# PSYCHDD

THE ASSOCIATION OF PSYCHOLOGISTS
IN DEVELOPMENTAL DISABILITY SERVICES

ABN: 22 404 141 513


# Newsletter


JULY / AUGUST / SEPTEMBER 2013 *ISSUE 96*


Dear PsychDD members,

This issue of the PsychDD newsletter contains a write-up of the Forum on Dialectical Behaviour Therapy with clients with an intellectual disability, which was well-attended. There is also autism news, info about upcoming events and other bits.

Please be mindful if printing, and just print the parts you want. Enjoy!

Andrew Marynissen, Newsletter Editor

***Call for contributions, to add to your own Continuing Professional Development***

Dear Readers, every single one of you will need to show evidence of *active* Continuing Professional Development (CPD). While much will be inactive (attending talks and seminars), there must be a percentage of *active* training. This usually involves a test at the end, or some other form of evaluation of your learning.

The writing-up of a talk qualifies your learning as *active* because you would have involuntarily learned more-than-normal because you initially took notes, then you typed them up, then had to proof-read them, so effectively you are going over the information several times, which will lead to more learning than if you just took the notes and did no more.

So, if you were to contribute (to the PsychDD newsletter) a write-up of a talk you went to, you could document it as *active* Continuing Professional Development (in your CPD log) by sheer virtue of having gone through the material several times during the write-up process. This write-up would require a bit more detail than just half a page, and I would suggest at least 1 page if not more, depending on the complexity of the issue and the length of the talk or seminar.

This way, you could provide some information to the other PsychDD members through the newsletter, as well as turning your *inactive* CPD into *active* CPD.

So now there is even more incentive to submit write-ups of talks, tests, articles, etc.

- Andrew Marynissen, Newsletter Editor, andrew.marynissen@health.nsw.gov.au

# From the Chair

Hi PsychDD members,

A big thank you to all of the PsychDD members for your ongoing support and I'm sure you'll join me in thanking the committee members for their hard work this year.

Lisa Osborne, Andrew Marynissen, Caroline Ooi, and Anita Gardner have all been valued members of the committee this year however we are still looking for new committee members to help us keep the association going into the New Year.

You will find more information about what being a committee member involves on page 25 of this newsletter. If you have any further questions please do not hesitate to contact me directly or any of the other committee members.

For those of you who were unable to attend the July PsychDD forum, *" A systematic approach to Dialectical Behaviour Therapy Skills for Disability Support Services"* presented by Matt Frize and Wendy Grice you will find a write up of the training in this newsletter, on Page 3.

The next PsychDD workshop is yet to be finalised and a flyer will be sent out in coming weeks.

Hopefully by now you will have all received the flyer for the annual conference, to be held again at the Waterview at Homebush on the 22nd November. The theme for the conference this year is *"Into the future: Current Research and Therapeutic Advancement*", and while many of the presentations aim to focus on the theme, there will be standalone presentations that cover a wider range of topics. Thank you again to all who completed the survey monkey this year to give us some further direction in terms of targeting presentations to make them highly relevant and current for the work that you do.

Regarding the claiming of Continuing Professional Development (CPD) hours for the conference, it is worth 5 hours provided that you include the conference in your Learning Plan. Your Learning Plan can be modified at any time, so all attendees should be able to claim the full 5 hours. Regarding non-psychologist speakers, these hours can also be claimed provided they are mentioned in your Learning Plan.

Of additional note this year is the option of paying for the conference by Direct Debit. We have finally moved into the 21st century with payment options and I am sure this will make things much more convenient for many of you. As noted on the registration form, if you are looking to utilise this option please email Anita Gardner directly. Her email details are on the conference registration form on page 11 of this newsletter.

Again, thanks for your support in 2013 and I look forward to seeing you all at the conference next month.

Jennifer Povey, Chairperson, PsychDD.

## PsychDD Forum

### A systematic Approach to Dialectical Behaviour Therapy Skills for Disability Support Services

19th July 2013

Presented by Matt Frize and Wendy Grice, this forum discusses Dialectical Behaviour Therapy, Borderline Personality Disorder, and presents a program developed by Matt Frize, Wendy Grice and Christian Cabrerra.

Matt works with the Community Justice Program that is part of Ageing, Disability and Home Care (ADHC).

Wendy works in community mental health.

This presentation is the culmination of several years of work done through Statewide Behaviour Intervention Services (ADHC Statewide BIS) and subsequently the ADHC Community Justice program, from 2007 to present.

Many people with a history of abuse end up with a diagnosis of Borderline Personality Disorder. This is also the case with people who have a Mild intellectual disability. Historically treatment of this condition in people with a Mild intellectual disability has been very expensive and has not involved Dialectical Behaviour Therapy.

Dialectical Behaviour Therapy has been shown to be an effective treatment with people who have a Borderline Personality Disorder, and there is also some evidence that this therapy can be effective with people who have a Borderline Personality Disorder along with a Mild intellectual disability.

There was some discussion of the use of labels, with disadvantages including stereotypes, or the label getting bigger focus than the person. However, the label can be also helpful to summarise a group of symptoms and allow for communication to discuss the problem.

Borderline Personality Disorder is a trauma-based disorder. At the time of this research, DSM IV (not DSM 5) was the current diagnostic manual, so the DSM IV definitions were discussed and will be briefly mentioned here. The symptoms of Borderline Personality Disorder include difficulty adapting to the environment in many situations. The core features include (from DSM IV)

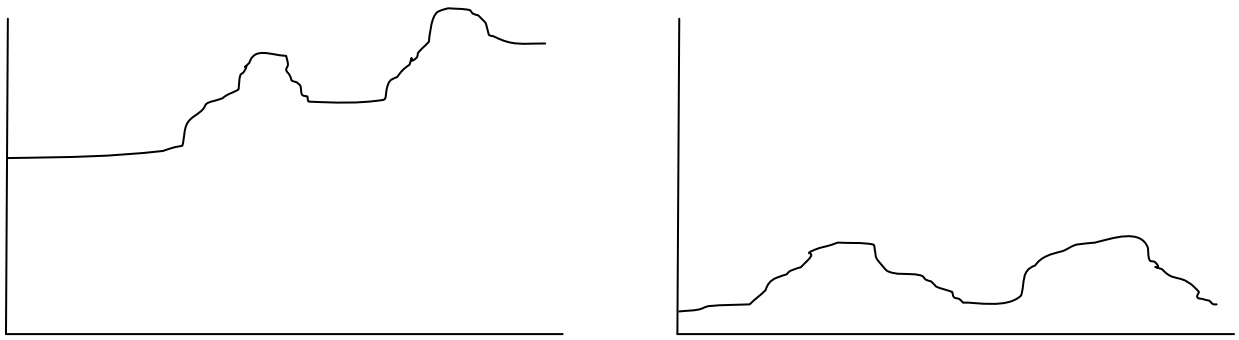
a. Frantic efforts to avoid real or imagined abandonment.
b. A pattern of unstable and intense relationships characterised by alternating between extremes of idealisation and devaluation.
c. Identity disturbance: Markedly and persistently unstable self-image or sense of self.
d. Potentially self-damaging impulsivity with regard to sex, substance abuse, reckless driving, or binge eating.
e. Recurrent suicidal behaviour, gestures or threats, or self-mutilating behaviour.
f. Affective instability due to a marked reactivity of mood (eg: dysphoria, irritability or anxiety).
g. Chronic feelings of emptiness.
h. Inappropriate intense anger or difficulty controlling anger.
i. Transient, stress-related paranoid ideation or severe dissociative symptoms.

Other features include

- Active passivity (person acts passively or may be extremely demanding of others to find solutions for them).
- Apparent competence – may seem capable in some areas of life but can be incapable of doing simple tasks.
- Unrelenting crises, perpetual state of crisis.
- Sabotaging relationships. Fear of abandonment may make the person act in a way to make the relationship end, hence reinforcing their view that 'I will be abandoned'.
- Beliefs of powerlessness and vulnerability.
- Beliefs that the world is dangerous and nasty (manifested by hypervigilance, mistrust and aggression).
- Staff 'splitting' – treating different carers differently, seemingly getting on well with some carers/ support workers while thinking the other carers are useless and treating them as such. Can lead to very different experiences of the same person by different staff, and can lead to differences of opinion among staff regarding the nature of the person's problems

**Aetiology**

*Genetic/biological predisposition:* People with Borderline Personality Disorder have a higher base arousal level when 'at rest' which can escalate quickly when something happens. It can also take the person days to calm down, so re-escalation is common.



Medication does not work on Borderline Personality Disorder, but appropriate medications can be used to treat comorbid conditions.

*Environmental contribution*: In an optimal environment the child is taught to monitor and control (modulate) their own emotional and arousal levels. In an 'invalidating environment' the child invalidates their own feelings and experiences due to poor response from others when the child is upset. In these cases the caregiver may be insensitive to (or dismissive of) the child's feelings (eg: 'don't be silly, you're not hurt'), or may respond to them in an extreme fashion.

The child living in an ionvalidating environment gets by through learning that their emotions are 'not important' while also learning that extreme emotions will get results ('all-or-nothing').

The combination of the invalidating environment and the high base arousal level can lead to Borderline Personality Disorder.

The child does not learn to manage emotions because they are taught to not trust their emotions or label them due to the carer invalidating them. This can lead to the child not avoiding the situation so it can happen again. This can become a vicious cycle that can escalate.

### Dialectical Behaviour Therapy

*('crash course', normally covered in detail over several days so this is a very brief summary)*

Dialectical Behaviour Therapy was developed by Marsha Linehan, and is considered a form of Cognitive Behaviour Therapy (CBT). Dialectical Behaviour Therapy tries to address a seeming contradiction (hence the word 'dialectic'). If something is seen as both good and bad, there is balance. This balance is less clear when something is seen as 'extremely good' and 'extremely bad'.

Dialectical Behaviour Therapy aims to develop skills to manage emotions and develop a stable base. This can reduce extreme emotions and make the person feel safer.

3 philosophical principles:

1. Dialectics – opposites
2. Zen – acceptance
3. CBT – the way you interpret something will affect the way you act

Outcomes from Dialectical Behaviour Therapy: Reduced suicidality, increased emotional regulation. The person with Borderline Personality Disorder may still feel they will be abandoned, but can *cope with the feelings* better and hence are less likely to take drastic actions.

Group work is generally seen as better than individual work as his helps combat the 'perma-crisis', to allow the person to learn the skills, rather than jumping from crisis to crisis.

Group skills taught include

- mindfulness (living in the moment so there is less upset by thinking about the past)
- managing emotions
- distress tolerance
- interpersonal effectiveness.

The Mindfulness is the base, with emotional regulation and distress tolerance being built on that. The interpersonal effectiveness can only be achieved when the person can regulate their emotions and tolerate distress.

<table>
<tr><td colspan="2">INTERPERSONAL EFFECTIVENESS</td></tr>
<tr><td>EMOTIONAL REGULATION (Preventative)</td><td>DISTRESS TOLERANCE (Coping)</td></tr>
<tr><td colspan="2">MINDFULNESS</td></tr>
</table>

The emotion is targeted, rather than the problem.

## Borderline Personality Disorder in intellectual disability

Prevalence studies have been highly variable with reported prevalence rates being between 1% and 100%.

Borderline Personality Disorder in intellectual disability could take a long time to diagnose, as thoughts and emotions need to be accessed, and the person needs to have some insight.

## Advantages of Dialectical Behaviour Therapy for people with an intellectual disability

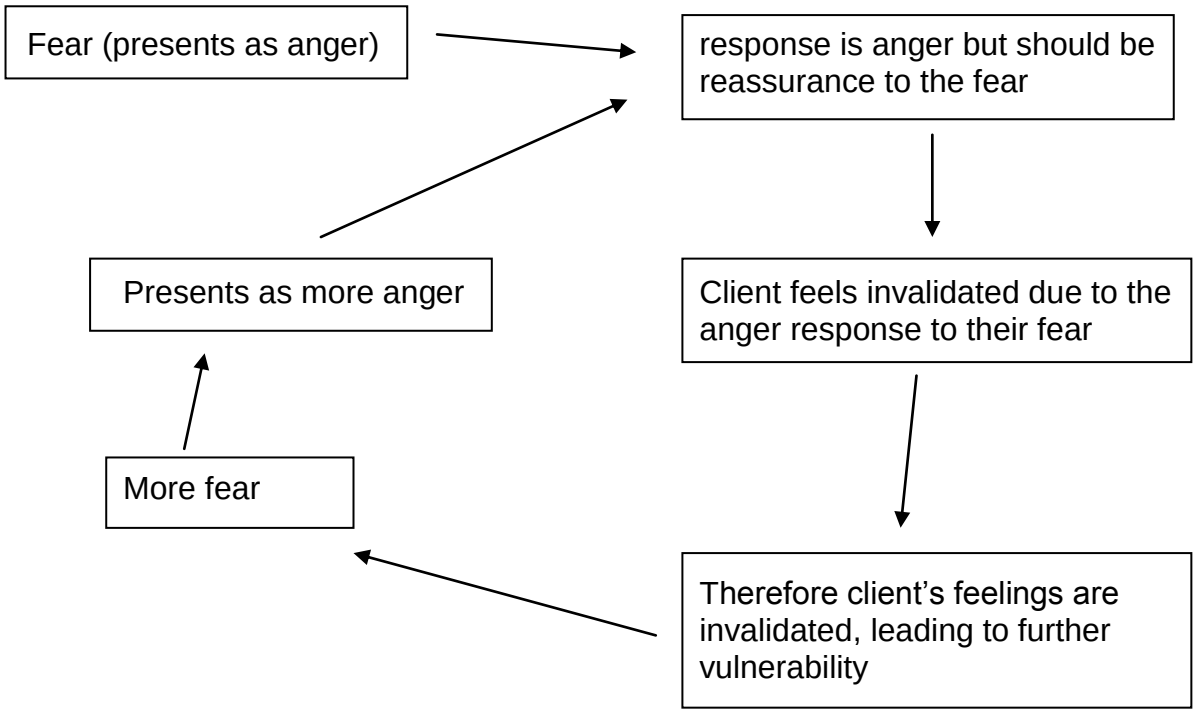
- Skills-based
- Non-pejorative – explains an idea of adaptive functioning: 'live a life worth living'.
- Explains an internal locus of control, which is in line with self-advocacy and empowerment.
- Therapy is implementable practically.

## Dialectical Behaviour Therapy trials with people with an intellectual disability

There have been several studies (eg: Sakdalan, Shaw and Collier 2010, Verhoeven 2010). However, these were not controlled studies and the sample sizes were small, but there were some improvements seen, such as a decrease in self-harm.

The person becomes a 'problem' when supports cannot cope any more. The 'system' collapses, which is seen by the client as abandonment. Given that Borderline Personality Disorder is born out of abandonment, this fits with the client's view, and reinforces their schema and hence undermines the effectiveness of any therapy. So the support system must be resistance to this collapse. Work must be done to make the system more resistant. If the system is more stable than the results are better and there is less threat or risk of the client perceiving abandonment.

## Model



Systemic treatment (addressing the system) will reduce service breakdown, which reduces feedback of abandonment ('my supports left me') and keeps supports in place.

Staff training can lead to improvement in emotional regulation among staff who care for the client with Borderline Personality Disorder and intellectual disability – this was a preliminary finding from the study.

**Key dialectics** (seemingly 'opposite' views)

1. We need to accept the client BUT we need to support them to change.
2. The client is working as hard as they can BUT they need to work harder.
3. The client is not responsible for the development of their behaviour BUT they are responsible for fixing it.

**The program**

The second part of the talk was delivered by Wendy Grice.

She discussed a program for people with an intellectual disability who have Borderline Personality Disorder, which was adapted from a program for people with Borderline Personality Disorder who did not have an intellectual disability.

There were 5 women in the program. All women had an intellectual disability (presumably Mild), Borderline Personality Disorder, schizophrenia, all were on psychotropic medication, all had medical problems and all showed previous severe self-harm and suicidal behaviour.

Stage 1 of the program involved checking for readiness and orientation to treatment. This involved

1. Setting goals to develop 'the life you want to live'. The goals are the whole reason for therapy.
2. Identify the problem behaviours (life-threatening behaviours). The problem behaviours become clearer as therapy progresses.
3. Identify therapy-interfering behaviours such as being late, not doing homework, continuing substance abuse. Also identify the behaviours by the therapist or the system (eg:' we couldn't get her here on time because someone else still had the van').

Through this part of the talk Wendy presented some recorded audio comments from one of the clients 'Mona Lisa' (because she liked painting). These comments were Mona Lisa's point of view regarding the therapy, therapy agreement, setting goals and identifying difficulties.

Wendy also discussed practicalities such as types of contracts, frequency of the group meetings, formats of the groups, and consequences for breaking agreements. Various examples were shown of different kinds of paperwork and forms. There were also several different techniques taught to the participants, which had different names, like a 'set of tools' to use when needed.

It was very important to have a consistent structure and consistent meeting times and places, to establish routines.

Other adaptations included modifying the language used such as Emotional Regulation becoming 'Managing Emotions' and Distress Tolerance becoming 'Coping with Distress'.

There was also some brief discussion about what to do when the program ends. This can be a big stressor for participants, as the routine changes and the amount of support may decrease. The importance of ongoing maintenance (such as monthly or fortnightly sessions) was emphasised.

*Outcomes*: In 'Mona Lisa's' case the amount of self-harming incidents improved from 45 incidents in 16 months to 19 incidents in 20 months, and there were 0 incidents in the last 4 months. In the beginning there were safety procedures such as searching her for sharp objects and not allowing books with staples. This was found to not be necessary as the program progressed.

Matt, Wendy and Christian have developed an adapted manual for Dialectical Behaviour Therapy for clients with Borderline Personality Disorder and a Mild intellectual disability, based on the program modules they have implemented.

**National Survey for Psychologists**

Take part in a national survey of psychologists who work with people with intellectual disabilities. Participation involves completion of an anonymous survey investigating current professional attitudes and practices when working with this specialist population.

What can we do to improve the current state of mental health provision to this vulnerable population? Have your say and access the on-line survey at https://macquariehs.qualtrics.com/SE/?SID=SV_ex72A4Kh7IKu6Cp

Those who complete the survey can also go in the draw to win 1 of 5 $50 gift vouchers.

The study is being conducted under the supervision of Dr Maria Kangas, Macquarie University and Dr Julian Trollor, Chair of Intellectual Disability and Mental Health, University of New South Wales. Please contact Joyce Man at joyce.man@students.mq.edu.au for further information.

**ANDREW CONSTANCE MP** Minister for Ageing Minister for Disability Services

**MEDIA RELEASE**

## NEW E-TOOL SUPPORTS BETTER MENTAL HEALTH CARE FOR PEOPLE WITH INTELLECTUAL DISABILITY

July 2013

Health and disability professionals will receive additional training to provide expert care to thousands of people in NSW living with an intellectual disability and a mental illness following the launch of a ground-breaking e-learning website today launched by the Minister for Disability Services Andrew Constance and Minister for Mental Health Kevin Humphries.

Mr Constance said the website would significantly change the way professionals, carers, and eventually people with an intellectual disability themselves access information on intellectual disability and mental health.

"We know that people with an intellectual disability are at increased risk of developing a mental health issue," Mr Constance said.

"They are a particularly vulnerable group and that is why the NSW Government is committed to taking a more integrated approach between disability and health services."

The innovative educational tool – which is available at **www.idhealtheducation.edu.au** - is aimed at up-skilling the workforce to meet the unique mental health needs of those people with an intellectual disability.

The website has been developed by the Department of Developmental Disability Neuropsychiatry (3DN) at UNSW Medicine and funded by the NSW Government.

Mr Humphries said this new approach would provide a better future for people in NSW with an intellectual disability and mental illness.

"This website is the first of its kind in Australia," Mr Humphries said.

"It is a practical and accessible approach that will enable health and disability professionals to stop people with an intellectual disability and a mental disorder from falling between the cracks of the two systems."

Associate Professor Julian Trollor, Chair of Intellectual Disability Mental Health and head of 3DN at UNSW Medicine, said that people with an intellectual disability have the same mental health concerns as everyone else, and the e-learning promotes the best practice in their mental health care.

"We're very pleased to make this practical educational resource available. We are launching with seven modules that are fundamental to clinical training in this area, aiming to improve knowledge, skills and confidence for healthcare practitioners," Professor Trollor said.

"Thanks to the support and collaboration between health and disability services, we have been able to create a learning tool that will generate greater access to much needed education. With future funding, we also have the capacity to expand the site to meet the needs not only of healthcare professionals nationally, but also those who have an intellectual disability and their families.

"The e-learning site's main intention is to improve the quality of life for people with an intellectual disability. Through our holistic approach to mental health and considered planning of the site, we believe this will be achievable in the future."

An estimated 300,000 to 400,000 Australians have an intellectual disability.

This tool encourages inclusion of people with an intellectual disability and a person-centred approach in line with the National Disability Insurance Scheme which began its initial roll out in NSW this month.

The site www.idhealtheducation.edu.au offers evidence-based, peer-reviewed education about mental disorders in people with an intellectual disability, and is free to access. The first of its kind in Australia, this much-needed resource aims to increase the knowledge, skills and confidence of health and disability practitioners in order to improve the mental health outcomes for people with an intellectual disability.

MEDIA: Dominic Cuschieri 0467 741 503 (Constance) Jeremy Scott 0467 741 200 (Humphries)

The Association of Psychologists in Developmental Disability Services
ABN 22 404141513
presents the

22nd Annual Conference

# *Into the future*

## *Current research and therapeutic advancement*


22 November, 2013

WatervieW in Bicentennial Park Homebush

Don't miss this unique continuous professional development opportunity.

- Research – what are peak research bodies and organisations currently researching?
- New initiatives – what might new programs offer for people with developmental disabilities including autism, downs syndrome, cerebral palsy and more?
- DSM-5 – what will the changes in the DSM-V mean for people with an intellectual disability, Aspergers and PDD-NOS?
- Disability Care Australia is here – what might it mean for you and the people you support and the future of the industry?
- Networking – from government departments, to not-for-profit organisations to private practice and universities, meet other psychologists and allied health professionals working in the field of developmental disabilities.

The call for papers is still open! If you have a presentation that you would like to have considered for the conference please contact Anita Gardner – agardner@aspect.org.au

## General Information about Registration and the Conference

- This is a full day conference. Venue and other information will be provided upon registration.
- Registration includes tea & coffee on arrival, morning tea, hot lunch, afternoon tea and parking.
- PsychDD membership discount is only available to those who are paid members Dec 2012 – Nov 2013.
- The number of hours of CPD accrued at the conference will depend on your Individual Learning Plan.
- Registration prior to the conference is **essential** (use the forms below) and will only be confirmed when payment is received. In certain circumstances payment may be made on the day.
- If your employer is paying for your registration, **please send your paperwork to them now so it can be processed and forwarded to PsychDD before close of registration.** You need to fill all the details of the Taxation Invoice and send it to your employer so that they can prepare payment. You also need to complete and post the **Registration** section to Anita Gardner before **October 30**. This lets us know that you wish to attend. It does not register you. You are only registered when payment is received.
- If you are paying for yourself, please send in the Conference Registration/Taxation Invoice with your payment.
- Confirmation of your registration, including direct debit payment option, will be sent to you by e-mail. Receipts for Payment (made to the payee) will be issued on the day.
- **Refund policy**: Refunds for cancellations will be provided where notice is given before November 14. Refunds after this time will not be provided however an alternative person to the one who is registered may attend.
- Program may be subject to change.

# Into the future - 2013 Conference

# Taxation Invoice

TO:

| Insert name and address of organisation paying for registration |
|---|
| |

CONCERNING: payment for registration of (name/s) ……at the conference identified below

| DESCRIPTION | GST | AMOUNT |
|---|---|---|
| Registration for PSYCHDD Conference on 22/11/13 | **Not Applicable** | Number<br>___ x PsychDD Member @ $125 pp<br>___ x Non-member @ $150 pp<br>___ x Student @ $85 pp<br>___ x Presenter FREE |
| PsychDD membership fee | **Not Applicable** | $20 pp |
| Total fee | | $ |
| Payment option | | ☐ Enclosed is a cheque for $<br>☐ Direct deposit Ref No. $ |

This is a full day professional conference. Per person (pp) registration fee includes tea & coffee on arrival, morning tea, lunch, afternoon tea and parking.

**PAYMENT OFFICER PLEASE NOTE:**
For direct deposit account details and reference number please email Anita Gardner agardner@aspect.org.au
Cheques must be accompanied by the name of person(s) payment is being made for and must be received by **15 Nov 2013.**
**Please make cheque payable to "PsychDD"** and mark **"not negotiable".**
Post cheque payment to PsychDD (Attn: Anita Gardner), 3/14 Kingston Ave, Panania, NSW, 2213

✂……

**Please complete and post this section to the address below if your employer will be paying for your registration.**

# Registration Form

**Important:** If your organisation is paying for your conference fees this section must be received by **30 Oct 2013**

**NAME:** _____

**POSTAL ADDRESS:** _____

_____ Postcode: _____

**PHONE:** _____ **E-MAIL:** _____

Please indicate
☐ I am paying for my registration (cheque enclosed / Direct debit Ref Number: )
☐ My employer will pay my registration (indicate Organisation and Region) _____

**In 2013 I am a: (please tick )**

- ☐ PsychDD Member $125 (GST not applicable)
- ☐ Non-member Psychologist $150 (GST not applicable)
- ☐ Non-member other professional $150 (GST not applicable)
- ☐ Student $85 (GST not applicable)
- ☐ Presenter (free)

I have the following special needs or dietary requirements _____

If you have any questions concerning the conference or payments please contact
**Anita Gardner at** agardner@aspect.org.au

## Autism and Disability News

Source: Medical News Today (http://wwww.medicalnewstoday.com/releases/)

### Diagnosis of toddlers with autism spectrum disorder supported by changes to symptom structure in DSM-5

Article Date: 14 Aug 2013

A study published in the August 2013 issue of the Journal of the American Academy of Child and Adolescent Psychiatry demonstrates support for the changes in autism symptom structure for toddlers with autism spectrum disorder (ASD found in the newly released Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5).

Using a sample of 237 toddlers (aged 12-30 months) diagnosed with ASD by expert clinicians, a group of researchers from Florida State University (FSU), the National Institute of Mental Health (NIMH), and Weill Cornell Medical College, led by Ms. Whitney Guthrie of FSU, were the first to compare the new DSM-5 symptom structure to other models of autism symptom structure in toddlers. The study included children at low and high risk for ASD. Some children were recruited for the study at the FSU Autism Institute from the First Words Project, a screening program to detect communication delays and ASD through pediatric primary care settings. Others were recruited at the University of Michigan Autism and Communication Disorders as well as the New York-Presbyterian Center for Autism and the Developing Brain, because of parental or professional concern or because they had an older sibling diagnosed with ASD.

The researchers assessed the toddlers using the DSM-5 model, which includes two new domains: (1) Social Communication and Social Interaction, and (2) Restricted, Repetitive Interests and Behaviors. The DSM-5 model of autism symptom organization was compared to the DSM-IV model (1-Communication, 2-Social Interaction, and 3-Restricted, Repetitive Interests and Behaviors), another independently validated model (van Lang and colleagues, 2006; 1-Social Communication, 2-Stereotyped Speech and Behaviors, and 3-Play Skills), and a model comprised of one domain of autism symptoms. Children's item level scores on the Autism Diagnostic Observation Schedule - Toddler Module assessment tool were subjected to confirmatory factor analysis to determine which of these models best characterized these autism symptoms in toddlers.

The study found that the DSM-5 model was a better fit to the data than were the other models used during toddler assessment. Among the changes included in DSM-5 and supported by the study as an appropriate framework for ASD is the addition of one new symptom (i.e., hypo- or hyper-reactivity to sensory input/unusual sensory interests), removal of other symptoms (i.e., delay in expressive language, impaired functional play skills, though shared imaginative play remains in DSM-5), and reorganization of some symptoms (i.e., categorizing stereotyped and repetitive language with stereotyped and repetitive behaviors, and combination of several Communication and Social Interaction symptoms).

Although the DSM-5 symptom structure has been examined and supported in a small number of other studies, this is the first to demonstrate the appropriateness of the new edition and the two domain framework for children as young as 12-30 months of age. Although the study does not examine the sensitivity and specificity of the diagnostic criteria, it provides support for the new diagnostic structure in toddlers, as observable autism symptoms are first emerging.

Ms. Guthrie said of the study, "It is critical for researchers to examine the organization, or structure, of autism symptoms in toddlers, because studies of older children may not inform our understanding of very young children, whose observable symptoms of ASD are just beginning to emerge. Studies of this nature have the potential to inform early screening and diagnosis, and positively affect the age at which clinicians identify ASD in toddlers. This study is particularly timely, given the recent release of DSM-5 and the transition for researchers and clinicians to the new diagnostic manual."

**References**

The article "Comparison of DSM-IV and DSM-5 Factor Structure Models for Toddlers With Autism Spectrum Disorder" by Whitney Guthrie, Lauren B. Swineford, Amy M. Wetherby, and Catherine

Lord, (DOI: 10.1016/j.jaac.2013.05.004) appears in the Journal of the American Academy of Child and Adolescent Psychiatry, Volume 52, Issue 8 (August 2013), published by Elsevier.

**New research sheds light on previously under-researched area of study - females with autism**

Article Date: 12 Aug 2013

Autism affects different parts of the brain in females with autism than males with autism, a new study reveals. The research is published in the journal Brain as an open-access article.

Scientists at the Autism Research Centre at the University of Cambridge used magnetic resonance imaging to examine whether autism affects the brain of males and females in a similar or different way. They found that the anatomy of the brain of someone with autism substantially depends on whether an individual is male or female, with brain areas that were atypical in adult females with autism being similar to areas that differ between typically developing males and females. This was not seen in men with autism.

"One of our new findings is that females with autism show neuroanatomical 'masculinization'," said Professor Simon Baron-Cohen, senior author of the paper. "This may implicate physiological mechanisms that drive sexual dimorphism, such as prenatal sex hormones and sex-linked genetic mechanisms."

Autism affects 1% of the general population and is more prevalent in males. Most studies have therefore focused on male-dominant samples. As a result, our understanding of the neurobiology of autism is male-biased.

"This is one of the largest brain imaging studies of sex/gender differences yet conducted in autism. Females with autism have long been under-recognized and probably misunderstood," said Dr Meng-Chuan Lai, who led the research project. "The findings suggest that we should not blindly assume that everything found in males with autism applies to females. This is an important example of the diversity within the 'spectrum'."

Dr Michael Lombardo, who co-led the study, added that although autism manifests itself in many different ways, grouping by gender may help provide a better understanding of this condition.

He said: "Autism as a whole is complex and vastly diverse, or heterogeneous, and this new study indicates that there are ways to subgroup the autism spectrum, such as whether an individual is male or female. Reducing heterogeneity via subgrouping will allow research to make significant progress towards understanding the mechanisms that cause autism."

**References**

This study was supported by the Medical Research Council and conducted in collaboration with the Institute of Psychiatry, King's College London and the University of Oxford, through the MRC Autism Imaging Multicentre Study (AIMS) Consortium

The article appears in Brain as: Lai M.-C. et al., (2013), Biological sex affects the neurobiology of autism.

**Different brain organization identified in autistic children who excel at math**

Article Date: 20 Aug 2013

Children with autism and average IQs consistently demonstrated superior math skills compared with nonautistic children in the same IQ range, according to a study by researchers at the Stanford University School of Medicine and Lucile Packard Children's Hospital.

"There appears to be a unique pattern of brain organization that underlies superior problem-solving abilities in children with autism," said Vinod Menon, PhD, professor of psychiatry and behavioural sciences and a member of the Child Health Research Institute at Packard Children's.

The autistic children's enhanced math abilities were tied to patterns of activation in a particular area of their brains - an area normally associated with recognizing faces and visual objects.

Menon is senior author of the study, published online Aug. 17 in Biological Psychiatry. Postdoctoral scholar Teresa Luculano, PhD, is the lead author.

Children with autism have difficulty with social interactions, especially interpreting nonverbal cues in face-to-face conversations. They often engage in repetitive behaviours and have a restricted range of interests.

But in addition to such deficits, children with autism sometimes exhibit exceptional skills or talents, known as savant abilities. For example, some can instantly recall the day of the week of any calendar date within a particular range of years - for example, that May 21, 1982, was a Friday. And some display superior mathematical skills.

"Remembering calendar dates is probably not going to help you with academic and professional success," Menon said. "But being able to solve numerical problems and developing good mathematical skills could make a big difference in the life of a child with autism."

The idea that people with autism could employ such skills in jobs, and get satisfaction from doing so, has been gaining ground in recent years.

The participants in the study were 36 children, ages 7 to 12. Half had been diagnosed with autism. The other half was the control group. Each group had 14 boys and four girls. (Autism disproportionately affects boys.) All participants had IQs in the normal range and showed normal verbal and reading skills on standardized tests administered as part of the recruitment process for the study. But on the standardized math tests that were administered, the children with autism outperformed children in the control group.

After the math test, researchers interviewed the children to assess which types of problem-solving strategies each had used: Simply remembering an answer they already knew; counting on their fingers or in their heads; or breaking the problem down into components - a comparatively sophisticated method called decomposition. The children with autism displayed greater use of decomposition strategies, suggesting that more analytic strategies, rather than rote memory, were the source of their enhanced abilities.

Then, the children worked on solving math problems while their brain activity was measured in an MRI scanner, in which they had to lie down and remain still. The brain scans of the autistic children revealed an unusual pattern of activity in the ventral temporal occipital cortex, an area specialized for processing visual objects, including faces.

"Our findings suggest that altered patterns of brain organization in areas typically devoted to face processing may underlie the ability of children with autism to develop specialized skills in numerical problem solving," Iuculano said.

Menon added that previous research "has focused almost exclusively on weaknesses in children with autism. Our study supports the idea that the atypical brain development in autism can lead, not just to deficits, but also to some remarkable cognitive strengths. We think this can be reassuring to parents."

The research team is now gathering data from a larger group of children with autism to learn more about individual differences in their mathematical abilities. Menon emphasized that not all children with autism have superior math abilities, and that understanding the neural basis of variations in problem-solving abilities is an important topic for future research.

"These findings not only empirically confirm that high-functioning children with autism have especially strong number-problem-solving abilities, but show that this cognitive strength in math is based on different patterns of functional brain organization," said Carl Feinstein, MD, director of the Center for Autism and Related Disorders at Packard Children's and professor of psychiatry and behavioral sciences at the School of Medicine. He was not involved in the study.

**References**

Other Stanford co-authors are postdoctoral scholars Miriam Rosenberg-Lee, PhD, and Kaustubh Supekar, PhD; social science research assistants Charles Lynch and Amirah Khouzam; Jennifer Phillips, PhD, clinical associate professor of psychiatry and behavioral sciences and a clinical psychologist at Packard Children's; and Lucina Uddin, PhD, instructor in psychiatry and behavioral sciences.

**Oxytocin may make the brain take notice of faces in autism**

Article Date: 19 Aug 2013

Difficulty in registering and responding to the facial expressions of other people is a hallmark of autism spectrum disorder (ASD). Relatedly, functional imaging studies have shown that individuals with ASD display altered brain activations when processing facial images.

The hormone oxytocin plays a vital role in the social interactions of both animals and humans. In fact, multiple studies conducted with healthy volunteers have provided evidence for beneficial effects of oxytocin in terms of increased trust, improved emotion recognition, and preference for social stimuli.

This combination of scientific work led German researchers to hypothesize about the influence of oxytocin in ASD. Dr. Gregor Domes, from the University of Freiburg and first author of the new study, explained: "In the present study, we were interested in the question of whether a single dose of oxytocin would change brain responses to social compared to non-social stimuli in individuals with autism spectrum disorder."

They found that oxytocin did show an effect on social processing in the individuals with ASD, "suggesting that oxytocin may help to treat a basic brain function that goes awry in autism spectrum disorders," commented Dr. John Krystal, Editor of Biological Psychiatry.

To conduct this study, they recruited fourteen individuals with ASD and fourteen control volunteers, all of whom completed a face- and house-matching task while undergoing imaging scans. Each participant completed this task and scanning procedure twice, once after receiving a nasal spray containing oxytocin and once after receiving a nasal spray containing placebo. The order of the sprays was randomized, and the tests were administered one week apart.

Using two sets of stimuli in the matching task, one of faces and one of houses, allowed the researchers to not only compare the effects of the oxytocin and placebo administrations, but also allowed them to discriminate findings between specific effects to only social stimuli and non-specific effects to more general brain processing.

What they found was intriguing. The data indicate that oxytocin specifically increases responses of the amygdala to social stimuli in individuals with ASD. The amygdala, the authors explain, "has been associated with processing of emotional stimuli, threat-related stimuli, face processing, and vigilance for salient stimuli".

This finding suggests oxytocin might promote the salience of social stimuli in ASD. Increased salience of social stimuli might support behavioral training of social skills in ASD.

These data support the idea that oxytocin may be a promising approach in the treatment of ASD and could stimulate further research, even clinical trials, on the exploration of oxytocin as an add-on treatment for individuals with autism spectrum disorder.

**References**

The article is "Effects of Intranasal Oxytocin on the Neural Basis of Face Processing in Autism Spectrum Disorder" by Gregor Domes, Markus Heinrichs, Ekkehardt Kumbier, Annette Grossmann, Karlheinz Hauenstein, and Sabine C. Herpertz (doi: 10.1016/j.biopsych.2013.02.007). The article appears in Biological Psychiatry, Volume 74, Issue 3 (August 1, 2013), published by Elsevier.

**Cancer drug affects chromosome that causes Angelman and Prader-Willi syndromes**

Article Date: 07 Aug 2013

UC Davis researchers have identified how and where in the genome a cancer chemotherapy agent acts on and 'un-silences' the epigenetically silenced gene that causes Angelman syndrome, a rare neurodevelopmental disorder characterized by severe intellectual disability, seizures, motor impairments, and laughing and smiling.

The agent, Topotecan, is a topoisomerase inhibitor, part of a class of drugs that in earlier research has been found to un-silence the Angelman gene, suggesting that it might be therapeutic for the

condition, which affects approximately 1 in 25,000, or approximately 150,000 people worldwide. But how it acts has not been known.

Topotecan is primarily used to treat metastatic cancers, including ovarian cancer, cervical cancer and small-cell lung cancer, by preventing cells from dividing and causing their death.

The research, published online in Proceedings of the National Academy of Sciences (PNAS), found that the drug stabilizes the formation of strands of RNA that create RNA-DNA hybrids called 'R-loops,' in the Ube3a region of the gene15q11-q13. The gene is implicated in other neurodevelopmental disorders, including autism. About 1 percent of cases of autism are linked to duplications in 15q11-q13 or "Dup15q," children that over-express Ube3a.

"Now we have a molecular mechanism for a proposed drug for a disease, so we can understand how it works and begin to tweak it to develop therapies," said lead study author Weston Powell, a third-year medical student in the Physician Scientist Training Program in the UC Davis School of Medicine.

Angelman syndrome is caused by the loss of a maternally inherited Ube3a gene at the 15q11-q13 locus, which is expressed in brain neurons. Loss of the same chromosomal region inherited from the male parent causes another neurodevelopmental condition, Prader-Willi syndrome, best known for its sufferers' obsessive-compulsive behavior and insatiable appetites which, if left unchecked, can lead to morbid obesity.

DNA is like a twisted rope, Powell explained, which opens as the enzyme polymerase travels down one thread of the rope to produce an RNA copy of the DNA strand. Normally the RNA leaves the DNA, but sometimes the RNA instead sticks to one piece of DNA, and an 'R-loop' is formed. These hybridized DNA-RNA loops create tension, preventing the DNA from having the characteristic flexibility that allows it to form its spiral helix or twisted-rope shape. R-loops themselves are a relatively recent discovery, and researchers have just begun to understand how they function.

While the discovery of the effect of Topotecan is important, future investigations will determine how and whether the drug may have therapeutic applications for Angelman syndrome, the researchers said.

"Topotecan also has an effect everywhere in the genome," Powell said. "One of the things it does is prevent cells from dividing. That's why it's a cancer drug. But that's also a problem if you want to treat children, because it kills dividing cells."

Powell said that additional investigations are needed to determine whether the drug can be tweaked to eliminate the global effect and only treat the targeted region.

Senior study author Janine LaSalle, professor of microbiology and immunology and a researcher affiliated with the UC Davis MIND Institute, said that the study highlights the significance of epigenetics in understanding both rare and more common neurodevelopmental disorders.

"What determines whether you have Prader-Willi syndrome or Angelman syndrome is whether the maternal or paternal gene is missing," LaSalle said. "These are the classic, textbook epigenetic disorders involving parental imprinting. It's not just about the chromosomes, but it's where "" or who "" they come from. In our study, we show that R-loops forming on the active paternal chromosome within the Prader-Willi region regulate imprinting of the Angelman gene, Ube3a, on the maternal chromosome.

"Epigenetics is the layers that are put on top of the genetic code by the environment. In the case of the imprinted inheritance of these two diseases, it's simply the environment of whether the chromosomes travel through the egg or the sperm. But environmental influences, such as diet and exposure to pollutants, also affect the epigenetic layers and are becoming increasingly important in more common disorders such as autism."

LaSalle said that the finding also is important because the diseases are caused by defects in a common chromosomal locus for autism-spectrum disorders. Rearrangements in 15q are increasing, she said, in both non-human primates and people. Her lab has recently found an association between polychlorinated biphenyl (PCB) levels and 15q rearrangements in human postmortem brain. Future investigations will examine the role of current persistent organic

pollutants, such as polybrominated diphenyl ethers (PBDEs), that may have a role in promoting chromosomal rearrangements and epigenetic alterations in this region.

**References**

Weston T. Powell, Rochelle L. Coulson, Michael L. Gonzales, Florence K. Crary, Spencer S. Wong, Sarrita Adams, Robert A. Ach, Peter Tsang, Nazumi Alice Yamada, Dag H. Yasui, Frédéric Chédin, and Janine M. LaSalle "R-loop formation at Snord116 mediates topotecan inhibition of Ube3a-antisense and allele-specific chromatin decondensation", PNAS August 5, 2013, doi: 10.1073/pnas.1305426110

**Autism: 'different developmental brain chemistry'**

Article Date: 01 Aug 2013

Researchers have discovered that children with autism can be set apart from those with other developmental disorders through differences in chemical changes in the brain.

The study, published in JAMA Psychiatry, reveals that grey matter chemical changes that occur between the ages of 3 and 10 years differentiate children with autism spectrum disorder from those with idiopathic (an unknown cause) developmental disorder.

Researchers from the University of Washington, Seattle, analyzed three groups of children in different age groups: one group at age 3 to 4 years, one at 6 to 7 years and one at 9 to 10 years.

All groups had a mix of children with autism spectrum disorder, developmental disorder and "typical development."

The participants with autism spectrum disorder and idiopathic developmental disorder were analyzed using data from proton magnetic resonance imaging (MRI), while those with typical development were assessed using cross-sectional data.

Between 3 and 10 years of age there were specific differences in rates of change in the brain chemicals cerebral gray matter N-acetylaspartate, choline and creatine.

The study authors explain:

"The results from our study suggest that a dynamic brain developmental process underlies autism spectrum disorder, whereas the children with developmental disorder exhibited a different, more static developmental pattern of brain chemical changes."

The study authors also note that the pattern of chemical changes within the autism spectrum disorder group aged 3 to 4 years is comparable to brain chemical changes found in other disorders such as multiple sclerosis, epilepsy and traumatic brain injury, where the N-acetylaspartate level is reduced at the time of onset or injury. This level usually then rises again during periods of remission, after successful treatment or through recovery.

The study authors add: "A model of the return to homeostasis after a disruptive event during earlier development is consistent with theories of early brain inflammatory processes, as yet unproven, as a causal mechanism for cerebral enlargement observed in children with autism spectrum disorder during the preschool years."

"The brain chemical alterations observed in the children with autism spectrum disorder at 3 to 4 years of age likely reflect a process that begins at an earlier stage of development."

More studies at even younger ages may help to determine the timing and underlying observations of the brain developmental process within children with autism spectrum disorder, the researchers add.

Written by Honor Whiteman

**References**

"Atypical developmental patterns of brain chemistry in children with autism spectrum disorder," JAMA Psychiatry, 2013. DOI: 10.1001/jamapsychiatry.2013.1388

**Fresh fuel reignites Asperger's debate**

Article Date: 30 Jul 2013

Children with Asperger's Syndrome have different electroencephalography (EEG) patterns to children with autism, reveals a study in the open access journal BMC Medicine With distinct neurophysiology, the study pours fresh fuel on the on-going debate about how Asperger's should be classified.

People with Asperger's syndrome experience social difficulties, and display restricted and repetitive behavioural patterns and interests. Until recently, the condition was classified as a disorder in its own right, distinct from the Autism Spectrum Disorder (ASD), which manifests some overlapping symptoms. But the most recent edition of the mental health manual, the Diagnostic and Statistical Manual of Mental Disorders (DSM-5), published earlier this year, reversed the decision, lumping Asperger's in with ASD.

Frank H. Duffy and colleagues at the Departments of Neurology and Psychiatry of Boston Children's Hospital studied electrical recordings from the scalps of children with Asperger's and children with ASD. They looked at EEG-derived measures of brain connectivity, and found that, although the disorders were closely related, there were clear neurophysiological differences between the groups.

The results show that Asperger's and ASD can be discriminated on the basis of electrical activity in the brain. Asperger's is a normally distributed entity that fits within the higher functioning end of the ASD. Just as dyslexia is now recognized as the low end of the reading ability distribution curve, so, the authors suggest, Asperger's syndrome could be usefully defined as a distinct entity within the higher functioning end of the autism distribution curve. However, the authors caution that, with study numbers low, the results need replicating in larger numbers before any firm conclusions can be drawn.

In the meantime, the stakes are high. Merging the diagnosis of Asperger's into ASD, effectively removes the disorder as condition in its own right. Families and advocates are concerned that some people could lose their diagnosis, leading to repercussions at clinical, educational, emotional and financial levels.

**References**

The relationship of Asperger's syndrome to autism - A preliminary EEG coherence study BMC Medicine 2013, 11:175 doi:10.1186/1741-7015-11-175. Frank H Duffy MD, Aditi Shankardass PhD, Gloria B McAnulty PhD and Heidelise Als PhD. BioMed Central.

**Functional role in the cerebellum suggested by analysis of 26 networked autism genes**

Article Date: 29 Jul 2013

A team of scientists has obtained intriguing insights into two groups of autism candidate genes in the mammalian brain that new evidence suggests are functionally and spatially related. The newly published analysis identifies two networked groupings from 26 genes associated with autism that are overexpressed in the cerebellar cortex, in areas dominated by neurons called granule cells.

The team, composed of neuroscientists and computational biologists, worked from a database providing expression levels of individual genes throughout the mouse brain, as complied in the open-source Allen Mouse Brain Atlas. To promote reproducibility, the scientists surveyed expression data of over 3000 genes, about three-fourths of all the genes listed in the Atlas for which two independent sets of data have been complied.

The work was led by Professor Partha Mitra of Cold Spring Harbor Laboratory (CSHL) and scientists from MindSpec, a nonprofit research organization, founded by Dr. Sharmila Banerjee-Basu.

Despite obvious genetic and neuroanatomical differences between mouse and human, the team explains, mouse models are extremely effective in dissecting out the role of specific genes, pathways, neuronal subtypes and brain regions in specific abnormal behaviors manifested in both mice and people.

Based on years of studies in both species, scientists now know of mutations affecting more than 300 genes whose occurrence correlates with autism susceptibility; more are certain to be

identified. Some of these candidate genes are more strongly correlated with the illness than others, although correlation is not the same thing as direct evidence of causation.

Nevertheless, "the key question as yet unanswered," notes Dr. Mitra, "concerns the way or ways in which particular mutations, singly or in combination, cause pathologies that result in the complex combination of symptoms that characterizes autism in children." It is assumed that autism pathologies are the result of insults - genetic, environmental, or most likely both - sustained at the time of conception and early in development.

Dr. Idan Menashe, now of Ben-Gurion University of the Negev in Israel, and Dr. Pascal Grange, a postdoctoral researcher in the Mitra lab, demonstrated that co-expression of 26 autism genes was "significantly higher" than would occur by chance. "This suggests that these 26 genes have common neuro-functional properties," says Dr. Menashe.

The team found two co-expressed networks or "cliques" of genes that are significantly enriched with autism genes. They then asked where in the mouse brain these cliques are expressed. Notably, genes in both groups showed significant overexpression in the cerebellar cortex, and particularly in regions in which granule cells predominate. "This result supports prior studies pointing to involvement of the cerebellum in autism," says Dr. Grange. Specifically, a recent neuroimaging study highlighted functional subregions in the cerebellum as playing a role in both motor and cognitive tasks. Other genes associated with autism have been shown in other studies to play a role in the development of this brain region.

"Our study provides insights into co-expression properties of genes associated with autism and suggests specific brain regions implicated in pathology. Complementing these findings with additional genomic and neuroimaging analyses from both mouse and human brains will help in obtaining a broader picture of the autistic brain," the team concludes.

**References**

"Co-expression profiling of autism genes in the mouse brain" appears online head of print in PLOS Computational Biology. The authors are: Idan Menashe, Pascal Grange, Eric C. Larsen, Sharmila Banerjee-Basu and Partha P. Mitra. 10.1371/journal.pcbi.1003128

**No link discovered between mercury exposure and autism-like behaviors**

Article Date: 25 Jul 2013

The potential impact of exposure to low levels of mercury on the developing brain - specifically by women consuming fish during pregnancy - has long been the source of concern and some have argued that the chemical may be responsible for behavioral disorders such as autism. However, a new study that draws upon more than 30 years of research in the Republic of Seychelles reports that there is no association between pre-natal mercury exposure and autism-like behaviors.

"This study shows no evidence of a correlation between low level mercury exposure and autism spectrum-like behaviors among children whose mothers ate, on average, up to 12 meals of fish each week during pregnancy," said Edwin van Wijngaarden, Ph.D., an associate professor in the University of Rochester Medical Center's (URMC) Department of Public Health Sciences and lead author of the study which appears online today in the journal Epidemiology. "These findings contribute to the growing body of literature that suggest that exposure to the chemical does not play an important role in the onset of these behaviors."

The debate over fish consumption has long created a dilemma for expecting mothers and physicians. Fish are high in beneficial nutrients such as, selenium, vitamin E, lean protein, and omega-3 fatty acids; the latter are essential to brain development. At the same time, exposure to high levels of mercury has been shown to lead to developmental problems, leading to the claim that mothers are exposing their unborn children to serious neurological impairment by eating fish during pregnancy. Despite the fact that the developmental consequences of low level exposure remain unknown, some organizations, including the U.S. Food and Drug Administration, have recommended that pregnant women limit their consumption of fish.

The presence of mercury in the environment is widespread and originates from both natural sources such as volcanoes and as a byproduct of coal-fired plants that emit the chemical. Much of this mercury ends up being deposited in the world's oceans where it makes its way into the food

chain and eventually into fish. While the levels of mercury found in individual fish are generally low, concerns have been raised about the cumulative effects of a frequent diet of fish.

The Republic of Seychelles has proven to be the ideal location to examine the potential health impact of persistent low level mercury exposure. With a population of 87,000 people spread across an archipelago of islands in the Indian Ocean, fishing is a both an important industry and a primary source of nutrition - the nation's residents consume fish at a rate 10 times greater than the populations of the U.S. and Europe.

The Seychelles Child Development Study - a partnership between URMC, the Seychelles Ministries of Health and Education, and the University of Ulster in Ireland - was created in the mid-1980s to specifically study the impact of fish consumption and mercury exposure on childhood development. The program is one of the largest ongoing epidemiologic studies of its kind.

"The Seychelles study was designed to follow a population over a very long period of time and focus on relevant mercury exposure," said Philip Davidson, Ph.D., principal investigator of the Seychelles Child Development Study and professor emeritus in Pediatrics at URMC. "While the amount of fish consumed in the Seychelles is significantly higher than other countries in the industrialized world, it is still considered low level exposure."

The autism study involved 1,784 children, adolescents, and young adults and their mothers. The researchers were first able to determine the level of prenatal mercury exposure by analyzing hair samples that had been collected from the mothers around the time of birth, a test which can approximate mercury levels found in the rest of the body including the growing fetus.

The researchers then used two questionnaires to determine whether or not the study participants were exhibiting autism spectrum-like behaviors. The Social Communication Questionnaire was completed by the children's parents and the Social Responsiveness Scale was completed by their teachers. These tests - which include questions on language skills, social communication, and repetitive behaviors - do not provide a definitive diagnosis, but they are widely used in the U.S. as an initial screening tool and may suggest the need for additional evaluation.

The mercury levels of the mothers were then matched with the test scores of their children and the researchers found that there was no correlation between prenatal exposure and evidence of autism-spectrum-like behaviors. This is similar to the result of previous studies of the nation's children which have measured language skills and intelligence, amongst other outcomes, and have not observed any adverse developmental effects.

The study lends further evidence to an emerging belief that the "good" may outweigh the possible "bad" when it comes to fish consumption during pregnancy. Specifically, if mercury does adversely influence child development at these levels of exposure then the benefits of the nutrients found in the fish may counteract or perhaps even supersede the potential negative effects of the mercury.

"This study shows no consistent association in children with mothers with mercury level that were six to ten times higher than those found in the U.S. and Europe," said Davidson. "This is a sentinel population and if it does not exist here than it probably does not exist."

"NIEHS has been a major supporter of research looking into the human health risks associated with mercury exposure," said Cindy Lawler, Ph.D., acting branch chief at the National Institute of Environmental Health Sciences, part of National Institutes of Health. "The studies conducted in the Seychelles Islands have provided a unique opportunity to better understand the relationship between environmental factors, such as mercury, and the role they may play in the development of diseases like autism. Although more research is needed, this study does present some good news for parents."

**References**

Additional co-authors of the study include Tristram Smith, Katie Evans, Kelley Yost, Tanzy Love, Sally Thurston, Gene Watson, Grazyna Zareba, Christine Burns, and Gary Myers with URMC and Conrad Shamlaye with the Seychelles Ministry of Health. Funding for the study was provided by the National Institute of Environmental Health Sciences and the Government of the Republic of Seychelles.

**Computer-aided technique makes it easier to diagnose and treat children with autism**

Article Date: 26 Jul 2013

Researchers have developed a new screening method to diagnose autism, which unlike current methods does not rely on subjective criteria. These results are published in a series of studies in the open-access journal Frontiers in Neuroscience.

The studies, funded by a US$ 650,000 grant from the National Science Foundation, were led by Elizabeth Torres, a computational neuroscientist, and Dimitri Metaxas, a computer scientist, both at Rutgers University, in collaboration with Jorge V. Jose, a theoretical physicist and computational neuroscientist from Indiana University.

Diagnosis

The new technique provides an earlier, more objective and accurate diagnosis of autism, factoring in the importance of sensory and motor impairments. It measures tiny fluctuations in movement and uses a digital real-time map of the subject moving through space and can determine the exact degree to which these patterns of motion differ from more typically developing individuals.

Even in nonverbal children and adults with autism, the method can diagnose autism subtypes, identify gender differences and track individual progress in development and treatment. The method may also be applied to infants.

"This research may open doors for the autistic community by offering the option of a diagnosis at a much earlier age and possibly enabling the start of therapy sooner in the child's development," says José, vice president for research at Indiana University and a professor of cellular and integrative physiology at the university's School of Medicine.

Treatment

In a second paper, the new method is applied for intervention. The researchers say that it could change the way autistic children learn and communicate by helping them develop self-motivation, rather than relying on external cues and commands, which are the basis of behavioral therapy for children with autism.

Torres and her team created a digital set-up that works much like a Wii. Autistic children were exposed to onscreen media - such as videos of themselves, cartoons, a music video or a favorite TV show - and learned to communicate what they like with a simple motion.

"Every time the children cross a certain region in space, the media they like best goes on. They start out randomly exploring their surroundings. They seek where in space that interesting spot is which causes the media to play, and then they do so more systematically. Once they see a cause and effect connection, they move deliberately. The action becomes an intentional behavior," explains Torres.

Researchers found that all 25 children in the study, most of whom were nonverbal, spontaneously learned how to choose their favorite media. They also retained this knowledge over time.

The children independently learned that they could control their bodies to convey and procure what they want. "Children had to search for the magic spot themselves," Torres says. "We didn't instruct them."

Torres believes that traditional forms of therapy, which place more emphasis on socially acceptable behavior, can actually hinder children with autism by discouraging mechanisms they have developed to cope with their sensory and motor differences, which vary greatly from individual to individual.

"A powerful framework"

Prof. Anne M. Donnellan, the director of the USD Autism Institute at the University of San Diego, and editor of the papers, says:

"Based on my in my 40+ year experience in autism, I see this research as truly groundbreaking and bound to have a broad impact across multiple disciplines of brain science."

"It provides a powerful, radical new framework for the assessment and categorization of autism that does not require subjective human assessment, and invites a transformation of current

behavioral therapies, from emphasis on instruction driven therapies, to exploratory self-discovery techniques."

It is too early to tell whether the research will translate into publicly available methods for therapy and diagnosis, says Torres. But she is confident that parents of children with autism would find it easy to adopt her computer-aided technique to help their children.

**References**

The studies are published as part of a special collection of papers in a Frontiers Research Topic titled Autism: The Movement Perspective.

The co-principle investigators in the study on the clinical side are Dr. John Nurnberger and Dr. Kimberly Stigler from the department of Psychiatry at the Indiana University School of Medicine

Title: Give spontaneity and self-discovery a chance in ASD: Spontaneous peripheral limb variability as a proxy to evoke centrally driven intentional acts Journal: Frontiers in Neuroscience DOI: 10.3389/fnint.2013.00046 Link: http://www.frontiersin.org/Integrative_Neuroscience/10.3389/fnint.2013.00046/abstract

Title: Autism: The Micro-Movement Perspective Journal: Frontiers in Neuroscience DOI: 10.3389/fnint.2013.00032 Link: http://www.frontiersin.org/Integrative_Neuroscience/10.3389/fnint.2013.00032/abstract

## AUTISM INTERNET MODULES

http://www.autisminternetmodules.org/

For those interested, there are several educational modules regarding autism at the web address above.

One must sign up (for free) before accessing the Autism Internet Modules (AIM). These modules come with tests of knowledge, so their completion can be documented as Active CPD, provided you mention them in your CPD Learning Plan.

There are 39 current modules, with at least 20 future modules being created.

You can get documented credit for the modules by paying $10 per hour. However, you can still get the knowledge for free but without documentation

General Topics include: Recognising autism, infant and toddlers with autism, autism at home, autism in the classroom, autism in the workplace, and autism in the community.

## PsychDD members' organisations for 2013

| | |
|---|---|
| Ageing, Disability and Home Care (ADHC / FACS) | 35 |
| Interaction Disability services (IDS) | 5 |
| Autism Spectrum Australia | 4 |
| House With No Steps (HWNS) | 3 |
| Learning Links | 3 |
| Centre for Disability Studies (CDDS) | 2 |
| Sunnyfield Disability Services | 2 |
| Attune Relate Connect | 1 |
| CHW Dept Psychological Medicine | 1 |
| CHW Disability Support Unit (DSU) Burwood | 1 |
| CHW Parramatta Early Childhood Assessment Team (PECAT) | 1 |
| Civic Disabilities | 1 |
| Deakin University | 1 |
| Department of Education and Communities | 1 |
| Disability Services Australia (DSA) | 1 |
| Private practice | 1 |
| Recovre | 1 |
| Royal Institute for Deaf and Blind Children | 1 |
| The resilience Centre | 1 |
| Therapy ACT | 1 |
| Warringah Council | 1 |

## PsychDD Committee Meetings

Dear members,

Members of PsychDD have the right (and privilege!) of attending the PsychDD Committee meetings.

For anyone interested in attending these meetings, they take place from 3:30 pm to 5:00 pm on 7 occasions throughout the year.

Our current venue is the House With No Steps office, level 3, 20-24 Wentworth St, Parramatta.

Meeting dates for the rest of 2013: *Mondays 11th November (pre-conference meeting at DSA Bankstown), 2nd December.*

# Current PsychDD Committee

| | | |
|---|---|---|
| Chair: | Jennifer Povey (temporary) | 9451 1511 |
| Vice Chair: | Anita Gardner | 8977 8390 |
| Secretary: | Andrew Marynissen | 9891 7202 |
| Treasurer: | Jennifer Povey | 9451 1511 |
| Newsletter Editor: | Andrew Marynissen | 9891 7202 |
| Membership Secretary: | Andrew Marynissen | 9891 7202 |
| Forum Coordinator: | Lisa Osborne | 1300 668 123 |
| Conference Co-ordinator: | Anita Gardner | 8977 8390 |
| Workshop Co-ordinator: | Lisa Osborne | 1300 668 123 |
| Pre-Conference Workshop Co-ordinator | Lisa Osborne | 1300 668 123 |
| Webmaster: | Caroline Ooi | 0449 690 204 |
| Publicity: | Andrew Marynissen | 9891 7202 |
| Public Officer (incorporation): | Andrew Marynissen | 9891 7202 |
| Committee Members: | Ewa Geba | 4620 9660 |

# Please consider joining the PsychDD committee!!

Are You PsychDD Material? You probably are!

Our committee is the smallest it's ever been, with only 5 active members.

We are looking for Psychologists who would like to become part of our committee. We meet 7 times a year (roughly every 2 months) for 1½ hours on a Monday afternoon. Our current venue is the office of the House With No Steps, level 3, 20-24 Wentworth St, Parramatta. There is a parking station across the road and the railway station is very close.

Meeting dates are located on the *page 6* of this newsletter. Some of us also have responsibilities at forums, workshops and the annual conference.

The job of the committee is to manage PsychDD, ranging from organising forums, workshops and an annual conference, to publicity, newsletters, incorporation, membership and a website as well.

Please consider joining our committee. We have changed our meeting times to *be during business hours* for committee members' convenience. If you are interested, please contact one of the committee members. Our numbers are listed (above) in every newsletter, and Andrew's email address is on the front page.

Being on the committee of an organisation of around 80 Psychologists in a specific field can be a feather in your cap when it comes to seeking work in the field. It is also favourable to the Registration Board in terms of being on the committee of a psychology-specific Association. If you become involved with our big events then you will also develop many new skills that can be applied to other areas of your work, such as organising and running groups, and co-ordinating events.

## PSYCHDD MEMBERSHIP RENEWAL/APPLICATION FORM

Surname: .....Given names: .....

Employer: ..... Position: .....

Mailing address: ☐work or ☐home: .....

.....

Phone no: ☐work or ☐ home: ..... fax: .....

E-mail: .....

Are you registered as a psychologist with the NSW Psychologist Registration Board? ☐yes ☐ no

If yes, what is your registration status: ☐full or ☐conditional?

What psychology degree(s) do you hold? .....

Years of service as a psychologist working in the field of developmental disability services: .....

How did you find out about PSYCHDD (if you are a new member)? .....

.....

Do you have an area of special interests or expertise in disability work? .....

.....

Are you are agreeable to your name and area of interest appearing in a directory of members' interests which we publish from time to time in the Newsletter *and on the internet*? ☐yes ☐no

Tick the contact details you are happy to have included (usually only email address is included):
☐ mailing address ☐ phone number ☐ email

All members are sent flyers for events and other updates regarding events, in addition to receiving the newsletter. If you *do not* want to receive this information, please indicate by ticking the box.

☐ I *do not* want to receive flyers, advertisements or updates regarding PsychDD issues.

Please enclose $20.00 annual membership payable to PSYCHDD and post to

Andrew Marynissen, PECAT
Locked Bag 4001
Westmead NSW 2145

***Please note: Membership is GST exempt and valid until the annual conference (November) of that year.***

Event photos (possibly containing attendees) may be published in newsletters and may also appear on the PsychDD website. Please advise if you have an issue with this. Contact: Andrew Marynissen on 9891 7202 (you can also leave a message) or at email andrew.marynissen@health.nsw.gov.au, or make a comment on this form.

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**IDEAS FOR FORUMS**

We are interested to know what topics members would like to see presented as forums. Please tick three topics from the following list which has been derived from the member feedback form.

☐ syndromes and congenital disorders
☐ ageing and developmental disability
☐ management of challenging behaviour
☐ dual diagnosis
☐ new developments in psychological assessment for people with a disability
☐ cognitive-behavioural strategies
☐ working with families
☐ families from other cultures
☐ other.....

ABN: 22 404 141 513