Public Health Sector, there are severe constraints in terms of the availability of anti-retroviral drugs which are the mainstay of treatment for patients with HIV-related neuropsychiatric disorders. The presentation attempts to highlight the complex therapeutic issues in the treatment of the mentally disordered HIV/Aids patient.

NEW DEVELOPMENTS IN THE TREATMENT OF BIPOLAR DEPRESSION

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For many patients with bipolar disorder, the morbidity and mortality associated with the depressed phase is great. Despite this, fewer treatment options for the depression phase of the disease have been evaluated in well-controlled clinical studies. Although antidepressants have been extensively studied in unipolar depression, patients with bipolar depression are typically excluded from these studies, partially due to the propensity of antidepressant agents to precipitate mania. The most commonly used mood stabilizers possess moderate to marked efficacy in the acute management of mania, but these treatments are typically less effective in the treatment of the depressed phase of the illness. There are at least nine published studies involving a total of 134 patients that have compared the efficacy of lithium to placebo in the acute treatment of the depressed phase of bipolar disorder. These trials evaluated mixed study populations of patients with various subtypes of both unipolar and bipolar depression. The combined responder analyses for these studies shows lithium to be more than twice as effective in the treatment of bipolar depression as in unipolar depression. However, methodologic problems limit the applicability of these data. In addition, most of those studies are dated. Divalproex has some antidepressant effect, but it has not been proven to be an effective acute-phase monotherapy for bipolar depression. Several small, double blind, placebo-controlled studies with carbamazepine suggest modest but statistically significant effect of this agent in reducing depressive symptoms in patients with bipolar disorder. Antipsychotics have been studied primarily for treatment of bipolar mania and experience with the bipolar depression is limited. However, these agents may have therapeutic potential in combination with mood stabilizers and antidepressants. Recent data regarding the spectrum of efficacy of lamotrigine suggest this anticonvulsant functions as a long-term treatment for patients with bipolar I disorder by delaying the relapse and recurrence of depressive episodes, an acute treatment for the depressed phase of bipolar I disorder, and an effective treatment for rapid cycling bipolar II disorder.

DUAL ACTION ANTIDEPRESSANTS: FASTER ONSET, MORE REMISSION, BETTER VALUE?

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The traditional view that all antidepressants are equal has been challenged in recent years by the introduction of dual acting agents which retain the efficacy of the older tricyclic agents and the better tolerability of the selective serotonin reuptake inhibitors (SSRIs) while acting faster to produce greater degrees of remission than the SSRIs. Such agents include the serotonin noradrenaline reuptake inhibitors (SNRIs) venlafaxine, milnacipran

and duloxetine as well as the noradrenergic and specific serotonergic antidepressant (NaSSA) mirtazapine, all of which enhance both noradrenergic and serotonergic neurotransmission in the brain. A large body of evidence from randomized clinical trials shows that mirtazapine is more rapid in producing response and remission than various SSRIs even in the elderly, while venlafaxine treatment consistently results in more remission than treatment with SSRIs. The advantage for mirtazapine is mediated not only by its well known and anticipated anxiolytic and sleep-improving properties but also by substantial effects on depressed mood and other melancholic symptoms, and is stable across various response criteria and a range of different statistical methods including survival and pattern analysis. Also patients who failed on other SSRIs improved earlier when randomized to mirtazapine than to sertraline. Although the early clinical trials suggested that SSRIs are less effective in the more severe forms of depression, it is now clear that onset of antidepressant action and rates of remission may be improved by mirtazapine and venlafaxine across the spectrum of depressive symptomatology even in the more mildly depressed patients. Quality of life evaluations have suggested that dual acting antidepressants are a cost-effective alternative to both cheaper generic tricyclics and modern SSRIs. The exceptional benefit of getting more patients into remission more quickly - the number needed to treat (NNT) for mirtazapine to produce remission at least a week earlier is 10, similar to that for venlafaxine to achieve better remission - plays a major role. In the only direct comparison of mirtazapine and venlafaxine in severely depressed melancholic inpatients, both drugs were equally effective in producing rapid onset and remission but mirtazapine was superior numerically on all measures of efficacy.

ANTISOCIAL PERSONALITY DISORDER: A REVIEW

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Antisocial personality disorder (ASPD) is characterized by a pattern of socially irresponsible, exploitative, and guiltless behavior that begins in early childhood or early adolescence. The disorder is found worldwide and affects from 2-4% of men and 0.5-1% of women. The disorder is chronic, though tends to be more severe early in its course; patients often become less symptomatic as they age. Psychiatric comorbidity is the rule, and nearly two-thirds of antisocial persons suffer from an addictive disorder. Mood and anxiety disorders, sexual dysfunction, paraphilias, attention-deficit disorder, impulse control disorders, and other personality disorders (e.g., borderline) are also frequent. ASPD runs in families and may be genetically transmitted to some extent. Other explanatory theories suggest that ASPD is associated with chronic central nervous system underarousal, disturbed serotonin neurotransmission, abnormal neurodevelopment, or brain injury. Environmental risk factors include maternal (or paternal) deprivation, childhood abuse, disturbed peers, and being adopted. The diagnosis should be considered in adults who have a pattern of recurrent misbehavior since childhood. There is no standard treatment, though medication (e.g., mood stabilizers, antipsychotics) may reduce aggressive and impulsive tendencies in some persons. Motivated persons with mild ASPD may benefit from cognitive-behavioral therapy. Marriage and family counseling may be helpful for antisocials with spouses and families.

THE SOUTH AFRICAN STUDY OF STRESS AND HEALTH: AN OVERVIEW

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This presentation will provide an overview and preliminary findings from the South Africa Study of Stress and Health (SASH). The SASH utilizes a lay-administered fully structured psychiatric diagnostic interview to assess lifetime and 12-month rates of major depression, panic, social phobia, agoraphobia, generalized anxiety disorder, intermittent explosive disorder, substance use and PTSD. Screening questions for suicidality, personality disorders, premenstrual syndrome, and psychosis were also included. SASH is currently interviewing a nationally representative sample of 5,000 adult South Africans throughout the country. The study has several aims. First, it will estimate the current prevalence and socio-demographic correlates of commonly occurring mental disorders in South Africa, the role impairments associated with these disorders, patterns of help-seeking for treatment of these disorders, and the adequacy of current treatment. The SASH is one of the World Health Organization's (WHO) World Mental Health (WMH) projects. This will allow comparison of the levels and correlates of psychiatric illness in South Africa with data from 28 other countries in the world. The instrument used in the SASH is the WMH paper and pencil version of the WHO's Composite International Diagnostic Interview (CIDI). Moreover, the SASH has identical measures of mental health, some psychosocial resources and racial discrimination as the recently completed National Study of American Life in the United States. This will also allow for unique cross-national comparisons with the U.S., in general, and the African American population in particular. Second, this study will provide national data on the levels and mental health correlates of the perceived threat of HIV/AIDS, behavioral changes in response to this threat, past and expected participation in HIVtesting, perceived personal vulnerability to HIV/AIDS and personal knowledge of individuals who have AIDS and who have died of AIDS. Third, this study will provide unique information on the relationship between exposure to physical and psychological torture during the Apartheid era and mental health in South Africa. Fourth, the study will investigate public perceptions and of the Truth and Reconciliation Commission (TRC) and their sociodemographic and psychosocial correlates.

UGLINESS IS IN THE EYE OF THE BEHOLDER: PSYCHIATRIC ASPECTS OF BODY IMAGE DISTURBANCE

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Some degree of concern with appearance is common and arguably understandable in terms of sexual selection and other evolutionary pressures, as well as societal influences. However, for some people, the concern becomes extreme and causes subjective distress and impairment in social and other life roles. In such extreme cases, individuals are considered to have a psychiatric disorder known as body dysmorphic disorder (BDD). This talk will outline the nosology, clinical characteristics, and treatments for BDD. It will focus on how BDD relates to other psychiatric disorders, notably social anxiety disorder and obsessive compulsive disorder.

OVER DIAGNOSED OR UNDER RECOGNIZED? TREATING ADHD

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Impulsivity and poor attention in children have been recognised for over fifty years. Are these symptoms a normal part of growing up? Do they form part of a spectrum of personality and learning styles? Or do they contribute to serious difficulties in academic achievement and social relationships? This paper will attempt to address some of these questions as well as discuss trends in the Pharmacotherapy. ADHD is characterised by a developmentally inappropriate poor attention span, or age-inappropriate features of hyperactivity and impulsivity; or both. Ideally, treatment should be holistic and include medication, behavioural modification, parental education, support and training as well as close educational liaison. The Multimodal Treatment Study confirmed the long-term efficacy of medication over behaviour modification and routine community care. Stimulants, such as methyl phenidate, dextroamphetamine and pemoline, are highly effective treatment. In fact, 70-80% of children will respond to the first stimulant tried. Two to three stimulants should be tried before non-stimulant medication is started. Several new formulations of stimulant drugs have become available. The use of non stimulant medication will also be discussed.

THE CONTAGIOUS EFFECTS OF TRAUMA AND THEIR IMPACT ON HUMAN SERVICE ORGANISATIONS

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Professionals working in the trauma field often underestimate the psychological effects this work has on them. In recent years, however, there has been an increasing recognition that those who provide care to traumatised patients may themselves need help in managing the effects of trauma. Vicarious traumatisation can have serious consequences for individuals. In serious cases it can result in 'burnout', interfering with the functioning of even dedicated health and mental health professionals. Perhaps even more significantly, it is now being acknowledged that trauma can 'infect' whole organisations and can have a tremendous impact on how these institutions are able to perform their work tasks. This paper will describe some of the emotional responses that are commonly experience by those who work with trauma and illustrate the way in which this can enter into the culture of health and social service institutions. I will use case examples drawn from

consultancy work done with a range of human service organisations in the Western Cape to demonstrate how these processes work and to highlight their often neglected effects.

TEMPORAL LOBE EPILEPSY IN ADOLESCENCE - "UNDERSTANDING THE NARRATIVE"

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Temporal lobe epilepsy (TLE) presents as a consequence of seizures, which arise in the temporal lobe and associated limbic system of the brain. It is characterised by episodic affective instability, anxiety and sudden behavioural dyscontrol. Add to this, frequently heard description of adolescents in general, the presentation of hallucinatory phenomena, and distortions of perception of self, the outside world and of memory, and the diagnosis now moves to cross the boundary with the emerging primary psychotic and mood disorders. It is proposed that the diagnosis of TLE is in fact a very difficult one, which owing to the inadequacies of available diagnostic techniques, is essentially a clinical one. A crucial aspect of the clinical diagnosis of this condition is the ability to elicit and understand the symptom complex as it emerges from the descriptive narrative, rather than to base it on specific criterion-based questioning. For many, the strange experiences may be near enough to reality to be confused with it, added to which the young person may not have the traditionally accepted vocabulary to explain what may be a very bizarre experience. Having the capacity for abstract thinking, the adolescent may describe the experience in terms of an interpretation, which is made in the context of past experience and prevailing emergent personality features. The spontaneous description of "what's going on in my head" can be a very rich source of diagnostic information provided that it is not too narrowly interpreted. The challenge to the psychiatrist is, through listening to the narrative, to recognise this specific neurological diagnosis which, because of it's point of origin, crosses the "neuropsychiatric boundary". This diagnosis must then be understood and embraced in the adolescent patient at a time in their life when many boundaries are being challenged. This paper presents this description of TLE in adolescents, using relevant clinical case material.

THE EFFECTIVENESS OF TREATMENT PROGRAMS FOR METHAQUALONE (MANDRAX) DEPENDENCE

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Background: The practice of smoking methaqualone (in combination with cannabis and tobacco - the "white pipe") is a serious public health problem in South Africa, other parts of Africa and India. Approximately 85% of the world's methaqualone is consumed in South Africa and "white pipe" smoking is the most common primary substance of abuse (after alcohol) among patients seen at specialist treatment centers. Yet little research data exists regarding the nature and outcomes of treatment for methaqualone dependence.
Aim: To assess the efficacy of treatment programs for methaqualone dependence.
Method: We conducted a Cochrane systematic review of all randomised controlled trials (RCTs) and quasi-randomised trials of treatment programs (in- or out-patient) for methaqualone dependence in voluntary, consenting adults (>18 years), dependent (according to DSM III, IIIR and IV criteria) on methaqualone. RCTs were not limited by language or publication status. We searched all relevant electronic databases, reference lists and conference proceedings and contacted workers in the field to locate RCTs.
Results: Searches of EMBASE, PsychINFO, Medline and CINAHL databases, and additional hand searching of journals revealed no RCTs for the treatment of methaqualone dependence in adults.
Conclusions: Methaqualone and cannabis abuse currently place a greater burden on the country's health, social welfare and criminal justice systems than other illicit drugs. Since fewer resources are being devoted to substance abuse treatment, it would be desirable to base treatment on the best evidence available. An RCTfor the treatment of methaqualone dependence is long overdue.

COMMUNITY INFLUENCE ON ALCOHOL AND MARIJUANA USE

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Objectives: To investigate the association between community characteristics and alcohol and marijuana sue by Cape Town adolescents.
Methods: A stratified sampling procedure was used to select 1,239 students in grades 8 & 11 from 39 non-private schools in Cape Town, South Africa. SPSS, SUDAAN, and AMOS were used to test the fit of a series of nested structural equation models that included demographic variables, community factors, and adolescent substance use.
Results: Separate sets of models were calculated for alcohol and marijuana use across all racially defined social groups (RCSGs), and both models provided an excellent fit to the data (chi-square = 291, 293, df = 83, 83, respectively). All fit indices were well within the required levels (Rho = .944, .943, CFI = .961, .961, RMSEA = .044, .044, respectively). Additionally, we found that separate models of alcohol and marijuana use for each of the RCSGs did not significantly differ when factor loadings or factor variances were constrained across groups.
Conclusions: This analysis illustrates the influence of community variables on adolescent substance use. It suggests targeting certain aspects of the community for interventions when attempting to reduce adolescent substance use.

PSYCHIATRIC PRESENTATIONS OF MEDICAL ILLNESS

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In the older person, a fragile balance exists between adequate physical function and the dysfunction of disease. This balance is particularly delicate for the brain, dysfunction in which is the source of psychiatric symptoms. The brain is particularly sensitive to insults from multiple sources including medical illnesses and the effects of many different substances including medications. The geriatric population experiences increased frequency of medical illnesses and likely to be on multiple medications. To complicate matters, elderly patients may present with varying psychiatric symptoms to the same underlying insult. For these reasons always suspect a physical explanation for any psychiatric symptoms when working with the geriatric patient. Changes in drug absorption, distribution, metabolism and excretion occur with ageing. These changes all tend to increase the risk of drug toxicity. A variety of psychiatric syndromes may result from medical illnesses or be induced by substances but the most common acute conditions that result from physical factors in the elderly include delirium, and psychotic, mood and anxiety disorders. A challenge is to continue to search for treatable physical and psychiatric conditions during the ongoing management of these patients and to allow the highest level of functioning for the patient and family.

IMAGING OF BRAIN FUNCTION USING SPECT

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Single Photon Emission Computed Tomography (SPECT) is a technique widely used in Nuclear Medicine for the imaging of the many organs including the skeleton and heart, as well as for whole body imaging for the detection of tumours. The use of tracers of cerebral perfusion and more recently brain neurotransmitter systems has resulted in the development of a number of applications for brain SPECT in neurology and psychiatry. Indications have been established in cases of dementia, epilepsy, neuro-vascular disorders, Parkinsonism and following minor head trauma. It also has the potential to be a valuable research tool for the study of in-vivo brain function. During this presentation an overview will be given of the principles underlying Brain SPECT, the performance of the procedure and its applications as a diagnostic modality and research tool in 2003.

SELECTED NEUROPSYCHOLOGICAL TEST PERFORMANCES AND SSRI USAGE

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Objectives: The effects of SSRI's on selected neuropsychological test performances were assessed in a sample of clinically depressed patients.
Methods: Subjects: The study involved a comparison of two groups - an experimental group selected randomly from a psychiatric outpatient facility

and who volunteered to participate in the study. A group of patients who were receiving psychotherapy for depression and who had refused antidepressant medication was selected as the controls. Both experimentals and controls were matched for age although the mean educational level of the control group was statistically higher ($p < 0.05$). Instruments: A selection various attention and concentration and verbal and visual learning and memory tests was administered individually to the control and experimental groups. Written voluntary consent was secured from all participants. Beck's Depression Inventory II was used to ascertain level of depression.
Results: 1. Experimental subjects performed significantly better than controls on working memory, immediate and sustained attention ($F = 9/342$, $p < 0.05$). 2. There was no significant difference between experimental and controls on verbal and visual memory indices, that is, learning curves, immediate recall, delayed recall and retention capacity. 3. Regression analyses revealed that education entered the model first and formed the greatest effect in determining cognitive outcome ($R = 0.42$, $p < 0.05$). 4. There was a significant but not similar correlation between BDI-II scores and performance on all cognitive tests (Control $r = 0.45$,. p v< 0.05; Experimental $r = 0.56$, $p < 0.05$).
Conclusions: 1. SSRI's have a differential effect on various cognitive capacities among depressives. 2. The effect of educational level needs to be considered in using SSRI and/or psychotherapy modalities of treatment. 3. Beck's Depression Inventory II scores form useful guidelines for determining effects of SSRI of level of depression. 4. The implications of SSRI treatment for return to work are discussed in the light of non-significant learning and memory findings. 5. A neurocognitive model of mechanisms of SSRI action on attention and concentration is presented.

COMPARATIVE EFFECTIVENESS AND SAFETY OF ANTIPSYCHOTIC TREATMENTS FOR OUTPATIENT SCHIZOPHRENIA

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Objective: IC-SOHO (Intercontinental Schizophrenia Outpatients Health Outcomes) is a 3-year global, prospective, observational study examining health outcomes for outpatients with schizophrenia. Herein, we describe antipsychotic treatment patterns and associated health outcomes for outpatients from the Africa and Middle East region 6 months after enrolment.
Method: Subjects >18 years of age, undergoing outpatient treatment for schizophrenia and changing or initiating antipsychotic treatment, were enrolled at the discretion of their psychiatrist. Three treatment groups were established post hoc for analysis: olanzapine, risperidone, and non-olanzapine treatment. Symptom severity (CGI-S), concomitant medications, weight, and functional status (social and work) were determined at baseline and 6 months. The level for significance for all analyses was determined, a priori, to be $p<0.001$.
Results: Patients (n=1399) were enrolled across Turkey (50%), Algeria (22%), Saudi Arabia (15%) and Egypt (14%). Olanzapine-treated patients showed significant improvements in overall symptom severity compared with patients on risperidone or non-olanzapine therapy ($p<0.0001$), and significant improvements ($p<0.0001$) in all other symptom domains, compared with non-olanzapine therapy. More olanzapine-treated patients improved or maintained their social and employment status ($p<0.0001$) compared with non-olanzapine therapy. Fewer patients on olanzapine developed EPS ($p < 0.0001$) and more exhibited remission of EPS ($p<0.0001$) compared to risperidone or non-olanzapine therapy. Patients on olanzapine gained more weight (4±5kg) than patients on non-olanzapine therapy (3±5kg) or risperidone (3±5kg).
Conclusions: Olanzapine is an effective treatment for the control of schizophrenia with reduced EPS. As observed in the outpatient setting, treatment with olanzapine may lead to enhanced social functioning and improved work status in patients with schizophrenia.

EVIDENCE-BASED MENTAL HEALTHCARE — WHAT DO YOU KNOW, THINK, FEEL?

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Objectives: To determine the attitudes, knowledge, practice and educational needs of South African mental health practitioners regarding evidence-based mental healthcare (EBMH).
Methods: We conducted a postal 16-item questionnaire survey of all registered psychiatrists, and general practitioners listed in the Mental Health Resources Guide of South Africa as having a special interest in mental health.
Results: The questionnaire response rate was 51.5% (335/651). Eighty-three percent (279/335) of practitioners had Internet access either at home or work. Sixty-one percent (178/294) were aware of MEDLINE and 8% used it in clinical decision making, while 36% (112/307) were aware of The Cochrane Library database. Less than 1% used it in clinical decision-making. Twenty-six percent (83/324) felt able to explain the meaning of a relative risk to others and 16.5% (53/321) confidence intervals. Knowledge of the effectiveness of selected mental health interventions reviewed in The Cochrane Library ranged from 15% to 64% for different interventions. Eighty percent (263/330) agreed or strongly agreed that practicing EBMH improves patient care, and 67% (222/329) that evidence-based guidelines for treating mental disorders are as useful as for physical disorders. Over 90% would attend training in EBMH, if offered.
Conclusions: Most South African medical mental health practitioners have access to a computer and the Internet, but awareness of electronic medical decision-making tools is low. Practitioners, in general, had positive attitudes to EBMH. Additional training is required in the principles and practice of EBMH, and in the electronic tools available.

COMPETITIONS ACT — ANTI-COMPETITIVE HEALTH CARE PRACTICES

Z NTHAKWANA
Competitions Commissioner

The Competitions Commissioner is currently investigating the Health Care Industry as being un-competitive and operating practices in contravention of the Competitions Act. Health Care legislation is in direct conflict with the Competitions Act, and solutions to these conflicts need to be sought. The Competitions Commissioner will give a presentation on the current legislation regarding anti-competitive practices in the Health Care Industry, and propose certain solutions to those problems. Time will be allocated for debate in this session.

UNIQUE APPROACH TO MENTAL WELLNESS BY MEDICAL SCHEMES

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CAMAF

Background: The restrictive, penalising and prescriptive methods, currently being used by most medical schemes in South Africa, are proving to be increasingly ineffective in resolving ever increasing mental health demands.
Introduction: The need for a new approach, with the focus on cost being shifted towards quality and cost effective services and where providers of mental health services, patients and medical schemes take responsibility, jointly, for the mental wellbeing of individuals and the community as a whole, was identified.
Goal: To test a scientific based and personalised model whereby:
1. Medical schemes provide community support systems, to patients, to free up the time of mental health service providers. This will offer the service providers the time to provide specialised psychiatric services.
2. Patients are part of a process whereby behavioural changes are self-motivated, wellness focused and achieve long-term sustainability.
3. Funders (medical schemes) and providers of healthcare services can effectively identify high risk patients, in terms of clinical and financial implications, and implement effective interventions to reach a state of low mental wellness maintenance support (from the perspective of the funder and the healthcare provider).
Method: Extensive research were undertaken to identify, national and international, programmes being used to achieve the objectives of this programme. A customised programme was developed to suit specific South African Conditions. A comprehensive questionnaire, based on the international Health Status Questionnaire, was utilised. Eight factors influencing mental Health outcomes were identified. A hypothetical decision making model was tested. More refined methods were used in 3 different pilot studies.
Results: The preliminary outcome, of this study, shows that a different approach to the management of mental health, where the *focus is on supporting and analysing patient recovery*, as opposed to immediate cost-savings, could very well lead to long-term cost-effective resolvement of current health related cost issues.

WHAT HAPPENS TO MY MEDICAL AID CONTRIBUTION?

EUGENE ALLERS
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Background: South Africa is currently in the process of transformation of the health care industry. Unfortunately this has led to a marked escalation in cost and reduced levels of service to the consumer and has left the service provider with an ever decreasing income.
Introduction: The present situation in the health care industry has lead to an ever decreasing amount of health care providers and is threatening the autonomy of medical healthcare providers. The question on everybody's lips is: where has the money gone? The need to analyse the past and present health budgets is crucial in this debate.
Goal: To analyse the various reports from the council of medical schemes over the last few years to establish a trend in the market. To analyse the various health reports over the last few years by the Department of Health, the South African Health Report and other reports. To incorporate South African Statistics in the equations to establish a trend. To draw conclusions from these trends. To make predictions for the future on present trends and to plan an effective strategy for the future for consumer, the individual practitioner and various health establishments.
Method: Grafts, charts, pie charts and reports will be presented in the form of a lecture. These will be analysed and explained as well as predictions made.
Conclusion: Conclusions will focus on the possible solutions to these problems as the possible problems will be identified

FINANCIAL ISSUES IN A MODERN PRIVATE PRACTICE

MIKE EDWARDS
MBA

No abstract submitted by printing deadline

TRANSCRANIAL MAGNETIC STIMULATION: USES IN BRAIN FUNCTION RESEARCH AND MEDICAL INTERVENTION

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Transcranial magnetic stimulation (TMS) is a powerful non-invasive tool for examining the human brain. Pulsations of magnetic field from a coil placed over specific areas of the human skull can excite or inhibit specific brain areas. TMS is delivered as either single or repetitive pulsations. Single pulse TMS of the motor cortex can produce a muscle twitch which can be quantified as a motor evoked potential (MEP), and this output can be used to assess changes in function at the cortical level in diseases like stroke and movement disorders, and the effect of different treatment options on this cortical function. Single pulse TMS can also be used to examine basic neurophysiological questions such as the effect of sensory afferent input on motor cortical function, and the complex interplay between excitatory and inhibitory processes in the motor cortex. Repetitive pulse TMS of between 1 and 30 Hz can be used to inhibit memory formation of motor learning tasks, and this effect appears to last after the stimulation period. This effect may be associated with long-term potentiation or long-term depression of synapse formation, which is associated with memory formation. Repetitive pulse TMS has also been shown to alter mood when delivered over the dorsolateral prefrontal cortex. Because of this effect, there has been increasing interest in the use of repetitive pulse TMS for the treatment of psychiatric disorders.

THE NEUROCHEMISTRY OF DREAMS: IMPLICATIONS FOR PSYCHIATRY

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Until recently, dreaming was considered to be synonymous with REM sleep. Accordingly, it was considered to be a cholinergically driven state (together with serotonergic and noradrenergic demodulation). It was also considered to be 'mindless', in the sense that it was evidently an automatic, brainstem regulated state. New findings reveal that dreaming and REM sleep are in fact doubly dissociable, and they suggest further that dreaming is driven by dopaminergic *motivational* mechanisms. In this presentation, the new findings will be reviewed and their implications for psychiatry (and for dream psychology) will be discussed.

TENASCIN-R EXPRESSION IN THE CENTRAL NERVOUS SYSTEM OF LOWER VERTEBRATES

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The presence of axon growth inhibitory proteins, including the extracellular matrix (ECM) glycoprotein tenascin-R (TN-R), contributes to the failure of axon regeneration in the adult mammalian central nervous system (CNS) following injury. In contrast to mammals, fish and amphibians successfully regenerate CNS axons.
Objective: It is not clear whether regenerative success is correlated with the absence of axon growth inhibitory proteins from their CNS. Against this background, we analysed the expression of TN-R, as well as its neuronal receptor F3 and the TN-R-binding ECM component chondroitin sulphate proteoglycan (CSPG) in the CNS of goldfish and *Xenopus*.
Methods: Using immunohistochemistry on frozen sections of brain, spinal cord and optic nerve, we found that TN-R immunoreactivity is widespread and associated primarily with myelinated axon tracts. TN-R labelling colocalises with CSPG immunoreactivity in perineuronal nets surrounding spinal motor neurons.
Results: Preliminary results indicate that F3 immunoreactivity is present in several neuron populations, including retinal and dorsal root ganglion cells.
Conclusion: The expression pattern of TN-R in goldfish and Xenopus closely resembles the one described in mammals. Thus, absence of TN-R cannot account for the regenerative success in the lower vertebrate CNS. *In vitro* studies of the functional role of TN-R in the CNS of lower vertebrates are currently under way.

Supported by MRC and URC (UCT) grants

LOCALISATION OF THE NOGO-A RECEPTOR IN NEURONAL LIPID RAFTS

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Failure of functional axon regeneration in the injured mammalian central nervous system (CNS) has been attributed to the presence of potent neurite growth inhibitory proteins in the tissue microenvironment. The putative neuronal cell surface receptor for several of these inhibitors is a glycosylphosphatidylinositol (GPI)-anchored protein, the Nogo-A receptor (Nogo-A-R). There is increasing evidence that cholesterol and sphingolipid-rich plasmamembrane microdomains, so called lipid rafts, may play a crucial role in signal transduction mediated by GPI-anchored cell surface receptors in the CNS. We therefore investigated whether Nogo-A-R is localised in neuronal lipid rafts, using commercially available antibodies specific for Nogo-A-R, in conjunction with antibodies to known lipid raft-associated proteins in double labelling immunoflourescence, cell fractionation and Western blotting experiments. **Our results show** that there is substantial colocalisation of Nogo-A-R and lipid raft marker proteins, indicating that neurite growth inhibition by the major axon growth inhibitory proteins may indeed be mediated by signalling through plasmamembrane lipid rafts. Interference with lipid raft-associated signal transduction may thus offer interesting perspectives with regard to overcoming the failure of axon regeneration in the injured CNS.

Supported by MRC and URC (UCT) grants

CHARACTERISING AN ANIMAL MODEL FOR EARLY LIFE TRAUMA USING TIME DEPENDENT SENSITISATION

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Background and objectives: Individuals who are exposed to early life trauma have an increased vulnerability for developing psychiatric disorders later in life. These include posttraumatic stress disorder (PTSD), panic disorder, depression and substance dependence. The time dependent sensitisation (TDS) model has been proposed as an animal model for PTSD. In short, this model utilises a single prolonged stress session consisting of three stressors (restraint, swim stress, exposure to ether or halothane vapour) followed by one of the stressors at a later stage. Thus, the exposure to a severe stress-

ful event is followed by a situational reminder of the prior stressor and therefore the situational reminder contributes to the maintenance over time of fear-related behaviours. Previous research has shown that animals subjected to TDS show increased negative feedback inhibition of the hypothalamic-pituitary-adrenal axis, increased anxiety, an impairment in spatial memory as well as an involvement of the serotonin system. However, the impact of TDS during early life on adult behaviour and neurochemistry has not yet been characterised.
Method: In the present study adolescent animals are subjected to TDS followed by a second re-stress session at different stages in life. Behavioural and neurochemical data will be analysed to give a clearer picture of the effects of early life trauma on adult behaviour.

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TOLMETIN AFFORDS PROTECTION AGAINST QUINOLINIC ACID INDUCED NEUROTOXICITY IN RAT BRAIN

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Objective: Increasing evidence suggests a protective role for anti-inflammatory medications in neurological disorders such as Alzheimer's disease. Since there is currently no evidence regarding the mechanism by which these agents offer neuroprotection, we investigated the neuroprotective properties of tolmetin based on its antioxidant capabilities in rat brain homogenate.
Methods: A modified technique of Ottino and Duncan, 1997, was used to determine the extent of lipid peroxidation in rat brain homogenate. This technique is based on the reaction of malondehyde, a product of lipid peroxidation, with thiobarbituric acid, under acidic conditions to yield a pink complex having a maximum absorbance at 532nm. Quinolinic acid, a metabolite of the L-tryptophan kynurenine pathway, significantly induced lipid peroxidation in rat brain homogenate. This phenomenon was significantly blunted off by the co-treatment of homogenate with tolmetin.
Results: Histological examination of the hippocampal tissue obtained from rats previously treated with intrahippocampally administered QA showed increased integrity and viability in presence of tolmetin (5mg/kg twice a day for five days). This was further supported by receptor binding studies, which quantitated the protection offered by tolmetin.
Conclusions: It thus appears that tolmetin could play a possible neuroprotective role with important implications in the treatment or prevention of neurodegenerative disorders.

ACETAMINOPHEN AND ASPIRIN INHIBIT SUPEROXIDE ANION GENERAION AND LIPID PEROXIDATION, AND PROTECT AGAINST 1-METHYL-4-PHENYL PYRIDINIUM-INDUCED DOPAMINERGIC NEUROTOXICITY IN RATS

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Objectives and methods: We assessed the antioxidant activity of non-narcotic analgesics, acetaminophen and aspirin in rat brain homogenates and neuroprotective effects in vivo in rats intranigrally treated with 1-methyl-4-phenyl pyridinium (MPP^+).
Results: Both drugs inhibited cyanide-induced superoxide anion generation, as well as lipid peroxidation in rat brain homogenates, the combination of the agents resulting in a potentiation of this effect. Acetaminophen or aspirin when administered alone or in combination, did not alter dopamine (DA) levels in the forebrain or in the striatum. Intranigral infusion of MPP^+ in rats caused severe depletion of striatal DAlevels in the ipsilateral striatum in rats by the third day. Systemic post-treatment of acetaminophen afforded partial protection, whereas similar treatment of aspirin resulted in complete blockade of MPP^+-induced striatal DAdepletion.
Conclusion: While these findings suggest usefulness of non-narcotic analgesics in neuroprotective therapy in neurodegenerative diseases, aspirin appears to be a potential candidate in prophylactic as well as in adjuvant therapy in Parkinson's disease.

CAN EXERCISE PROVIDE NEUROPROTECTION IN A RAT MODEL FOR PARKINSON'S DISEASE?

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Neurotoxic drugs such as 6-hydroxydopamine (6-OHDA) have been used to mimic a Parkinsonian state in a rat model. The toxic effect of 6-OHDAwas reduced in rats that were forced to use the impaired limb immediately after the 6-OHDAinjection. The objective of this study is to determine whether dopamine neurons in the substantia nigra are spared in rats that have free access to a mobile running wheel pre and post unilateral injection of 6-OHDA. Experimental Methods: Two groups of rats were placed in cages with running wheels 7 days prior to injection of 6-OHDA into the medial forebrain bundle. One group had their running wheels immobilised. After injection, the rats were returned to their respective cages where they remained for a further period of 7days. Revolutions of the running wheels were recorded daily. At the end of this period the rats were injected with apomorphine (0.5mg/kg s.c.) and the number and direction of rotations recorded. The rats were sacrificed after 3 weeks and brains fixed for tyrosine hydroxylase immunohistochemistry. Preliminary results: Free access to a running wheel did not reduce the number of contralateral rotations evoked by injection of apomorphine.

This work is supported by the MRC.

TREATMENT OF RAPID CYCLING BIPOLAR DISORDER

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Background: An early study on the rapid cycling variant of bipolar disorder conducted by Dunner and colleagues (1974) proposed that rapid cycling was a clinical factor in lithium prophylaxis failure and eventually led to interest in studying anticonvulsants as alternatives to lithium in the treatment of rapid cycling bipolar disorder. These data prompted the hypothesis that rapid cycling was a predictor of non-response to lithium and positive response to divalproex (Calabrese et al 1990 and 1993).
Objective: To test the hypothesis that divalproex monotherapy was more effective than lithium monotherapy in the long-term management of rapid cycling bipolar disorder.
Methods: A 20-month, double-blind, parallel group comparison was carried out in recently hypomanic/manic patients who experienced a persistent bimodal response to combined treatment with combined lithium and divalproex. Sixty patients were randomized to either lithium or divalproex monotherapy in a balanced design after stratifying for bipolar type I and II. The study was powered to have 80% chance of detecting a 70% rate of relapse on lithium and 50% on divalproex.
Results: Of 254 enrolled into open stabilization, 28% exhibited poor compliance, 25% were non-responders (73% resistant depression and 27% resistant hypomania/mania), 24% randomized (n=60), and 19% had intolerable side effects. Of the 254, 64% were female, 62% bipolar II, and 93% had circular/continuous cycling. The mean age was 37 and median number of episodes in last year was eight. Of the 60 patients randomized, 53% relapsed (59% into depression and 41% into hypomania/mania), 22% completed, 10% had intolerable side effects, and 10% poor compliance. The rate of relapse into a mood episode was 56% on lithium and 50% on divalproex. The rate of relapse into depression was 34% on lithium and 29% on divalproex. The rate of relapse into hypomania/mania was 22% for both lithium and divalproex. The proportion discontinuing prematurely due to side effects was 16% on lithium and 4% for the divalproex (ns). The median survival on lithium was 18 weeks and divalproex 45 weeks (p=0.389). Kaplan-Meier survival curves were generated for the time-to-event data, and differences among treatment groups were tested using log-rank tests.
Conclusion: The hypothesis that divalproex monotherapy is more effective than lithium monotherapy in the long-term management of rapid cycling bipolar disorder is not supported by these long-term randomized data. These data raise concerns that lithium is currently being underutilized as a treatment for rapid cycling bipolar disorder.

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DEPRESSION AS A NEURODEGENERATIVE DISORDER: THE NEED FOR ACHIEVING REMISSION

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Unrecognized and undertreated major depressive disorder is not only com-

mon but is the current pattern of care. Its impact on health and the quality of life is substantial and can lead to a greater risk of relapse, more chronic depressive episodes, shorter durations between episodes, continued impairment in work and relationships and increased morbidity and mortality in a variety of common medical illnesses such as stroke, diabetes, myocardial infarction, congestive heart failure and HIVinfections. Depression may be linked with changes in the structure of the brain, characterized by reductions in hippocampal volume and possibly driven by HPA axis hyperactivity, which are correlated with the number and duration of previous episodes and which may persist after resolution of symptoms. The realization that prolonged or recurrent depression may result in progressive and cumulative damage to the brain, predispose to chronicity or treatment resistance and result in adverse psychosocial and economic outcomes has led to the notion that treatment to full remission of symptoms should become our goal and not just partial response. Effective treatment may preclude a chronic, recurrent course and may prevent or even reverse changes in brain structure and function. There is now substantial evidence that antidepressants are not equally efficacious, and that the modern dual action agents - the SNRIs venlafaxine, milnacipran and duloxetine, and the NaSSA mirtazapine - may achieve remission in more patients with greater speed. Although the early clinical trials suggested that SSRIs are less effective only in the more severe and melancholic forms of depression, it is now clear that the onset of antidepressant action and rates of remission may be improved by mirtazapine and venlafaxine across the spectrum of depressive symptomatology even in the more mildly depressed patient.

SIDE-EFFECTS INDUCED BY MODERN ANTIDEPRESSANTS — OVERVIEW AND MANAGEMENT

FRANCO COLIN
Psychiatrist, Private Practice

The presentation will give an overview of antidepressant induced side effects encountered in modern psychiatric treatment followed by a discussion of possible treatments and management of these side effects.

THE PLACEBO RESPONSE IN ANTIDEPRESSANT CLINICAL TRIALS

ROBIN EMSLEY
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Background and objectives: In modern medical research, the Randomised Controlled Trial (RCT) has become the gold standard for the assessment of any new treatment. Inclusion of a placebo group is critical to establish assay sensitivity. Placebo improves subjective & objective measures of disease in 30-40% of a wide range of physical and psychiatric conditions.
Methods: The relevant literature is reviewed.
Results: The placebo effect appears to be based on suggestibility and expectation, and the therapeutic effect of attention. It might be related to reward mechanisms - the expectation of reward (i.e. clinical benefit) seems to be particularly relevant. The brain has processes, *functional salutogenic mechanisms*, that contribute to health by enabling one's outlook on life to benefit one's health. Beliefs need not even be rational or realistic, as shown by phenomena such as faith healing and the placebo effect. Little is known about the neuropathways of functional salutogenic mechanisms. However, recent work has explored the functional anatomy of antidepressant and placebo effect in patients with major depressive disorder. While ethical concerns exist regarding the use of placebo in major depression trials, it is likely to remain a requirement of regulatory authorities for the foreseeable future. Failure rates for placebo-controlled studies in MDE are high (>50%). Also, the placebo response across studies is variable, substantial and growing. Possible reasons for growing placebo response include increasing pressure to recruit in clinical trials, with resultant less suitable patients.
Conclusions: To best to discriminate between placebo and antidepressant, investigators need to select appropriate subjects (i.e. those unlikely to respond to placebo and likely to respond to an antidepressant); maintain an appropriate attitude towards subjects; ensure rigorous and consistent application of rating rules; limit early withdrawals; restrict the use of anxiolytics and avoid any assumptions regarding the treatment.

IMPULSE CONTROL DISORDERS: AN OVERVIEW

DONALD W BLACK
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Impulsivity crosses diagnostic boundaries and is found in impulse control disorders (ICDs), sexual disorders, personality disorders, attention-deficit disorders, and other conditions. Impulsivity is the "sudden desire or tendency to act without reflection." ICDs have in common their 1) failure to resist an impulse, drive or temptation; 2) temptation to perform a harmful act; 3) an increase in tension or arousal before the act and feelings of pleasure or gratification following the act; and 4) sometimes guilt or self-reproach following the act. The ICDs have gained recent attention among psychiatrists and laypersons. The DSM-IV classifies the following as ICDs: kleptomania, pyromania, intermittent explosive disorder, trichotillomania, and pathological gambling. These conditions have been viewed as addictions, mood or anxiety equivalents, personality disorder equivalents, or as being related to obsessive-compulsive disorder. The ICDs are important because they are common and are associated with depression, substance abuse, family discord, social and legal problems, and suicide. Intermittent explosive disorder involves episodic assaultive or destructive behavior, though is relatively uncommon as an isolated condition. Pyromania is relatively uncommon, and mainly occurs in boys, and is often associated with low intelligence. Trichotillomania has a childhood onset, mainly affects women, and occurs in up to 1% of the general population. Pathological gambling is relatively common, affecting 1-2% of the adult population; prevalence may be greater in areas where gambling is available. Compulsive buying or spending, while not listed in the DSM-IV, is relatively common and leads to excessive buying and spending behavior. Medication and cognitive-behavioral treatment strategies are discussed for these conditions.

POST TRAUMATIC STRESS DISORDER: THE WITS TRAUMA CLINIC EXPERIENCE

UGASH SUBRAMANEY
Department of Psychiatry, Wits Medical School

The Wits trauma clinic is an NGO which is affiliated to the centre for the study of violence and reconciliation (CSVR). The clinic offers trauma management, victim empowerment, and support services through direct service delivery, training and capacity building, community education, research and advocacy.
Method: This is a retrospective record review of all cases referred to the psychiatrist for assessment from 1999 to 2002. Records were analysed according to demographic profile, diagnosis according to DSM IV, and outcome.
Results: It was found that there was a high preponderance of PTSD in the group. Other diagnoses included Major Depressive Disorder, Personality disorders and Psychotic disorders. In addition, the refugee population was over represented in those who had a diagnosis of either PTSD or a major mood disorder. The complexity of traumatic stress is associated with the development of PTSD. The SSRI's were the most commonly prescribed antidepressant for both PTSD and Major Depression.
Conclusion: PTSD is common among clients referred to the Wits trauma clinic. Other psychiatric diagnoses are prevalent. This suggests the ongoing need for psychiatric assessment and treatment for victims and survivors of violence at the Wits trauma clinic.

POST TRAUMATIC STRESS DISORDER AMONG RECENTLY DIAGNOSED PATIENTS WITH HIV IN SOUTH AFRICA

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Objective: This study examined prevalence and associated factors of post-traumatic stress disorder in response to HIV in recently diagnosed patients in South-Africa.
Methods: One hundred and forty nine (44 male, 105 female) recently diagnosed HIV/AIDS patients (mean months since diagnosis = 5.8 SD 4.1) were evaluated. Subjects were assessed using the MINI International Neuropsychiatric Interview (MINI), the Carver Brief COPE coping scale, and the Sheehan Disability Scale. In addition, previous exposure to trauma and past risk behaviours were assessed.
Results: Twenty-two patients(14.8%) met criteria for PTSD. Current psychiatric condition associated with PTSD include, major depression: 29% vs. 7% (chi-square = 12.58, df 1, p=0.004), Suicidality: 54% vs. 11% (chi-square =17.28, df 1, p=0.001) and social anxiety: 40% vs. 13% (chi-square = 5.42, df 1, p=0.04). None of the PTSD patients were receiving treatment for PTSD diagnosis at the time of study. Discriminant analysis revealed that being female and an history of sexual violation in the past year, were significantly associated with PTSD.

Conclusion: The result of this study is consistent with previous report and further confirm the clinical validity of the relationship of HIV diagnosis and PTSD response.

IMPROVING OUTCOME IN SCHIZOPHRENIA

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Although conventional antipsychotics are effective treatments for positive symptoms of schizophrenia, they are generally of less benefit in negative, affective and cognitive symptoms and adverse events are a major problem. Atypical antipsychotics are effective in the management of both positive and negative symptoms and better tolerated by patients. Managing the physical health of patients with schizophrenia presents a considerable challenge. Patients with schizophrenia have shorter life expectancies than the general population. The incidences of obesity, dyslipidaemia, diabetes mellitus, smoking and death due to cardiovascular disease are all higher in patients with schizophrenia. Treatment related factors contributing to increased morbidity and mortality in schizophrenia will be presented together with management strategies to minimise these risks and improve the health of our patients.

REVIEWING POST GRADUATE TRAINING

CLIFF W ALLWOOD
Department of Psychiatry, Wits Medical School

Post graduate training in South Africa has its roots in the British system but has evolved in its own way and now has its own identity. The dual M Med/College systems of examination have been drawing closer together and a single national registrable qualification might be desirable in the future. Training is the responsibility of Universities but the content and type of training may be dictated by examinations. The question is who should be deciding on the skills, knowledge and type of practice of the psychiatrist of the future? Among questions which may be asked are: What does the country need? What should people be prepared to pay for? What unique contribution can a psychiatrist make to Health Care?

ETHICS IN HIV RESEARCH

KEIMANTHRI MOODLEY
Department of Family Medicine & Bioethics Unit, University of Stellenbsoch

The ethics of HIV research will be introduced using the Tuskegee Syphilis Study as a point of departure. The HIV Vertical Transmission Trials will be discussed in detail and compared with Tuskegee. The ethical issues raised in the Vertical Transmission Trials will be explored in the context of research in developing countries - standards of care, use of placebos, vulnerable communities and post-trial treatment. The ethical issues involved in HIV Vaccine Research will be highlighted. Finally, current guidelines governing the ethics of HIVresearch in South Africa will be explored.

IMPROVING AND MAINTAING ETHICAL STANDARDS IN PSYCHIATRIC RESEARCH

TUVIAH ZABOW
Department of Psychiatry and Mental Health, University of Cape Town

Psychiatric research in South Africa occurs in a unique situation for both quantitative and qualitative projects. Numerous opportunities present by virtue of the population and the patterns of illness. Research takes place in persons of different genetic makeup, socioeconomic and health status as well as factors influencing life-style. Many of the subjects of research may be considered as vulnerable. International research is attracted to the health care system of South Africa and needs to adhere to universal rules for ethical research. The importance of the maintenance of standards of care of human subjects of research both scientific and ethical is essential. A National Health Research Ethics Council established in terms of the National Health Act will accredit and monitor compliance of Research Ethics Committees within legislation, regulations, guidelines and standards. The guiding principles of research ethics are especially applicable to psychiatric research. The procedures, issues and relevance of ethics committees in improving psychiatric standards will be reviewed particularly in relation to issues of competence, standards of care and placebo-controlled trials.

POSTERS: NEUROSCIENCES SECTION (Presenting author only)

1. BLUNTED ACTH RESPONSE CORRELATES WITH ALTERED NEUROTRANSMITTER FUNCTION IN MATERNALLY SEPARATEDRATS
WMU DANIELS
2. A MECHANISM FOR ZINC TOXICITY IN NEUROBLASTOMA CELLS
WMU DANIELS
3. THE EFFECTS OF HYPERICUM PERFORATUM, QUERCETIN AND FLUOXETINE ON RECEPTOR DENSITIES IN THE RAT BRAIN
L HEIDEMAN
4. TRICHOTILLOMANIA AND OBSESSIVE-COMPULSIVE DISORDER: CLINICAL AND GENETIC COMPARISONS WITHIN A SOUTH AFRICAN POPULATION
HEMMINGS SMJ
5. EXPRESSION OF NOGO-A IN THE AMPHIBIAN CENTRAL NERVOUS SYSTEM
N.J. HSU
6. BIOCHEMICAL MODEL FOR INFLAMMATION OF THE BRAIN: THE ROLE OF IRON, TRANSFERRIN AND TOXIFERRIN IN LIPID PEROXIDATION.
S JvRENSBURG
7. IMPROVEMENT IN ALZHEIMER'S DISEASE PATIENTS WITH ANTIOXIDANT SUPPLEMENTATION OVER 15 MONTHS
S JVRENSBURG
8. THE PLACEBO EFFECT — IS IT ALL IN THE MIND?
S JvRENSBURG
9. VERY LOW SERUM IRON CONCENTRATIONS IN ELDERLY PATIENTS WITH ACTIVE CARCINOMA
S JvRENSBURG
10. MELATONIN AFFORDS PROTECTION AGAINST ROTENONE-INDUCED NEUROTOXICITY
R JOHN
11. EFFECT OF ENRICHED ENVIRONMENT ON Ca^{2+} UPTAKE VIA NMDA RECEPTORS INTO BARREL CORTEX SLICES OF SPONTANEOUSLY HYPERTENSIVE RATS
M LEHOHLA
12. EFFECTS OF METHYLPENIDATE IN A RAT MODEL FOR ATTENTENTION DEFICIT HYPREACTIVITY DISORDER
G.L.S. LELAKA
13. 6-HYDROXYMELATONIN CONVERTS Fe (III) TO Fe (II) AND RECUCES IRON-INDUCED LIPID PEROXIDATION
DS MAHARAJ
14. METROFINATE POTENTIATES QUINOLINIC ACID AND POTASSIUM CYANIDE INDUCED NEUROTOXICITY
A RAMSUNDER
15. THE EFFECT OF CHRONIC INTRA-AMYGDALA CRF INJECTIONS ON RAT BEHAVIOUR AND HPA-AXIS FUNCTION
L RICHTER
16. EFFECT OF GLUTAMATE IN THE PREFRONTAL CORTEX OF A RAT MODEL FOR ATTENTION-DEFICIT HYPERACTIVITY DISORDER
V RUSSELL
17. AN INVESTIGATION INTO THE RELATIONSHIP BETWEEN CORTICOSTERONE AND NEURON CELL DEATH.
PJ VAN VUUREN

BLUNTED ACTH RESPONSE CORRELATES WITH ALTERED NEUROTRANSMITTER FUNCTION IN MATERNALLY SEPARATED RATS

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Objective: Traumatic experiences can have a negative impact on behaviour later in life. We subjected rat pups to maternal separation and determined the effects thereof on adult behaviour.
Method: We removed rat pups from their mothers for 3 h daily from postnatal day 2 to 14. On day 60, the behaviours of the rats were tested using the elevated plus-maze. Controls were reared normally. Some rats were subse-

quently subjected to restraint stress for a 10 min period. Trunk blood was collected for basal, as well as 15 and 60 min post-restraint stress ACTH determinations. Neurotransmitter levels (noradrenaline, serotonin and their metabolites, MHPG and 5HIAA) were also determined at basal, immediately and 15 min post-restraint stress in the hypothalamus, hippocampus and frontal cortex. The amount of entries into the arms of the elevated plus maze was significantly reduced in the separated animals, indicating decreased locomotion.
Results: They spent significantly more time in the closed arms of the maze. A significant increase in defecation frequency was noted. These observations suggested anxious behaviour. Basal ACTH levels were significantly higher in separated animals. At 15 min post-restraint stress, the ACTH levels were significantly lower than controls, indicating a blunted stress response. A decrease in noradrenaline was noted in all three brain areas and an increase 5HIAAlevels was found in the frontal cortex and hippocampus.
Conclusion: We conclude that maternal separation induced abnormal behaviours and stress responses that were possibly mediated by altered neurotransmitter function.

A MECHANISM FOR ZINC TOXICITY IN NEUROBLASTOMA CELLS

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[2]MRC Diabetic Research Group, Parow, South Africa.

Objective: Zinc (Zn) is an important component of proteins that are essential for normal functioning of the brain. However, it has been shown that this metal, at elevated levels, can be toxic to cells leading to their death. We investigated whether the possible deleterious effects of Zn involved the generation of reactive oxygen species, and the activation of the MAP-kinase pathway.
Method: Cell viability was assessed in two ways, first by means of the Methyl-thiazolyl tetrazolium salt (MTT) assay and secondly confirmed by tetramethylrhodamine methyl ester (TMRM) staining. We measured the phosphorylation status of Erk and p38 as indicators of MAP-kinase activity, using Western Blot techniques. A time curve was established for Zn when neuroblastoma $N_2\alpha$ cells, were exposed to 100µM of the metal for 4, 12 and 24 hours.
Results: We observed that Zn caused a significant reduction in cell viability as early as 4 hours. The most suitable concentration for Zn in our experiments was established to be 100µM. $N_2\alpha$ cells were subjected to 100µM Zn and the accumulation of reactive oxygen species determined by 2.7 Dichlorodihydro-fluorescein diacetate (DCDHF) staining and confocal microscopy. Zn significantly stimulated the accumulation of reactive oxygen species. Investigation of the MAP-kinase pathway indicated that Erk was down regulated, while p38 was stimulated.
Conclusion: Our results therefore led us to conclude that Zn toxicity involved the generation of reactive oxygen species and the activation of the MAP-kinase pathway.

THE EFFECTS OF HYPERICUM PERFORATUM, QUERCETIN AND FLUOXETINE ON RECEPTOR DENSITIES IN THE RAT BRAIN

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Hypericum Perforatum (HP) is one of the most popular psychotherapeutic phytomedicines used to treat mild to moderate depression. Previous studies have shown that HP acts on a wide range of receptors and that its antidepressant effects are most probably the result of several compounds acting synergistically. The aim of this study is to compare the effects of the whole extract of HPand quercetin, one of the flavonoids found in HPin relatively high concentration, with fluoxetine, a selective serotonin reuptake inhibitor, on the densities of the (-adrenergic, serotonin-2 (5-HT_2) and N-methyl-D-aspartate (NMDA) receptors in rat brain. The brains of rats(5 in each group), which had been dosed with HP (300mg/kg/day), quercetin (5mg/kg/day) and fluoxetine (1.25mg/kg/day) respectively for 3 weeks, were used in receptor binding studies. Radioactive dihydroalprenolol (β-adrenergic), kertanserine(5-HT_2) and MK801 (NMDA) were used to label the respective receptors shown in brackets. The results show that fluoxetine and quercetin had no significant effect on the (-adrenergic receptors and that HPcaused a decrease in the number of these receptors. Furthermore, HP, quercetin and fluoxetine all showed significant down regulation of the 5-HT_2 and NMDA receptors. **These results suggest** that HPand quercetin have similar effects to fluoxetine on receptor density and that quercetin is one of the compounds contributing to the overall antidepressant activity of HP.

TRICHOTILLOMANIA AND OBSESSIVE-COMPULSIVE DISORDER: CLINICAL AND GENETIC COMPARISONS WITHIN A SOUTH AFRICAN POPULATION

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Trichotillomania (TTM), a prevalent and disabling psychiatric disorder characterised by repetitive hair-pulling, is presently classified as an impulse control disorder (ICD). Some have argued, however, that TTM is an obsessive-compulsive spectrum disorder (OCSD). Recent studies have indicated a biological overlap between obsessive-compulsive disorder (OCD) and TTM, implying they may share aetiological component(s). The aim of the present investigation was two-fold: first, to compare selected clinical characteristics between South African OCD (n = 284) and TTM (n = 53) patient cohorts and second, to assess the role of selected candidate genes in the development of TTM. In order to control for population stratification, only South African Caucasians were utilised in the genetic investigation. Clinical comparisons between the OCD and TTM cohorts indicated that significantly more TTM patients suffer from binge-eating disorder, self-injurious behaviour and tics than OCD patients. On the other hand, more OCD patients presented with dysthymic and panic disorders. Genotypic and allelic distributions of the 5-HTreceptor 2A (*5-HT_{2A}*) *T102C* variant were found to be significantly different between the TTM and control subjects, and the TTM and OCD subjects. These preliminary results suggest the possible involvement of *5-HT_{2A}* in the development of TTM, and warrant further investigation using a larger dataset.

EXPRESSION OF NOGO-A IN THE AMPHIBIAN CENTRAL NERVOUS SYSTEM

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Objective: In the mammalian central nervous system (CNS), axonal connections are not restored after injury. This has been attributed to the unfavourable properties of the injured CNS microenvironment, in particular to the presence of neurite outgrowth inhibitory molecules. In contrast, axons regenerate in the injured CNS of fish and amphibians. Evidence as to whether successful regeneration in lower vertebrates is correlated with the absence of neurite growth inhibitors is contradictory.
Methods: To address this, we carried out an immunohistochemical expression analysis of the neurite growth inhibitor Nogo-Ain the developing and adult Xenopus CNS, using cross-species reactive polyclonal antibodies against the mammalian form of this protein in conjunction with confocal and conventional fluorescence microscopy.
Results: Double immunolabelling with a panel of markers for glial cells and neurons revealed that Nogo-A immunoreactivity is associated with oligodendrocytes and myelinated axons in the adult frog CNS. In addition, motor neurones in the ventral brain stem and spinal cord, as well as ependymal and radial glial cells were labeled with anti-Nogo-A antibodies. In tadpoles, Nogo-A immunoreactivity was present in neuronal somata and axons throughout the CNS, and partially colocalised with myelin sheaths.
Conclusion: These results indicate that Nogo-Ais expressed in the amphibian CNS, in a pattern similar to that seen mammals. Thus, absence of mammalian-like neurite growth inhibitors cannot account for the success of axon regeneration in the amphibian CNS.

BIOCHEMICAL MODEL FOR INFLAMMATION OF THE BRAIN: THE ROLE OF IRON, TRANSFERRIN AND TOXIFERRIN IN LIPID PEROXIDATION.

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Introduction: Brain inflammation plays a role in diseases such as depression, Alzheimer's disease (AD) and multiple sclerosis (MS), culminating in lipid peroxidative damage to neuronal membranes. Previously it was demonstrated that during infection/inflammation the concentration of serum iron decreases and that the concentration of a breakdown product of transferrin (Tf) "toxiferrin" increases (Van Rensburg et al. 2001). Additionally, Fe may also play a role in MS: significant differences in allelic distribution were observed between MS patients and controls in a mutation in the NRAMP1 gene (an iron carrier in monocytes; Kotze et al. 2001). In the present study, the effect of toxiferrin and Tf on cultured monocytes was investigated.
Methods: Purification of Tf and toxiferrin from plasma was conducted by ion exchange chromatography and gel filtration. Tf and toxiferrin were added to cultured monocytes (1mg/ml, in triplicate). Monocytes to which no proteins were added, acted as control. The monocytes were cultured for 3 days before the proteins were added.
Results: Both Tf and toxiferrin stimulated growth of the monocytes. Under conditions of monocyte activation (inflammation) toxiferrin but not Tf produced lipid peroxidation in an *in vitro* model system.
Conclusion: Low serum iron, through increased production of toxiferrin, could play a part in the inflammatory process in the brain.

IMPROVEMENT IN ALZHEIMER'S DISEASE PATIENTS WITH ANTIOXIDANT SUPPLEMENTATION OVER 15 MONTHS

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There have been several reports indicating positive effects of antioxidants in patients with Alzheimer's disease (AD). In this study, the oxidative potential of serum from AD patients was studied *in vitro*. Secondly, the effect of antioxidant treatment on cognitive function in AD patients was assessed over 15 months.
Methods: Twenty two patients with AD, diagnosed according to DSM-IV criteria, underwent cognitive testing using the Mini Mental State Examination (MMSE) and the cognitive portion of the ADAS (ADAS-cog). The total anti-oxidative status (TAS) of serum from these patients was compared to age- and gender matched non-demented controls and patients with Vascular Dementia (VaD). Secondly, antioxidants were given to 5 AD patients and their cognitive functions were measured over 15 months.
Results: Serum from AD patients had a significantly greater oxidative potential than controls or VaD patients. Secondly, the cognitive test scores of patients treated with antioxidants showed a modest improvement compared to baseline measurements, obtaining a peak of 1.7 on the ADAS-cog at 9 months. This result shows a similar pattern to that obtained from the use of acetylcholinesterase inhibitors.
Discussion: Patients with AD suffer from chronic brain inflammation, which depletes antioxidants in the serum, increasing its oxidative potential. People at risk for AD may thus benefit from anti-oxidant supplements.

THE PLACEBO EFFECT — IS IT ALL IN THE MIND?

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Introduction: In a double-blind, placebo-controlled trial of eicosapentaenoic acid (EPA; 3 g/day for 12 weeks) as supplemental treatment in patients with schizophrenia, significant improvement was found in symptoms as measured by the Positive and Negative Symptom Scale (PANSS). Significant changes in fatty acid (FA) composition of erythrocyte membranes were also recorded. However, some positive changes also occurred in the placebo group. Here we report on the extent of these changes.
Materials and Methods: Erythrocyte membrane FA changes were measured by gas-liquid chromatography. A dietician reviewed the dietary intake of each subject throughout the study.
Results: The greatest changes in FA composition occurred in the n-3 FAs. As expected for the EPA group, there was a highly significant increase in EPA (20:5n-3) concentration in the erythrocyte membranes (0.23% to 2.97 %; $p < 0.001$) after 12 weeks, while this was not the case in the placebo group (0.28 to 0.40 %). There was an overall reduction in saturated and mono-unsaturated FAs in the EPA group as well as in the placebo group. There were 4 responders (subjects who improved more than 20% over all) in the EPAgroup. Unexpectedly there was also a responder in the placebo arm of the trial, who had incorporated high n-6 and n-3 FAs into his erythrocyte membranes, although the pattern was different from the responders taking EPA.
Conclusions: Since information about EPA had to be given to all patients prior to the trial, some of the patients on placebo had obtained more EPA from their diet by eating more fish. Most of the patients on the trial were inpatients of Stikland Hospital, eating a set diet of sardines or mackerel once in 3 weeks. If more of the patients had been recruited from the community, our trial may not have shown significant differences between patients and controls.

VERY LOW SERUM IRON CONCENTRATIONS IN ELDERLY PATIENTS WITH ACTIVE CARCINOMA

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Introduction: Active carcinoma is associated with severe fatigue. In the present study iron studies were performed on blood samples from elderly patients with active oesophageal cancer. Controls were age- and gender matched healthy subjects.
Materials and Methods: Sixteen hospitalised Xhosa patients over 55 years of age were diagnosed with oesophageal cancer. The following were measured: full blood count, serum iron and transferrin (Tf) concentrations, % Tf saturation, serum folate, homocysteine, total antioxidant status (TAS) and C-reactive protein (CRP). Controls were elderly healthy Xhosa patients.
Results: Highly significantly lower serum iron concentrations were measured in the patients with oesophageal carcinoma (3.5 ± 3.2) compared with controls (9.7 ± 3.9 mmol/L; $p < 0.00001$). Ferritin levels were significantly higher in patients than controls ($p < 0.00003$). CRP was also significantly higher in patients than in controls ($p < 0.00001$) and correlated with ferritin levels in the patients. Tf concentrations ($p < 0.00001$) and % Tf saturation ($p = 0.006$) were significantly lower in patients than in controls. Serum folate ($p < 0.003$) was significantly lower and homocysteine ($p < 0.001$) significantly higher in patients than in controls.
Conclusion: The significantly different results for serum parameters found in patients and controls, including the extremely low serum iron found in patients with active oesophageal carcinoma possibly contribute to the severe fatigue experienced by these patients.

MELATONIN AFFORDS PROTECTION AGAINST ROTENONE-INDUCED NEUROTOXICITY

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Objective: The protective effects of melatonin against the environmental neurotoxin, rotenone, were investigated using biological oxidation, lipid peroxidation and superoxide anion assays. The cellular damage caused by the pesticide rotenone, a compound known to produce Parkinsonian-like symptoms, is the result of the mitochondrial respiratory inhibition at the complex I level and oxidative stress induction.
Methods: The protective effect of melatonin on the respiratory chain in rotenone treated rat brain and hepatic mitochondria was determined spectrophotometrically at 600nm by biological oxidation assay. The thiobarbituric assay (TBA) was used to measure the extent of lipid peroxidation induced by rotenone in rat brain homogenate. It is based on the complexation of malonaldehyde, a product of lipid peroxidation, with TBA, to produce a pink compound having a maximum absorbance at 532 - 535nm. Rotenone induced superoxide formation in rat brain homogenate was measured using a modification of the Nitroblue tetrazolium assay (Ottino and Duncan, 1997). NBT is reduced to the coloured Nitroblue diformazan in presence of superoxide anions, which is extracted and measured at 560nm.
Results: Treatment of mitochondria with rotenone inhibited respiration and this effect was overcome by the inclusion of melatonin in the incubation mixture. Rotenone alone increased lipid peroxidation and superoxide radical formation in a concentration-dependent manner and these phenomenon were significantly decreased by co-treatment of brain homogenate with melatonin.
Conclusion: In addition to its free radical scavenging properties, these protective effects appear to be due to melatonin preventing the interaction of rotenone with complex I of the mitochondria.

EFFECT OF ENRICHED ENVIRONMENT ON Ca^{2+} UPTAKE VIA NMDA RECEPTORS INTO BARREL CORTEX SLICES OF SPONTANEOUSLY HYPERTENSIVE RATS

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Exposure to an enriched environment provides animals with informal learning opportunities and is associated with changes such as increase in brain size, cortical thickness, neuron size, dendritic branching, spine density and increase in synapses per neuron. The NMDA receptor is suggested to be involved in changes that occur in the brain (synaptic plasticity). This study therefore sought to determine the effect of exposure to an enriched environment on NMDA-stimulated Ca^{2+} uptake into barrel cortex slices of spontaneously hypertensive rats (SHR) compared to their control Wistar-Kyoto rats (WKY). A random assortment of items such as PVC pipes, metal pipes, metal boxes, metal ladders and a polystyrene maze, were placed in the cages of test rats. Animals were killed by cervical dislocation and decapitated after 2 or 12 weeks. The brain was rapidly removed, cooled and sliced in a vibratome to produce 0.35mm slices. The barrel cortex was dissected from slices corresponding to 8.6mm to 4.8mm anterior to the interaural line. Test slices from rats exposed to an enriched environment were incubated in buffer containing NMDA(100 μM) for 2 minutes at 35°C and compared to slices from control rats that were not exposed to an enriched environment. There was no significant difference in NMDA -stimulated Ca^{2+} uptake between rats exposed to an enriched environment and their controls (not exposed). There was no significant difference in NMDA stimulated Ca^{2+} uptake between SHR and WKY. Exposure to an enriched environment does not have any effect on NMDA-stimulated Ca^{2+} uptake into barrel cortex slices of SHR and WKY.

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EFFECTS OF METHYLPENIDATE IN A RAT MODEL FOR ATTENTENTION DEFICIT HYPREACTIVITY DISORDER

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Attention deficit hyperactivity disorder (ADHD) is a childhood neurobehavioral disorder characterized by poorly sustained attention, overactivity and impulsiveness. The spontaneously hypertensive rat (SHR) is a widely used model for studying this disorder because it has behavioral characteristics that mimic the symptoms of ADHD. Methylphenidate is the most frequently prescribed and effective treatment for ADHD. The aim of the study is to investigate the effects of this drug on a rat model for ADHD. By housing the SHR and the control Wistar Kyoto (WKY) rats in cages with attached running wheels we were able to demonstrate that SHR run more than WKY. The SHR were then treated with clinically relevant doses of methylphenidate (0.5, 1.0 and 2.0 mg/kg) to determine the most effective dose required to reduce their behavioral activity. All three doses of methylphenidate reduced the running activity with the 2.0 mg/kg being the most effective dose. We also demonstrated increased glutamate-stimulated release of norepinephrine from prefrontal cortex slices of SHR compared to the controls, using an *in vitro* superfusion technique, in agreement with previous findings. Preliminary results on the methylphenidate-treated SHR suggest that there is no change in the norepinephrine release at the 0.5 and 1.0mg/kg doses but a possible decrease at the 2.0mg/kg dose of methylphenidate.

6-HYDROXYMELATONIN CONVERTS Fe (III) TO Fe (II) AND RECUCES IRON-INDUCED LIPID PEROXIDATION

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One of the hallmarks of Alzheimer's disease (AD) is the progressive degeneration of cholinergic neurons in the cerebral cortex and hippocampus. It is generally accepted that this neuronal degeneration is due to free-radical-induced damage. These free radicals attack vital structural components of the neurons. This implies that agents that reduce free radical generation could potentially delay the progression of AD. Disorders of iron accumulation are known to produce hepatotoxicity. Agents, which can reduce Fe^{3+} to a more usable form Fe^{2+} could potentially limit such damage. Since it has been previously demonstrated that the pineal secretory product, melatonin, is able to bind iron, we decided to investigate the potential protective properties of the principal melatonin metabolite and degradant, 6-hydroxymelatonin (6-OHM). Using adsorptive cathode stripping voltammetry (AdCSV) we showed that Fe^{3+} in the presence of 6-OHM is converted to Fe^{2+}. We further demonstrated that 6-OHM reduces the Fe^{2+}-induced rise in lipid peroxidation in rat liver and brain homogenates *in vitro* and *in vivo*. The results imply that 6-OHM facilitates the conversion of Fe^{3+} to Fe^{2+}, which is a more biologically usable form of iron. While such a conversion could also potentially make more Fe^{2+} available for driving the Fenton reaction and the consequent generation of the dangerous hydroxyl radical, 6-OHM is able to quench these radicals, thereby providing tissue protection.

METROFINATE POTENTIATES QUINOLINIC ACID AND POTASSIUM CYANIDE INDUCED NEUROTOXICITY

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The increase of acetylcholine (Ach) levels is one of the strategies used in the treatment of Alzheimer's Disease (AD). One of the methods by which this is achieved, is by the inhibition of acetylcholinesterases. In the present study, Metrifonate, an acetylcholinesterase inhibitor (AChEI), was used. Metrifonate is a pro-drug, which is converted non-enzymatically into it's active metabolite, 2,2-dimethyl dichlorvinyl phosphate (DDVP). This agent inhibits both acetylcholinesterases (AChE) and butylcholinesterases (BuChE). Quinolinic acid (QA) was used to induce lipid peroxidation and potassium cyanide (KCN) was used to induce superoxide anion induced damage. A modified version of the thiobarbituric acid (TBA) assay was used to measure damage caused by QA, and the nitroblue tetrazolium (NBT) assay was used for the measurement of the KCN induced damage. The experiments were carried out in the presence and absence of metrifonate. The results obtained indicate that metrofinate potentiates the neurotoxicity induced by QAand KCN. The results imply that drugs such as metrifonate, whilst beneficial in restoring cognitive function in Alzheimers disease, could have the potential to enhance neurodegeneration, thus worsening the condition in the long term. These results thus need to be investigated further using *in vivo* studies.

THE EFFECT OF CHRONIC INTRA-AMYGDALA CRF INJECTIONS ON RAT BEHAVIOUR AND HPA-AXIS FUNCTION

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Patients with certain psychiatric disorders, such as PTSD and Depression, show symptoms of a dysregulated HPA-axis, namely an increased or decreased baseline cortisol level as well as a blunted ACTH response in response to CRF administration. CRF has a role in the mediation of behavioural en endocrine responses to stress. The basolateral amygdala has been implicated in the integration of anxiety and stress responses and stimulation thereof causes activation of the HPA-axis. This study therefore investigates the role of chronic CRF injections in the amygdala in the development of behavioural and neuroendocrine abnormalities. Male Wistar rats were stereotaxically implanted with bilateral cannulae in the basolateral nucleus of the amygdala and, following a recovery period of 4 days, injected with either 100ng CRF or saline for 5 days. On day 5, behaviour was tested using the Elevated plus maze and Open field. Behaviour was tested after 5 min restraint stress or no stress. On day 7, the stress response of these rats was evaluated. After 10 min of restraint stress, blood was collected 15 min or 60 min post stress as well as at baseline level, for ACTH and corticosterone determinations. Blood was also collected at the same time points for a group of naïve rats. The preliminary results show that there is no significant difference in the behaviour of non-stressed CRF injected rats in comparison with controls.

EFFECT OF GLUTAMATE IN THE PREFRONTAL CORTEX OF A RAT MODEL FOR ATTENTION-DEFICIT HYPERACTIVITY DISORDER

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The spontaneously hypertensive rat (SHR) is an accepted model for attention-deficit hyperactivity disorder (ADHD) since it displays the major symptoms of ADHD (hyperactivity, impulsivity and problems with sustained attention). We have previously shown that glutamate activation of α-

amino-3-hydroxy-5-methyl-4-isoxazolepropionate (AMPA) receptors released significantly more norepinephrine from SHR prefrontal cortex slices than control Wistar-Kyoto (WKY) slices. The objective of the present study was to determine whether the effect of glutamate on N-methyl-D-aspartate (NMDA) receptors is disturbed in the prefrontal cortex of SHR. Rats were humanely sacrificed, the brains rapidly removed from the skull and the prefrontal cortex sliced into 0.35 mm sections. Prefrontal cortex slices were incubated with $^{45}Ca^{2+}$ in the absence or presence of 100 µM NMDAfor 2 min. Activation of NMDAreceptors stimulated significantly less $^{45}Ca^{2+}$ uptake into prefrontal cortex slices of SHR than control WKY (2.8 ± 0.17 vs 3.7 ± 0.38 nmol/mg protein, respectively, $P < 0.05$). Basal $^{45}Ca^{2+}$ uptake was not significantly different from WKY. These findings are consistent with suggestions that the intracellular concentration of calcium is elevated and therefore the concentration gradient that drives calcium into the cell is decreased in SHR compared to WKY. Impaired NMDAreceptor function in the prefrontal cortex of SHR could give rise to impaired cognition and an inability to sustain attention.

AN INVESTIGATION INTO THE RELATIONSHIP BETWEEN CORTICOSTERONE AND NEURON CELL DEATH.

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Corticosterone plays an important role in neuroendocrine regulation of the stress response through acting on hippocampal glucocorticoid receptors (GR). In chronic stress situations excess levels of corticosterone result in cell atrophy, degeneration and cell death of neurons. The present study therefore wishes to investigate the relationship between corticosterone and neuron cell death. Primary cultured hippocampal neurons were subjected to different levels of corticosterone for varying time periods. Cell viability was assessed spectrophotometrically by Methyl-thiazolyl tetrazolium (MTT) salt reduction. The primary cultured cells were subjected to 100nM, 1µM and 10µM corticosterone and showed a negative correlation between cell viability and corticosterone concentration. Cells exposed to corticosterone showed a significant reduction in cell viability at 120 hours for all three concentrations of corticosterone administered. Further experiments will be performed to examine the mechanisms of by which corticosterone reduces cell viability. The intracellular calcium levels will be measured by flow cytometric analysis, using the fluorescent calcium probe, fura-2, in order to investigate the possible role of calcium in corticosterone mediated cell damage.

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DESCRIPTIVE STUDY OF TARDIVE DYSKINESIA IN A SOUTH AFRICAN XHOSA POPULATION

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The subject of neuroleptic-induced tardive dyskinesia in patients with schizophrenia has been studied extensively. Most previous studies base their conclusions on a western population group and studies in non-western groups are limited. The prevalence of tardive dyskinesia ranges from 10-20%. Some studies done on non-western populations suggest a higher incidence of TD in African and Asian populations. Risk factors seem to be universal. However, no studies have been conducted on a homogenous South African population regarding the incidence, characteristics and risk factors of TD. It is possible that ethnicity contribute to the aetiology and implications of movement disorders. This poster reports on a pilot study looking at the incidence and characteristics of TD in a Xhosa population. Xhosa patients with schizophrenia or schizo-affective disorder were recruited from hospital and community settings in the Eastern and Western Cape provinces in South Africa. All the patients were subjected to structural clinical interviews (DIGS) and the Abnormal Involuntary Movement Scale (AIMS) Examination Procedure was done on all the subjects. A descriptive and comparative analysis of movement disorders in the patients was done. With

more knowledge about the risk for TD in certain populations and different ethnicities, questions regarding lifetime risk and therefore decisions regarding medication choice can be more effectively addressed.

ALCOHOL DRINKING PROBLEMS AT THREE URBAN HIGH SCHOOLS IN UMTATA

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Introduction: Alcohol is still the most important substance of abuse in South Africa. The Sacendu Project mentioned that about one in four learners in a Pretoria school survey reported getting drunk occasionally in a typical month. They also reported an increased use of cannabis, mandrax and other harder drugs among young people. The primary aim of the present study is to assess the use of alcohol and other drugs of abuse in three urban High Schools in Umtata.
Materials and Methods: The Alcohol Use Disorders Identification Test (AUDIT) was used as a screening tool to assess alcohol problems among the students' population (N = 1424) attending school at a given day at three urban High School in Umtata. (Cut off point of 8 was chosen).
Results: 266 (18.6%) of students tested Audit positive of which 63 (4.42%) were females and 203 (14.26%) males (P< 0.01), 10.18% of them were between 15 to 17 years of age. 169 (11.87%) students showed symptoms of dependence. 351 students (24.65%) reported drugs related problems in their families. 225 (15.8%) students admitted using dagga sometime. 69 (4.85%) used mandrax and 64 (4.49%) cocaine. 149 (10.46%) students were victims of physical abuse and 91 (6.39%) of sexual abuse. Sexual or physical abuse was not significantly correlated with alcohol related problems.
Conclusion: Alcohol was the commonest drug abused in the screened group, followed by dagga, mandrax and cocaine. A health education programme and more specific interventions will be designed based on the present research findings.

CHILDHOOD AND ADOLESCENT SEXUAL ABUSE — DEMOGRAPHIC, TRAUMATIC AND CLINICAL SIGNPOSTS

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Background: Childhood sexual abuse (CSA) is experienced by thousands of South African (SA) children each year. Limited and mixed data on risk factors associated with CSA, the effect of CSAon exposure to other trauma and psychiatric effects CSAexists in SA. This warrants further investigation to assist in directing future prevention and intervention strategies.
Methods: Children and adolescents were interviewed, with a responsible adult present if appropriate, at our Youth Stress Clinic following consent. The interview gleaned detailed demographic, sexual abuse (Childhood Physical & Sexual Abuse Questionnaire), lifetime trauma and structured clinical psychopathology (Kiddie-SADS [K-SADS]) data.
Results: Data for 94 subjects (59 female, 35 male; mean age 14.25 [8.25-19] years) exposed to at least one lifetime trauma was analysed. Sexual abuse occurred in 53% of subjects (42.56% females, 10.63% males) predominantly by perpetrators known to them (64%). Extra familial (62.5%) CSAwith a significant female excess (OR 1.853, $X^2 = 13.58$, $p<0.05$), was more likely in single parent families (OR 1.584, $X^2 =6.33$, $p<0.05$) and families receiving disability grants (OR 6.689, $X^2 = 4.65$, $p<0.05$). Logistic regression revealed female gender (p=0.002) and single/divorced/widowed families (p=0.01) as significant predictors of CSA. CSA did not predict exposure to other traumas. Depression ($X^2 = 10.89$, p=0.001) was associated with CSA. Posttraumatic stress disorder (PTSD) was prevalent with trauma in general (63.8%), but not more likely in CSAvictims (70%).
Conclusions: The high rates of PTSD suggest this is a highly traumatised sample, with an alarmingly high prevalence of CSA. The demographic and clinical associations are similar to international studies which can be used to focus future social awareness, prevention and treatment strategies.

INOSITOL IN THE TREATMENT OF OBSESSIVE COMPULSIVE DISORDER

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Background: First line therapies for Obsessive compulsive disorder (OCD) have response rates of only 40-60 %. Exploration of more effective treatments is justified. Inositol, a precursor in the phosphatidylinositol (PI) mediated second messenger systems, regulates numerous functions including serotonin neurotransmission. Inositol has demonstrated efficacy and tolerability in mood and anxiety disorders including OCD in small studies. Preclinical, preliminary clinical data justify further investigation of Inositol as an additional treatment strategy for anxiety disorders.
Objectives: To assess the efficacy and tolerability of Inositol monotherapy in subjects with chronic obsessive compulsive disorder in an open label study.
Methods: Fourteen treatment free adults with DSM IVOCD were included following written consent. Treatment with 18g/day in three divided doses for 12 weeks was administered. Subjects were assessed at two week intervals with the Yale-Brown-Obsessive-Compulsive Scale (YBOCS), Montgomery-Asberg Depression Rating Scale (MADRS), the clinical global impressions scale (CGI), the Sheehan Disability inventory and a clinical assessment of drug tolerability.
Results: Fourteen adults (7 male, 7 female) with a mean age of 32.36 +/- 12.93 years, mean illness duration of 14,64 +/- 12.62 years completed the study. Paired t-tests demonstrated significant differences between baseline and endpoint on the YBOCS (t = 9.25, p< 0.0005), MADRS (t =4.16, p=0.001) and the CGI — severity (t =6.27, p<0.0005). Clinician-rated CGI — improvement rated 78.6% of the sample as at least much improved. Mean improvement in the patient rated SDI was significant (t =3.882, p=0.002). Inositol was generally well tolerated with mild effects predominantly following initiation of therapy and 0% dropouts.
Conclusions: This study provides encouraging evidence that Inositol appears effective and tolerable in the treatment of OCD, but warrants more rigorous investigation.

A REVIEW OF FACTORS ASSOCIATED WITH SUICIDAL BEHAVIOUR IN CHILDREN AND ADOLESCENTS ADMITTED TO TYGERBERG HOSPITAL

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The recent rise in adolescent suicide rates has focused attention on suicide as a leading cause of death among adolescents from ages 15-19 years. In both adult & adolescent populations, life-threatening attempts are more common than fatalities. In identifying factors associated with suicidal behaviour, some important research has been done, but data specific to the South-African context is limited. It was therefore of paramount importance to investigate the factors associated with unsuccessful suicide attempts in a South African adolescent population. A descriptive methodology was employed for this study utilising semi-structured interviews and questionairs. Study variables included demographic parameters, educational level, religious factors, medical conditions, psychiatric and substance-abuse disorders, history of sexual, emotional or physical abuse and exposure to violence. Preliminary results of the study suggest that in contrast to international research outcomes psychiatric disorders & psychopathology are not the main risk factors for adolescent attempted suicide, whilst socio-economic factors and exposure to violence might be important contributing factors. The majority of patients in the group were female, with the average age being 15 years. This is congruent with the gender distribution of other studies, although a younger age peak was found in our sample. Another important observation was that a large majority of the patients had a marked decline in school functioning just prior to the attempt.

PSYCHOLOGICAL AND PHYSICAL OUTCOMES OF ELECTIVE ABORTION: LOCAL ANAESTHESIA VS. INTRAVENOUS SEDATION

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Objective: Despite the high rate of elective abortions, there is still much controversy about the psychological risks associated with this procedure. One such area of concern is the introperative and postoperative effects of pain and awareness on long-term psychological, social and physical well being of women. Those who choose to have elective termination of pregnancy in South Africa currently receive either no anaesthesia, a local anaesthetic or intravenous sedation for pain control during the procedure. Awareness during anaesthesia, especially if it is associated with pain, may

be so traumatic so as to place women at risk of developing PTSD or depression. This study compares physical and psychological outcomes in women who receive no anaesthesia or local anaesthesia, with women who receive sedation for surgical termination of pregnancy.
Methods: Physical pain, anxiety, depression, dissociation, self-esteem, and PTSD symptoms were assessed before and after the procedure on the same day, and 1 and 3 months later. Salivary cortisol was measured using samples collected prior to the termination procedure. Investigators were blind to the method of anaesthesia and to the stage of pregnancy.
Results: Women had mean age of 28.38±7.55 with ethnicity representation of Black, Coloured and White at 25.9%, 40.7%, and 33.3% respectively. Preliminary baseline data showed that 45.8% of women qualified for a self-report PTSD diagnosis while 23.1 % had moderate to severe clinical depression. Differences in clinical outcome between anaesthesia groups will be discussed including follow up data in a larger sample.

MENTAL HEALTH LITERACY OF HUMAN RESOURCE PRACTITIONERS IN SOUTH AFRICA

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Background: A recent World Health Organisation / International Labour Organisation monograph reports a 15 to 30% lifetime prevalence for mental health conditions within the adult working population, and a 20% point prevalence. It is worthwhile to know whether human resource (HR) practitioners can identify possible mental illness and what they believe to be the causes and appropriate treatments of mental illnesses.
Methods: A sample survey design was used to assess a random sample (N = 1200) drawn from the South African Board for Personnel Practice membership list. The self-administrated study questionnaire comprised sets of statements based on a vignette portraying either depression, panic disorder, or alcohol abuse and satisfying DSM-IV criteria. SPSS 10 was used to analyse data, employing descriptive and inferential statistics. A 5% level of significance was accepted.
Results: The majority of respondents were not sure or did not view the behaviour described in the vignette as a mental disorder. Moreover, many could not correctly name the described diagnosis, particularly when presented with panic disorder ($\chi^2 = 110.8$; $p = 0.007$). Most believed stress or work problems caused the described behaviour, while a lack of willpower scored high with the alcohol abuse vignette ($\chi^2 = 98.01$; $p < 0.0001$). Psychotherapy was most often rated as a useful treatment strategy, particularly for the depression vignette ($\chi^2 = 14.67$; $p = 0.005$). Antidepressants were most often rated as not being of much use or as being harmful, although those responding to the depression vignette were slightly more in favour than those presented with the panic disorder or alcohol abuse vignettes ($\chi^2 = 20.17$; $p = 0005$).
Conclusions: HR practitioners are responsible for the wellbeing of workers. However, those surveyed in this study lacked knowledge about the aetiology and appropriate treatments of mental disorders, and could not correctly identify common mental illnesses. HR training institutions should include psychoeducation modules within curricula to equip HR practitioners to effectively manage mental disorders in the workplace.

THE IMPORTANCE OF A SPECIALIZED CLINIC FOR THE CARE OF PATIENTS WITH FIRST EPISODES OF PSYCHOSIS

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Background: A number of studies over the last few years have shown that a) early intervention is of great importance in determining the long-term outcome of psychosis; and b) a large majority of first-episode psychosis sufferers relapse within two years of their initial treatment. Specialized treatment units have therefore been set up in many centres across the world to try and deal with this problem.
Aim: This study describes the establishment and functioning of a First-Episode Psychosis Clinic at the Department of Psychiatry, University of Stellenbosch and Stikland Hospital, Cape Town, South Africa and its effect on relapse rates for this group of patients.
Results: More than 100 patients have been seen at the First-Episode Psychosis Clinic at Stikland Hospital. Relapse rates for patients followed up at the clinic were considerably lower than expected.
Discussion: A specialized clinic for the care of patients with First-Episode Psychosis is an effective way of preventing relapse and rehospitalization.

SELF-REPORT VS URINARY DRUG SCREENING IN SCHIZOPHRENIA: A PILOT STUDY

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The high rates of comorbid substance use disorders amongst persons living with severe and persistent mental illness have led to increased interest in the development of effective measures to assist in changing substance use patterns in this population. A number of studies evaluating the reliability and validity of the use of self-report of substance use compared to relying on urinary/blood/other drug screens have been conducted. However, results have been inconsistent with Nyamathi et al finding a fairly accurate comparison between self-report cocaine use and hair assay in homeless women, whereas Buchan et al reported that two thirds of adolescent frequent cannabis users denying recent use failed urine screening. With recent literature suggesting that the increasingly prevalent problem of substance abuse may have important implications for the symptoms and course of schizophrenia it has become imperative that comorbid substance use in this population be accurately assessed. In this pilot study we report on the reliability of self-report vs urinary drug screening for common drugs of abuse in a group of 50 Xhosa schizophrenia sufferers.

THE EFFECT OF AGGRESSION ON THE USE OF PSYCHOTROPICS IN SCHIZOPHRENIA: A NATURALISTIC STUDY

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Background: Although violence occurs only in a minority of psychiatric patients, its mangement has always been a critical issue as it negatively affects the morale of patients and staff and interferes with clinical recovery. Some studies have indicated that schizophrenia patients are more involved in violent incidents as inpatients than other diagnostic categories. Despite the importance of violence in the acute management of mental illness, this area has received little attention in clinical trials. In this study a group of violent and non-violent patients with schizophrenia were compared in terms of pharmacological management.
Method: 70 consecutively admitted male patients with a diagnosis of schizophrenia were divided into a violent and non-violent group based on history/clinical presentation at baseline. The type and amount of medication given to the two groups during the first 3 days of admission were compared to the total score on the Nurse's Observation Scale for Inpatient Evaluation (NOSIE) and the data statistically analyzed.
Results: The violent subgroup received significantly more benzodiazepines, but not antipsychotics, during the first three days of treatment. However, the use of benzodiazepines did not correlate with the total score on the NOSIE.
Conclusion: This study suggests that the behaviour measured by the NOSIE does not reflect the reason for increased use of prn benzodiasepines in the violent group indicating the need for the development of a more appropriate assessement tool.

FACTOR ANALYSIS OF OBSESSIVE-COMPULSIVE SPECTRUM DISORDERS IN PATIENTS WITH OBSESSIVE-COMPULSIVE DISORDER:
CLINICAL AND GENETIC CORRELATES

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Background: Comorbidity of certain obsessive-compulsive spectrum disorders (OCSD's) (such as Tourette's disorder) in obsessive-compulsive disorder (OCD) may serve to define important patient sub-groups, characterized by specific symptoms and neurobiology. Comorbidity of the putative OCD spectrum disorders in OCD has, however, not often been investigated systematically.

Methods: The Structured Clinical Interview for Axis I Disorders (SCID-I) as well as a Structured Clinical Interview for putative OCSD's (SCID-OCSD) were administered to 210 OCD patients (n=210: 102 male; 108 female), with ages ranging between 18 and 75 years (mean age: 35.7 (13.3). A subset of Caucasian subjects (OCD: n=171; controls: n=168), including subjects from the genetically homogeneous Afrikaner population (OCD: n=77; controls: n=144), was genotyped for polymorphisms in genes involved in monoamine function. A principal- components factor analysis with a varimax rotation using the items of SCID-OCSD was conducted. Identified factors were correlated with obsessive-compulsive symptom dimensions as well as other clinical variables (including age of onset, gender, symptom severity, level of insight into the senselessness or excessiveness of symptoms, temperament/character), treatment response and selected candidate genes in the serotonergic and dopaminergic pathways in the development of OCD, to determine whether the factor analytically derived categories represent patient sub-groups in OCD.
Results: Using factor loadings >0.50, factor analysis revealed four factors accounting for 61.8% of the variance. These factors were subsequently named 1.) "dopaminergic", 2.) "impulsive / serotoninergic", 3.) "stereotypic", and 4.) somatic, excluding eating disorders. A number of clinical variables showed significant associations with all of these identified factors respectively. In the Caucasian, and the Afrikaner subset of participants, investigation of genetic polymorphisms involved in monoamine function revealed no significant differences between a.) OCD patients with low and those patients with high factor loadings on each factor respectively, and b.) between OCD patients with high factor loadings and controls.
Conclusion: Our findings contribute to the relatively limited literature on defining important patient sub-groups in OCD, and may have important implications for future research.

EXPERIENCES IN OBSESSIVE-COMPULSIVE DISORDER AND TRICHOTILLOMANIA: ROLE OF CHILDHOOD TRAUMA

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Objectives: A link between dissociation proneness in adulthood and self-reports of childhood traumatic events has been documented. Several studies have also provided evidence for an association between dissociative experiences and trauma in patients with various psychiatric disorders. Based on the relative paucity of data on dissociation and trauma in obsessive-compulsive disorder (OCD) and trichotillomania (TTM), the objective of this study was to examine the relationship between trauma and dissociative experiences (DE) in these two diagnostic groups.
Method: 110 OCD and 32 TTM patients were compared with respect to the degree of dissociation (using the Dissociative Experiences Scale (DES)) and childhood trauma (using the Childhood Trauma Questionnaire (CTQ)). Patients were classified as either 'high' (mean DES score >=30) or 'low' (mean DES score <30) dissociators. Relevant clinical factors were also explored with chi square and t-tests as appropriate.
Results: 15.9% of OCD patients and 18.8% of TTM patients were high dissociators. OCD and TTM groups were comparable on DES and Childhood Trauma Questionnaire total scores, and in both OCD and TTM groups, significant positive correlations were found between mean DES scores and CTQ sub-scores of emotional abuse, physical abuse, sexual abuse and physical neglect. In the OCD group, significantly more high dissociators than low dissociators reported a lifetime (current and past) history of tics (p<.001), Tourette's syndrome (p=.019), bulimia nervosa (p=.003) and borderline personality disorder (p=.027), whereas in the TTM group, significantly more high dissociators than low dissociators reported (lifetime) kleptomania (p=.005) and depersonalisation disorder (p=.005). Conclusion: This study demonstrates a link between childhood trauma and DE in patients with OCD and TTM. High dissociative symptomatology may be present in a substantial proportion of patients diagnosed with these disorders. Further work is needed to clarify the pathogenesis of dissociation in these disorders.

DELUSIONAL SYSTEMS IN XHOSA SCHIZOPHRENIA SIBPAIRS

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Background: Culture is widely thought to influence the phenomenology of psychiatric disorders, with significant differences demonstrated in the contents of schizophrenic delusions across various cultures. The aim of this study is to investigate the prevalence and concordance of delusional systems encountered in a sample of Xhosa schizophrenia sib pairs.
Methods: A group of 80 (n= 80) adult schizophrenia sib pairs, aged between 20 and 64 years (mean = 44, SD = 1.42), were recruited from in-patient and out-patient hospital services and community clinics throughout the Western and Eastern Cape Provinces, South Africa. All participants were of Xhosa ethnicity, and the group consisted of 63 males and 17 females. The Diagnostic Interview for Genetic Studies (DIGS) was administered to all subjects, and a diagnosis of schizophrenia was made according to DSM-IV (Diagnostic and Statistical Manual of Mental Disorders, fourth edition) criteria. Patients were in various stages of the illness and treatment. Delusions specified included persecution, sin, grandiosity, religion, reference, control, mind reading, thought broadcasting, thought insertion, thought withdrawal, nihilism, jealousy, erotomania, bizarre and somatic delusions. Delusions were rated as either present or absent, based on lifetime prevalence.
Results: Persecutory delusions were encountered most frequently (88.75%) in this sample, followed by grandiose delusions (61.25%), delusions of reference (57.5%), religious delusions (48.75%), mind reading (42.5%), thought broadcasting (38.75%), somatic delusions (38.75%), bizarre delusions (36.25%), delusions of control (30%), delusions of sin (25%), nihilistic delusions (20%), thought withdrawal (18.75%) and thought insertion (16.25%). Delusions involving jealousy (7.5%) and erotomania (6.25%) were the least commonly reported in this group.
Conclusions: Although the core features of schizophrenia remain the same across many cultures, the content of delusional systems may be influenced by culture. Data from this sample will be presented, examining the prevalence and concordance of various delusions encountered in a sample of Xhosa schizophrenia sib pairs.

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OCD HETEOGENEITY REFLECTED BY LACK OF GENEALOGICALLY DETERMINED FOUNDER EFFECT

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Background: Association studies are used to investigate the genetic underpinnings of obsessive-compulsive disorder (OCD). However, association studies may be complicated by population stratification or "subpopulations" within the Afrikaner population of South Africa. This study used family pedigree data as an additional method to explore "subpopulations" within the Afrikaner OCD sample.
Method: Ninety OCD patients completed a pedigree information sheet. The completed pedigrees (without diagnostic or clinical detail of the proband) were forwarded to the Genealogical Institute of South Africa. A comprehensive pedigree was then compiled from this data (if sufficient information was provided by the patient) together with information extracted from the PEGIS Afrikaner dataset and other sources. Shared ancestors (founders) were identified in patients.
Results: Preliminary analysis of the first 19 pedigrees identified 464 shared ancestors (founders only) between 8 to 12 generations back.
Conclusion: Lack of genealogically determined founder effect was demonstrated for our Afrikaner OCD sample, possibly reflecting the heterogeneity of OCD. This finding offers support for population structure analysis.

THE EFFICACY AND TOLERABILITY OF LOW-DOSE VS STANDARD DOSE HALOPERIDOL IN FIRST EPISODE PSYCHOSIS. A RANDOMISED, DOUBLE-BLIND STUDY

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Background: Provisional evidence exists for the efficacy of low dose haloperidol in the treatment of psychosis. However, the evidence is limited and conflicting. The aim of this study was to determine the efficacy of ultra-low dose haloperidol versus standard dose haloperidol in the treatment of first-episode psychosis.
Method: 40 subjects with first-episode psychosis were randomised to 6 week, double-blind treatment with either 2mg or 8mg haloperidol per day. Clinical symptoms and side effects were assessed on a regular basis by

means of standardized rating instruments.
Results: The two groups were similar at baseline. 11 subjects (27.5%) did not complete the full six weeks of the study. The majority of these were from the 8mg group. There were no significant differences in outcome as measured on the percentage change in PANSS Total Score, Positive Subscale Score or CGI. There was a significant difference in improvement on the PANSS Negative Subscale at 2 weeks. Side effect ratings showed significant advantages for the 2mg group in terms of EPS, particularly parkinsonism. This was also reflected in much greater use of anticholinergic medications in the 8mg group.
Discussion: Low-dose haloperidol is at least as effective as, and better tolerated than, "standard"doses in the treatment of first-episode psychosis over 6 weeks.

TREATMENT WITH LOW-DOSE HALOPERIDOL DOES NOT PROTECT AGAINST TARDIVE DYSKINESIA

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Background: It is widely accepted that exposure to antipsychotic medication is important in the pathogenesis of tardive dyskinesia (TD), and there are indications that the risk is increased with greater antipsychotic exposure.
Methods: Fifty-seven patients with a first-episode of psychosis who were treated according to a fixed protocol of very low doses of haloperidol were prospectively studied over 12 months. Patients were regularly evaluated for psychopathology and extrapyramidal symptoms. The incidence of TD was determined, and various risk-factors for TD were investigated.
Results: The 12-month incidence of probable and persistent TD was 12.3%. TD patients received higher mean doses of haloperidol at 12 months (2.8±1.64 mg/day vs. 1.39±0.69 mg/day), (t = -3.13; df = 25; p = 0.004) and were older (37.14±9.23 years vs. 27.30±8.09 years (t= -2.77; df = 30; p = 0.01). Cox regression analysis found that age at inclusion, percentage change in negative symptoms and dose of medication at 12 months were significant predictors of risk.
Conclusions: Low-dose treatment with haloperidol does not reduce the risk of TD development. Worsening of negative symptoms, depressive symptoms and parkinsonism accompanies the onset of TD.

DO HEALTHCARE FUNDERS DISCRIMINATE AGAINST MEMBERS ON THE GROUNDS OF MENTAL ILLNESS?

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Background: Depression and Ischaemic Heart Disease(IHD) are both chronic in nature and the fourth and sixth leading causes, respectively, of burden in our population according to the Global Burden of Disease Study of 2000.
Objective: To compare the benefits provided by medical aids for these two illnesses.
Methods: Descriptive study; benefits from 58 open- and closed schemes obtained from their websites.
Preliminary Results: Only 11% of schemes had coverage for inpatient psychiatric treatment that was equal to that of IHD. 54% had equal coverage for outpatient treatment. 92% had equal coverage for chronic medication.
Conclusions: Distinct differences noted on hospital limitations for psychiatric patients. More than 50% of psychiatric patients had equal coverage for outpatient treatment. Coverage for chronic medication benefits needs further, more detailed, investigation.

TREATMENT STRATEGIES IN PATIENTS WITH CLOZAPINE-RESISTANT SCHIZOPHRENIA AT STIKLAND HOSPITAL: A CRITICAL EVALUATION OF ONE OPTION

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Introduction: Over the longitudinal course of their illness 30-40% of Schizophrenia sufferers can be regarded as treatment resistant. Of these only 50% respond to Clozapine. For the remainder many different treatment options have been attempted with little more than anecdotal success. Recently Matthiasson reported significant improvement in both positive and negative symptoms by using Amisulperide as an add-on treatment in a group of Clozapine-resistant schizophrenics.
Method: Over a period of two months all Clozapine-resistant patients at Stikland Hospital who received Amisulperide add-on as a part of their natural clinical management were included in the study population. They were evaluated with a PANSS and AIMS at baseline, 8 weeks and 16 weeks.
Results: 20 Patients could be included. Preliminary data at 8 weeks indicates that although only 12% of the group showed a decrease of 20% or more on their total PANSS scores, a subgroup of patients (37.5%) had a 25% or more improvement on the negative symptoms subscale of the PANSS. Final data for the first 16 weeks of treatment will be presented.

EARLY COADMINISTRATION OF CLONAZEPAM WITH PAROXETINE FOR GENERALIZED SOCIAL ANXIETY DISORDER

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Background: Generalized social anxiety disorder (GSAD) is a pervasive form of social anxiety that affects approximately 5% of persons in the community. Among evidence-based pharmacological treatments for the disorder, selective serotonin reuptake inhibitors (SSRIs) have become widely used and are known to be efficacious. Although benzodiazepines have been less well studied, a single randomised controlled trial of clonazepam monotherapy1 demonstrated clear-cut efficacy compared with placebo. The purpose of the present study was to determine if early co-administration of clonazepam with paroxetine (vs. placebo with paroxetine) would enhance short-term outcomes in patients with GSAD.
Methods: 28 patients (22 men and 6 women) with generalized social anxiety disorder (GSAD) were included in the study; 23 (82%) met DSM-IVcriteria for Avoidant Personality Disorder. Mean age was 31.2 years (SD=7.7) with a mean duration of illness of 12.1 years (SD=5.8). Patients were randomized to receive double-blind clonazepam 0.5-0-1.0mg b.i.d./day (or placebo) along with open-label paroxetine 20-40mg/day for 10 weeks. A 2-week taper of double-blind medication was followed by an additional 8 weeks of open-label paroxetine treatment (during which the dose of paroxetine could be increased to a maximum of 50mg/day).
Results: 19 (68%) of 28 patients completed treatment. No significant differences in outcome were noted between the two groups in an intent-to-treat analysis, either in terms of very early (2-4 weeks) or not so early (5-10 weeks) responses during treatment. Drop-out rates were similar in the paroxetine/clonazepam group vs. the paroxetine/placebo group (29% vs.36%, p=.5), and paroxetine/ clonazepam was well tolerated.
Conclusions: These findings are in contrast to those in panic disorder, where early co-administration of clonazepam with an SSRI has been shown to be efficacious in moderate-to-severely ill patients2. Despite the limitations of this study (small sample size, low dose of clonazepam), these data argue against routine early co-administration of clonazepam with an SSRI for moderate to severe GSAD. Nevertheless, the role of benzodiazepines in other instances (e.g. for augmenting SSRI partial- or non- response) is deserving of further investigation.

TRAUMA EXPOSURE AND POSTTRAUMATIC STRESS SYMPTOMS IN ADOLESCENTS: A SCHOOLS' SURVEY IN CAPE TOWN (SOUTH AFRICA) AND NAIROBI (KENYA)

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Objective: To compare the prevalence of trauma exposure and posttraumatic stress symptoms and to examine gender differences in a community sample of adolescents from two African cities.
Methods: 2041 adolescent boys and girls from 18 public and private schools in Cape Town (South Africa) and Nairobi (Kenya) completed anonymous self-report questionnaires related to violence exposure, current posttraumatic stress symptoms and depression.
Results: More than 80% of respondents reported exposure to severe trauma either as victims or witnesses. Kenyan respondents had significantly higher rates of exposure to witnessing violence, serious accidents, physical assault by a family member, and sexual assault, compared with South African (S.A.) respondents. Kenyan boys were more likely than Kenyan girls to have witnessed violence, to have been robbed, to have been sexually assaulted, or to have been physically attacked by a non-family member. No gender differences in trauma exposure were apparent among S.A respondents. However, S.A. respondents had higher rates of full PTSD (22.2%

vs.4.7%, p <.0001) and partial PTSD (11.9% vs. 8.2%, p < .009), using DSM-IVsymptom criteria.

THE QTC EFFECTS OF THIORIDAZINE WHEN USED AS A SECOND LINE ANTIPSYCHOTIC (AT STIKLAND HOSPITAL)

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Background: Antipsychotic medications, especially thioridazine, are known to be cardiotoxic .The implicated drugs prolong the QTc interval and is associated with ventricular arrhythmias, including torsades de pointes and ventricular fibrillation. The purpose of this study was to establish if thioridazine causes clinically significant QTc interval changes, at the dosages used at our institution.
Methods: Electrocardiograms were recorded on thirty psychotic patients before initiating thioridazine, one week thereafter and forty-eight hours after each dosage adjustment.
Results: One patient (3%) had a QTc interval above 500 milliseconds.However in another patient, thioridazine was also discontinued, because of a borderline QTc interval of 500 milliseconds. None of these patients had clinical symptoms related to QTc interval prolongation.
Conclusion: This study confirms that significant QTc interval prolongation may be a problem at normal therapeutic dosages of thioridazine .The QTc interval prolongation was asymptomatic in all our patients. We suggest pretreatment and follow-up ECG and adherence to the FDAstipulations.

BRAIN IMAGING AND SUBSTANCE RELATED DISORDERS

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Significant advances in brain imaging techniques have provided new insights into the cognitive neuropsychiatry of a range of disorders. In this paper we review recent work on the functional and molecular imaging of substance related disorders, focusing in particular on studies of reward processing and the dopamine system. Studies have suggested that dopaminergic circuits involving nucleus accumbens, striatum, and prefrontal areas play a key role in reward processing. The dopamine D2 receptor may be particularly important, a finding that is supported by a range of genetic studies of DRD2 polymorphisms in substance use disorders. Other circuits, including serotonergic circuits governing impulsivity may also mediate susceptibility to and maintenance of substance related disorders. Ultimately, such work may suggest novel approaches to the management of these conditions.

GENDER DIFFERENCES IN TRAUMA EXPOSURE & POSTTRAUMATIC STRESS DISORDER IN A CLINIC SAMPLE

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Background: Although lacking the extensive epidemiological data of adult studies, gender differences in trauma exposure and posttraumatic stress disorder have been observed in several studies of children and adolescents. Most studies suggest that boys are more likely to experience trauma, but girls are more likely to develop symptoms of PTSD and other disorders.
Objectives: To examine gender differences in traumatic event exposure, PTSD symptoms/functional impairment, and other psychopathology in a clinic sample. **Methods:** 105 children/adolescents (40 male, 65 female) with exposure to violent trauma/s (mean age=14,2 years; SD=2.8) were included. A demographic questionnaire and the Schedule for Affective Disorders and Schizophrenia for School-Aged Children (K-SADS-PL) were administered.
Results: The majority of youth were in high school (57%) and were non-white (91%). Girls (mean age: 14.8 years; SD=2.7) were significantly older than boys (mean age: 13.1 years; SD=2.6) (p=0.01). While there were no differences in the number of traumatic exposures, girls were more likely to have been victims of sexual abuse (p=0.000), while boys were more likely to have been in a car accident (p=0.008). Girls endorsed more PTSD symptoms in all symptom clusters [(re-experiencing (p=0.022), avoidance (p=0.001), hyperarousal (p=0.000)]. Girls were also more likely to meet diagnostic criteria for major depression (p=0.006).
Conclusions: Although boys and girls may have equivalent rates of trauma exposure, girls are at greater risk for PTSD and depression in the aftermath of trauma.

ASSESSING THE PREVALENCE OF ANXIETY AND DEPRESSIVE SYMPTOMS AMONG CLINICIANS AT TYGERBERG ACADEMIC HOSPITAL AND CONTROLS.

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Background: In first world countries, several studies have been conducted on the topic of job stress, working conditions, burnout and depression, substance abuse, use of health services and suicidality among various subgroups of physicians. There is mounting evidence of increasing incidence of mental health problems among doctors, yet the situation and its consequences are still being underestimated. A recent study (Raviola, 2002, Cult Med Psychiatry, 26 (91):55-86) on HIV, Disease plague, demoralization and burnout in the medical profession in Kenya reports on sources of stress, emotional numbing an disengagement from patients and peers and symptoms of PTSD and depression. It is likely that similar stressors play a role in the lives of local doctors yet there seems to be no published data on similar work performed in South Africa.
Objective: To compare the prevalence of anxiety and depressive symptoms among various subgroups of clinicians in Tygerberg Hospital and compare it to a valid control group.
Methods: Questionnaires will be completed by the clinician and control group. It will comprise of demographic data, a research scale measuring anxiety and depressive symptoms, questions on substance use, healthcare and self-prescribing habits with regard to psycho-active substances.
Results: Preliminary results from all questionnaires will be presented and discussed.

PHARMACOLOGICAL CHALLENGE WITH A SEROTONIN 1D AGONIST IN ALCOHOL DEPENDENCE

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Background: Both animal and clinical studies have implicated serotonergic dysfunction in the pathogenesis of alcohol abuse and dependence. However the exact mechanisms involved remain unknown. Theoretically, low serotonin promotes alcohol seeking behavior. Sumatriptan is a serotonin1D agonist. It is postulated that sumatriptan's agonism at this terminal autoreceptor increases negative feedback, creating a net effect of decreased serotonergic neurotransmission. Administration of sumatriptan should therefore produce a craving for alcohol and the desire to drink.
Methods: Fifteen patients with alcohol dependence who had undergone detoxification were recruited. Sumatriptan (100mg) and placebo was administered in cross-over fashion on 2 separate days 72 hours apart. Both patients and raters were blind to all treatments. Patients were assessed on the following scales at -30, 0 30, 90, 150 and 210 minutes: 1. A 6-item scale designed to rate the patient's intention to drink 2. The Sensation Scale 3. A 13-item affect analog scale designed to rate the pattern and extent of emotional changes 4. An 8-item scale designed to rate the patient's craving for alcohol
Results: No significant differences were found between the placebo and sumatriptan groups and no significant cross over effects were found.
Conclusion: The general lack of efficacy of sumatriptan in producing alcohol-like symptoms or a desire to drink alcohol may suggest that the 5HT1D receptor plays little role in the pathophysiology of alcoholism.

THE TREATMENT OF ADHD IN ADULTS

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ADHD is a highly prevalent,but underdiagnosed disorder amongst adults, who therefore utilise medical services at a high rate.This highly heritable neurobiological disorder can be treated effectively by means of pharmacological and non-pharmacological interventions. This poster presentation will highlight the therapeutic interventions that are comprised of four treatment modalities: Pharmacotherapy, psychotherapy, psycho-education and