**Introduction**

This newsletter provides a brief summary of some of the latest research and publications that may be of interest to practitioners in the field of addiction and mental health. Each newsletter will cover one of the themes of the Alberta Addiction and Mental Health Research Partnership Program and provides structured accounts of research on a given topic, based on a limited search of the literature for recent publications. We do not thoroughly assess the quality of the research identified so this publication acts as a signpost for further reading and assessment, rather than as a definitive account of what should be included in clinical practice.

This month's edition focuses on Dual Diagnosis (mental illness and co-occurring developmental disability)

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**Antidepressant use during pregnancy and the risk of autism spectrum disorder in children**


**Study Design:** Population-based cohort study

**Focus of the Study:** Antidepressants (ADs) are commonly used during pregnancy to treat depression; however, the potential risks of using them during this period are not fully determined. AD use during pregnancy is a highly controversial issue. This study used data from the Québec Pregnancy/Children Cohort from 1998-2009 to examine the association between maternal use of ADs during pregnancy and the risk of autism spectrum disorder in children.
Autism Spectrum Disorder (ASD) in children. The study considered trimester of exposure, classes of ADs, and maternal depression. AD use was measured by examining prescription filling data.

Key Findings:
» 1054 children were diagnosed with ASD from the study cohort of 145,456. Four times as many boys had ASD than girls. The average age of children at first diagnosis was 4.6 years, while the average age at the end of follow-up was 6.2 years.
» Women who used ADs during pregnancy were older, more likely to have a psychiatric disorder and comorbidities, and more likely to have had another child with ASD than women not using ADs.
» 4724 infants were exposed to ADs during pregnancy. 4200 were exposed during the first trimester and 2532 were exposed during the second and/or third trimester. Forty infants exposed to ADs during the first trimester were diagnosed with ASD, whereas 31 infants exposed during the second and/or third trimester were diagnosed with ASD.
» Exposure to ADs in the second and/or third trimester was associated with an increased risk of ASD, whereas exposure in the first trimester or the year before pregnancy was not.
» There was a statistically significant association between the use of selective serotonin reuptake inhibitors (SSRIs) in the second and/or third trimester and increased risk of ASD. Other classes of anti-depressants (SNRIs, MAOIs, tricyclic ADs) were not associated with an increased risk; however, use of more than one class of ADs in the second and/or third trimester was associated with an increased risk.
» Among the children of mothers with a history of depression, use of ADs during the second and/or third trimester was still associated with an increased risk of ASD.

Implications for Practice: Healthcare professionals may need to exercise caution when prescribing antidepressants, particularly SSRIs, to pregnant women in the second and/or third trimester. More studies are required to determine the association between different types and dosages of antidepressants used by women during pregnancy and risk of ASD in their children.

Link to abstract: http://www.ncbi.nlm.nih.gov/pubmed/26660917

Autism characteristics in older adults with depressive disorders

Study Design: Prospective cohort study

Focus of the Study: Once thought of as a childhood disorder associated with low intellectual functioning, autism spectrum disorder (ASD) is now recognized as a lifelong disorder that can be present among all intelligence levels. This suggests that there could be many intellectually-able older adults with unrecognized ASD. Previous research has indicated that older adults with unrecognized ASD are frequently diagnosed with secondary psychiatric conditions, such as depression and anxiety disorders.

This study analyzed data from a Dutch cohort of older adults with and without depression (aged 60-90 years; predominantly female) with the aim of 1) examining the prevalence of ASD characteristics in older adults with and without depression; 2) investigating the association between the level of ASD characteristics and depression and anxiety symptoms; and 3) exploring the effect of the level of ASD characteristics on an individual’s social network size and negative life events.

Key Findings:
» A larger percentage of older adults with a history of depression (31%) showed high ASD characteristics compared with older adults without a history of depression (2.6%).
» High ASD characteristics were associated, albeit weakly, with increased depression and anxiety symptoms.
» Those with high ASD characteristics had more comorbid disorders (e.g., major depression, dysthymia, generalized anxiety disorder, social phobia, and agoraphobia) than those with low characteristics.
» There were no differences between individuals with high ASD characteristics and those with low characteristics in terms of social network size and number of negative life events.

Implications for Practice: Healthcare professionals should consider the presence of ASD when diagnosing and treating depression and anxiety in older adults.
Behavioral interventions for sleep problems in people with an intellectual disability:
A systematic review and meta-analysis of single case and group studies

Study Design: Systematic review and meta-analysis

Focus of the Study: Up to 50% of adults with intellectual disabilities (ID) and up to 80% of children with ID experience sleeping difficulties, which can have a significant impact on health and daytime functioning. Behavioral interventions are often used to increase the frequency of behaviors that promote sleep, and decrease the behaviors that interfere with sleep. This approach has been found to be effective for improving sleep problems in individuals without ID; however, there is limited evidence for individuals with ID. This systematic review examined the effectiveness of behavioural interventions for children and adults with ID and sleep problems. Both experimentally designed single case and group studies were included in this review.

The following behavioural techniques were used within the studies that were reviewed:

- Single Case Experimental Designs (SCEDs): Activity scheduling, relaxation, stimulus control, sleep hygiene, extinction and behavioral management of obsessional and challenging behaviors.
- Single Group Studies: Sleep-wake scheduling, maintaining a bedtime routine, extinction and positive reinforcement.
- Randomized Control Trials: Extinction, graded/graduated extinction, stimulus control, positive reinforcement and environmental modifications.

Key Findings:
- Both group studies and SCEDs suggested significant and substantial gains following behavioral intervention for sleep problems. The RCT studies observed significantly large effects on Composite Sleep Index (CSI) scores post-intervention that were maintained at follow-up.
- Three of the seven sleep problems measured in SCEDs were significantly improved at follow-up; these included co-sleeping, falling asleep independently, and sleep onset latency, which improved between 50-100% at follow-up.
- The significant follow-up effects seen in group studies suggested that improvements were maintained and strengthened over time; however, long-term maintenance of intervention effects was less consistent across the studies.

Implications for Practice: The results of this study suggest that there is evidence supporting the use of behavioral intervention to improve sleep problems for individuals with ID. Interventions targeting sleep problems associated with sleep initiation and sleep maintenance were shown to be effective; however, other approaches may be needed to maintain longer term effects for other types of sleep problems.


Adverse events and the relation with quality of life in adults with intellectual disability and challenging behavior using psychotropic drugs

Study Design: Cross-sectional study

Focus of the Study: The estimated prevalence of challenging behavior in adults with intellectual disabilities (ID) ranges from 20% to over 50%. Psychotropic drugs are often prescribed to adults with ID to manage challenging behavior; however, little is known of the effectiveness of their use for this purpose. The use of psychotropic drugs carries considerable risk of adverse drug events. This study assessed the prevalence of adverse events in association with psychotropic drug use among 103 adults with ID and severe challenging behavior admitted to one of three Dutch inpatient treatment facilities. The relation of adverse events to patient
quality of life was also investigated.

**Key Findings:**
- Patients using psychotropic drugs had significantly more adverse events than patients who were not using psychotropic drugs. Nearly half (45.6%) of all patients had experienced three or more adverse events.
- Psychological symptoms (51.5%), sleeping problems and fatigue (48.5%), weight changes (35%), and neurological symptoms (34%) were the most prevalent adverse events, and were all significantly more often seen in patients using psychotropic drugs than patients not using them.
- Sixteen patients (15.5%) had no adverse events recorded. This group improved more, and had a better quality of life than patients who experienced adverse events.

**Implications for Practice:** The results of this study suggest that a majority of adult patients with ID and challenging behavior experience adverse events related to psychotropic drug use. There is also insufficient evidence that psychotropic drugs are effective for managing challenging behavior in this population. When prescribing psychotropic medications to adults with ID, consideration should be given to the negative influence on quality of life that psychotropic-associated adverse events can have on patients.


**Risks for nonaffective psychotic disorder and bipolar disorder in young people with autism spectrum disorder: A population-based study**


**Study Design:** Nested case-control study

**Focus of the Study:** Preliminary research has suggested that adults with autism spectrum disorder (ASD) may be at increased risk for nonaffective psychotic disorder (NAPD) and bipolar disorder (BD); however, results from the limited number of studies conducted are conflicting. These studies also had limited sample sizes.

The present study examined risks for NAPD and BP among individuals with ASD compared to non-ASD individuals, and their non-ASD siblings. The sample was taken from the Stockholm Youth Cohort.

**Key Findings:**
- Parents of children diagnosed with ASD were more likely to have a history of psychiatric disorder and lower socioeconomic status than parents of non-ASD children.
- Participants who were diagnosed with ASD under 16 years of age were at
  - 4.6 times greater risk to also be diagnosed with NAPD
  - 4.3 times greater risk to also be diagnosed with BD
- Participants who were diagnosed with ASD under 28 years of age were at
  - 10.1 times greater risk to also be diagnosed with NAPD
  - 6.6 times greater risk to also be diagnosed with BD
- The most commonly diagnosed subtype of NAPD among those with ASD was unspecified nonorganic psychosis (45.6%).
- Risk for NAPD was higher among participants with ASD who did not have intellectual disabilities, compared to participants with ASD who had intellectual disabilities.
- Full siblings to those with ASD diagnosed under 16 years of age were at greater risks to be diagnosed with NAPD (1.8 times greater) or BD (1.7 times greater).

**Implications for Practice:** Health care professionals working with clients who have been diagnosed with ASD should be aware that their clients are at greater risk for also having nonaffective psychotic disorder or bipolar disorder.


**Assessment and treatment of anxiety in youth with autism spectrum disorders**
Study Design: Clinical recommendations were developed through a review of relevant literature and a consensus building process.

Focus of the Study: Anxiety is one of the most frequently co-occurring symptoms in youth who have been diagnosed with autism spectrum disorder (ASD). The Autism Treatment Network – Autism Intervention Research Network on Physical Health Anxiety Workgroup held a series of consultations to discuss best practices in assessing and treating anxiety in youth with ASD. Multiple recommendations were created with the intention of providing information to help primary care providers.

Key Recommendations:

For assessment of anxiety:

» Perform a developmentally appropriate, multi-informant and multi-method assessment of anxiety, including clinical interviews, behavioral observations and scale ratings from parents, teachers, and the child.

» Assess for specific anxiety disorders and anxiety symptoms related to the core symptoms of ASD (e.g., social avoidance may represent behavioral avoidance of feared stimuli, suggesting social anxiety, or social indifference, which is a core feature of ASD).

» Assess and treat other psychiatric and medical conditions that may cause or aggravate anxiety (e.g., gastrointestinal or sleep problems may aggravate anxiety; anxiety may be a side effect of some medications, like psychostimulants or allergy medications).

» Address psychosocial stressors or suboptimal behavioral and educational supports that may be contributing to anxiety (e.g., changes in classroom routine, high academic expectations, parental job change or loss, bullying).

» Assess the degree of anxiety-related impairment.

For treatment of anxiety:

» Psychoeducation for the youth and families, and coordination of care are the first steps of treatment.

» Anxiety can be treated with modified CBT techniques in youth with high functioning ASD.

» Certain medications can be considered for the treatment of anxiety; however, they have not been rigorously tested on youth with ASD and close monitoring is required.

» Refer to a mental health clinician if anxiety is extremely impairing or the youth is not responding to interventions.

Implications for Practice: Health care professionals may benefit from the above recommendations, which were developed based on research and clinical experience, when assessing and treating anxiety in youth with ASD.

Link to abstract: http://www.ncbi.nlm.nih.gov/pubmed/26908467