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# **Addictive Disorders and Alcoholism**

July 03-04, 2017 Kuala Lumpur, Malaysia

## **Accepted Abstracts**



7<sup>th</sup> International Conference on

# ADDICTIVE DISORDERS AND ALCOHOLISM

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## Relationship between heroin dependency and the desire levels of the heroin users

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The heroin dependency develop with the perceptions persuade by the drug user through past experiences. The drug users, peers, people in the community and even some service providers develop associations with heroin. Most of the associations connect with primary human motives as well as secondary and social motives of the human beings. The drug users internalize the associations into their unconscious minds and project perceptions towards drug use. The perceptions create high level of desire to consume a particular drug and develop psychological dependency. There is no absolute truth in those perceptions but the drug dependents believe that there is a real relationship between the drug and the associate factor. The working sample of 120 selected from the heroin dependents were admitted for the residential at the Galle treatment and rehabilitation centre. The control group of 20 clients has been selected from another treatment and rehabilitation centre situated in Kandy. The very first day after the admissions, the desire levels of the heroin dependents have been measured using appropriate indicators. During the period of the residential treatment programme, the counselors extensively used individual and group counseling sessions as well as group discussions to change the perceptions, illogical thinking patterns and myths of the heroin users. The past experience re-examine technique was vastly used to re-examine the past experiences of the heroin use of the clients. For the control group we did not do any therapeutic interventions to influence their perceptions, illogical thinking patterns and beliefs of myths. After completion of the treatment programme, using the same set of indicators the desire levels of the both groups were measured. After analyzing the data, I found that the desire levels of the working group had been reduced immensely and the clients who belong to the control group has not projected much reduction in their desire levels. Regular monthly follow-up programmes were conducted for both groups for one year and at the end of the year I found that those who have reduced the desire levels were living longer periods without consuming heroin and those who have not reduced the desire levels relapsed within few months. The clients who belong to the control group were unable to reduce their desire levels, relapsed immediately after releasing from the treatment centre. Finally I found strong evidence to prove the hypothesis, that there is a positive relationship between desire levels and heroin dependency. The replications of similar programmes are widely open for further research.

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## Oral and sustained release naltrexone: Improving clinical outcomes for management of problem alcohol use

**Gary Hulse**

University of Western Australia, Australia

Three oral pharmacotherapies (acamprosate, disulfiram, and naltrexone) are commonly used for the management of alcohol abuse or dependence. Naltrexone is an opioid antagonist which primarily, but not exclusively, targets the  $\mu$ -opioid receptor. Naltrexone likely exerts its actions by blockade of the high concentration of  $\mu$ -opioid receptors located in areas of the brain that have been implicated in the reward pathway associated with alcohol. Despite being a relatively effective and safe treatment, the clinical management of alcohol abuse/dependence by oral naltrexone can be compromised due to the patient's noncompliance with daily use of this medication. Over the past decade an increasing body of research has suggested that the use of sustained release depot naltrexone preparations can overcome this issue and deliver improved clinical outcomes. However, at the same time, research findings from diverse areas of pharmacogenetics, neurobiology and behavioural psychology have also been converging to identify variables including genetic markers, patient psychosocial characteristics and drug use history differences that play a major role in mediating the response of alcohol abuse/dependent persons to treatment by naltrexone. The establishment of clinical procedures to maximize use of oral formula, and characterization of clinical markers to identify those patients who are most likely to benefit from naltrexone will ultimately provide significant benefit to both patients and clinicians by optimizing treatment outcome.

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## Improving clinical outcomes for management of heroin and alcohol dependence using sustained release naltrexone

**Gary Hulse**

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Oral naltrexone has been used effectively to manage problem opiate and alcohol use but patient noncompliance limits its utility. Over the past decade an increasing body of research has suggested that the use of sustained release depot naltrexone preparations can overcome this issue and deliver improved clinical outcomes. These preparations commonly involve the use of naltrexone polymer/co-polymer base formulations administered subcutaneously or intramuscularly and depending on the formulation and mode of administration can deliver levels of blood naltrexone between 30 to 180 days. At the same time, research findings from pharmacogenetics has also converged to identify variables including genetic markers and drug use history differences that play a major role in mediating the response to treatment by naltrexone. The establishment of clinical procedures to maximize use of oral and sustained release formulations, and characterization of clinical markers to identify those patients who are most likely to benefit from naltrexone will ultimately provide significant benefit to both patients and clinicians by optimizing treatment outcome.

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## The role of inflammatory cytokines in stress responses: Implications of new target for antidepressant development

**Insop Shim**

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The immune system and the central nervous system (CNS) form a bi-directional communication network through cytokines which act as signaling molecules of the immune system as well as producing neuroendocrine, neuroimmune, and behavioral changes in response to a variety of stress stimuli. It has been known that activation of the central innate immune system or exposure to stress can disrupt balance of anti-/proinflammatory cytokines. However the mechanism by which these cytokines regulate the hypothalamic-pituitary-adrenal (HPA) axis is still unclear. To understand the role of cytokines on stress-induced neuroinflammation, we investigated the role of pro- and anti-inflammatory cytokines in the modulation of depressive-like behaviors, the hormonal and neurotransmitter systems in rats. Single exposure of stress resulted in an increase of corticotrophin-releasing factor expression in the paraventricular nucleus of the hypothalamus, adrenocorticotropin hormone and the final hormone of HPA-axis, corticosterone levels in the serum. Peripheral and central productions of pro-inflammatory cytokines, IL-1 $\beta$  and IL 6 were significantly increased during stress, whereas anti-inflammatory cytokine, IL-4 was reduced after stress stimulation. Based on these animal models, we have screened and evaluated anti-stress and anti-depressant effect of several herbal formula such as soyo-san, a traditional medicinal formula, a mixture of 9 crude drugs including *Paeoliae Radix Alba*, *Atractylodis macrocephalae rhizoma*, *Angelicae gigantis radix*, *Poria*, *Liriopsis tuber*, *Bupleuri radix*, *Menthae herba*, *Glycyrrhizae radix*, *Zingiberi rhizoma recens* which have been clinically used for treating mild depressive disorders. Soyo-san inhibited stress-induced inflammatory responses, IL-1 $\beta$  production in the brain as well as effectively reduced behavioral and patho-physiological depression-like responses. These data suggest that stress may potentate inflammation through interaction of cytokines with activation of the HPA axis and stress-related disorders may be influenced by imbalance of pro and anti-inflammatory cytokines. In addition, the immunerestorative compounds such as soyo-san may be useful as powerful therapeutic candidate for treatment of stress-related diseases such as depression.

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## Substance abuse as an exacerbation of the underlying conditions of Asperger's syndrome (HFA)

**Laura Silva Abello**

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**Statement of the Problem:** Asperger's syndrome is a developmental disorder known as part of the Highly Functional Autism (HFA) spectrum, affecting approximately 0.5% of the population. Because of their functional nature and average or higher than average intelligence combined with their lack of social skills, these individuals report high levels of physiological stress in everyday activities and regular interactions that intervene negatively not only on their mental health but exacerbating their limitations. Coping mechanisms of their underlying condition and its extensive implications have been a preoccupying issue to the scholars due to their obsessive traits and repetitive behaviors. The objective of this study was to assess substance abuse in individuals in the Highly Functional Autism spectrum, specially individuals with an Asperger's Syndrome diagnosis. A secondary objective was to compare the risk of substance abuse in Asperger's individuals with control subjects with no diagnosis within the Autism Spectrum, taking into consideration individual personality traits.

**Orientation:** In an extensive meta-analysis of recent literature, 15+ articles concerning substance abuse and/or Asperger's Syndrome were reviewed and analyzed in addition to work field done at the Psychiatric Ward of the Hospital Universitario San Ignacio, Bogotá Colombia.

**Findings:** This study showed that; adults diagnosed with Asperger's syndrome have a higher risk of substance abuse compared to the normal population due to the preexisting traits of their autistic condition. Their lack of social skills, motor clumsiness, anticipated nervousness, anxiety, among others, cause these individuals to be more susceptible to not only search for external aid to cope with their mental difficulties, but they are more likely to develop addictive disorders due to their obsessive and compulsive traits.

**Conclusion & Significance:** Asperger's individuals seek an external social aid in the mental disinhibition that substance consumption generates, in order to compensate their lack of social skills. Due to their higher obsessive traits and repetitive behavior, Asperger's individuals are prone to develop an addictive disorder when substance consumption. This has a high negative implication on their underlying condition, exacerbating their mental, psychological and social limitations.

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## Capturing the moment: Single session therapy for gambling disorder

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The aim of the above workshop is to help create a better understanding of Single Session Therapy (SST), a type of brief intervention that has been used widely to work with a range of different psychological disorders. In the realm of addictions (especially for people struggling with a gambling disorder) where the default rate of help-seekers is known to be high, SST has a special role in assessing motivation, planting seeds of change and getting help-seekers to think about utilizing resources available for them. It is also about “seizing the moment” where therapists work with the understanding that the very first contact with the help-seeker could very well be the one and only contact they would have. In this workshop, we would attempt to give participants a brief overview by looking at the efficacy of brief interventions for gambling disorder and going through the key components of SST (which includes brief advice & assessment, paradoxical interventions, motivational enhancement therapy, solution focused brief therapy, cognitive behavioural approaches, narrative therapy and the use of metaphors and analogies). We would also attempt to give participants a sense of what goes on in a typical SST session (which includes the types of questions to ask to gather important information, ways to make these questions therapeutic in the process of gathering information, linking the information gathered to interventions and suggestions and making a closure). These mentioned sub-components of the workshop will be further enhanced by the use of video clips and real life clinical examples encountered in the process of administering SST.

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## Alcoholism and crepuscular state. medical legal potential of dysbehavioural changes

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**Research subject choice reasoning:** The present case brings into discussion the alcohol pathology, occurred over a paranoid type personality structure, in which jealousy dimension is major.

**Objectives:** The patient reaches the guard room of psychiatry hospital for death threats addressed to his own children, including ritualic scenes for anticipation scenes, all these being carried out on the changed background of consciousness (the development of a crepuscular state with the preservation of motor automatisms and relative post-critical amnesia).

**Hypothesis:** Patient's speech suggests in après coupe a crepuscular state with the narrowing of consciousness field and preservation of motor automatisms, potentiated by the increased alcohol consumption at the respective moment. The same idea is supported by the partial post-critical amnesia and by patient's inability to order chronologically the events of that period. At the same time, at the assessment moment, he dissimulates the seriousness of acts and has confabulatory explicative constructions.

**Materials and methods:** EEG, MRI, psychological assessment (psychometric examination - clinical scales: Hamilton anxiety scales and Hamilton depression scale), projective examination - Lusher color test and Szondi test - destiny analysis), clinical interview, observation, psychiatric treatment.

**Results:** The patient is slightly inner-tensioned, with attitude of embarrassment and willing to get out of this situation, confused by the acts committed and by their consequences, trying to have a "picture" attitude, offering expected answers and potentially valid counter-arguments for each sequence of behavioral acts. He offers tangential information related to the acts committed.

**Conclusions:** A difficult recalling is acknowledged, entangling the chronology of events committed, thing suggesting the possibility of a crepuscular state, potentiated by the alcohol consumption at the critical moment of the action, when he threatened his children with death.

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## Effects of water treatment on repeating drug use and job performance among employees: A business case study

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**Statement of the Problem:** The drug use presents many problems for the users. Majority of the drug users are employed during or at least in the initial stages of their addiction. The drug use among employees presents many problems for the business owners including lower efficiency and job performance, trust between employee and employers, and decreasing chance of promotion. Many employers seek to eliminate or replace the employees those have drug use. This is done to ensure higher job performance. However, the employers have spent money and time to train these employees and eliminating them may not be in the best interest of the companies. The Sinaloa Foundation which is active in pharmaceutical industry, have very strict rules on drug use among its employees. Any employee with drug use problem will face termination. However, it might be beneficial for the employers to invest in rehabilitation of such employees. In this paper, we present the results of using aquatic treatment on the employees with substance dependency in recurrent drug use and job performance. The case study was carried out with instruction of Center of Enhanced Treatments (CET) using 35 participants of Sinaloa Foundation. The treatment included aquatic inhalation relatedly, i.e. 5 times, for a short period of time, i.e. up to 10 min, depending on the substance dependency of the participants. The number of days that the participants stayed drug free and their job performance was recorded after two weeks from the treatment. The results are presented in Figure 1. The results suggest that the longer the treatment the more the participants stay away from drug use. However, this relationship plateaus after 3 minutes. On the other hand, the job performance of the participants peaks with treatments around 2 minutes. Effectively, the job performance of the participants with longer than 4-minute treatment is negligible. These preliminary results seem to suggest that the optimum duration for the treatment is around 2-3 minutes. In the future work, we will study the overall effects of the treatment of the health being of the participants and the financial gain of the company from implementing treatment approach instead of elimination approach.

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## Association of GRIN2A gene polymorphisms of Glutamate pathway with heroin dependence in Indian Population: A preliminary study

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Heroin dependence (HD) is a complex disorder leading to disruptions in particular circuits of the brain, influenced by both environmental and genetic factors. Heroin interacts with the different brain neurotransmitters affecting the normal functions including learning, memory, cognition etc. The presence of polymorphisms in the glutamate pathway has been reported to increase the risk of addiction. Aim: To identify an association of GRIN2A gene polymorphisms of glutamate pathway with HD and correlate with clinical parameters. Method: The study was in accordance with the declaration of Helsinki and approved by the Institute ethics committee. A total of 103 HD patients were recruited as per DSM-IVR criteria from the NDDTC, AIIMS. 100 healthy volunteers from the general population formed the control group. Genomic DNA from peripheral blood samples was processed for PCR followed by restriction digestion to screen for presence of polymorphisms i.e. rs11866328, rs1071502, rs1375067, rs1530669, rs12325652, rs16966381, rs1104068, rs16966448, rs9927871 and rs1366076 of GRIN2A gene of glutamate pathway. Genotype frequency and the difference between patient and control were assessed by chi-square test of significance and the results were correlated with duration, age at onset of heroin use, the quantity of heroin consumed and WHO ASSIST score. Statistical analysis was done by SPSS V21.0. Result: Mean age at first use, duration of heroin intake and ASSIST score were  $25.49 \pm 0.78$ ,  $8.52 \pm 0.84$  and  $29.82 \pm 0.60$  years respectively. None of the SNPs showed any significant difference in genotype and allele frequency between the patients and controls. GRIN2A polymorphisms rs1530669 and rs1071502 showed significant association with the heroin intake (g/day) ( $p < 0.05$ ). A positive association with WHO ASSIST was observed with rs11866328 and rs12325652 ( $p < 0.05$ ). Conclusion: This is the first study which reports on the association of GRIN2A receptor polymorphisms with heroin dependence among the Indian population.

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