



Autism plus Psychiatric Disorders: A life span perspective

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Objectives

- To describe the occurrence of psychiatric conditions in autism spectrum disorders (ASD) across the life span.
- To discuss the reasons why some persons with ASD suffer from psychiatric disorders.
- To highlight the importance of early diagnosis and treatment of psychiatric disorders in persons with ASD.




Outline of the Presentation

- Introduction
- Definition of ASD; Psychiatric Disorders and Comorbidity
- ASD+Common Psychiatric Disorders
 - ASD+ADHD
 - ASD+Depression
- ASD+Uncommon Psychiatric Disorders
 - Psychotic Disorders
 - Catatonia
 - Other
- Implications for treatment and outcome
- Conclusion




Autism Spectrum Disorders: An overview

- Autism Spectrum Disorders (ASD) are a group of disorders characterized by a combination of social deficits; communication impairment; and a restricted range of interests.
- ASDs are divided into the following types:
 - Autistic Disorder
 - Asperger Syndrome
 - PDDNOS
 - Rett's Syndrome
 - Disintegrative Disorder



What are psychiatric disorders?

- No universally accepted definition
- Any emotional or behavioral disorder that causes a significant degree of distress and impairment to the individual or to the community.



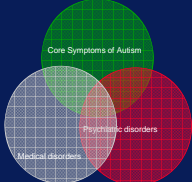
Multi-axial classification

- Axis I: Clinical Disorder
- Axis II: Personality Disorder/Mental Retd
- Axis III: General Medical Condition
- Axis IV: Psychosocial Problems
- Axis V: Global assessment of functioning

M University of Michigan Medical School *What is Comorbidity?*

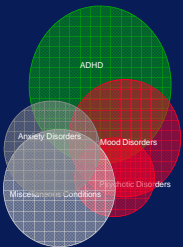
- Occurrence of two or more conditions together
 - Example: Heart Disease + Diabetes
 - Example: Autism + Epilepsy
- The two conditions may or may not be linked to each other
- Types: True versus Artfactual

M University of Michigan Medical School *Comorbidity of Autism*



A Venn diagram with three overlapping circles. The top circle is green and labeled 'Core Symptoms of Autism'. The bottom-left circle is grey and labeled 'Medical disorders'. The bottom-right circle is red and labeled 'Psychiatric disorders'. The intersections between the circles are shaded with a grid pattern.

M University of Michigan Medical School *Psychiatric comorbidity of Autism*



A Venn diagram with four overlapping circles. The top circle is green and labeled 'ADHD'. The bottom-left circle is grey and labeled 'Anxiety Disorders'. The bottom-right circle is red and labeled 'Mood Disorders'. The bottom-most circle is white and labeled 'Specific Phobic Disorders'. The intersections between the circles are shaded with a grid pattern.

M University of Michigan Medical School *Prevalence*

- 109 children with autism (ADI-R; ADOS; expert clinician).
- 5-17 years old.
- Mean full scale IQ: 82.5
- Modified K-SADS used.
- Only parents interviewed.
- 72% had at least one DSM-IV psychiatric disorder.

(Leyfer et al., 2006).


M University of Michigan Medical School *Prevalence*

- About 65% of children and adolescents with Asperger syndrome suffer from an additional psychiatric disorders.
- ADHD is the most common diagnosis in children with ASD while depression is probably the most common diagnosis in adolescents and adults.


(Ghaziuddin et al., 1998; Gillberg and Billstedt, 2000)

M University of Michigan Medical School *Prevalence rates of psychiatric disorders in ASD: summary slide*


- In clinic-based studies, 60-70% of persons with ASD present with additional psychiatric disorders.
- In children, the most common diagnosis is ADHD (attention deficit hyperactivity disorder).
- In adolescents and adults, depression and other mood disorders are the most common.


 **Prevalence studies: Limitations**

- Most studies are derived from clinic-based samples.
- Most studies have excluded lower functioning subjects.
- Limited data in adults.
- Disparate and inconsistent methods of diagnosis and assessment.


 **ADHD plus Common Psychiatric Disorders**

- Attention Deficit Hyperactivity Disorder (ADHD)
- Mood Disorders

 **ADHD in persons with Autism Spectrum Disorders**


 **ADHD**

- Main features are: attention deficit; impulsivity, and hyperactivity.
- Hyperactivity may or may not be present.
- Onset usually before 7 years of age.
- Males more commonly affected.
- Both genetic and environmental factors are involved.

 **Prevalence**

- Occurs worldwide
- Persists into adolescence/adulthood in 40%
- Three main types: hyperactive; inattentive; combined.
- Girls present more commonly with the inattentive type
- Symptoms change over time and hyperactivity/impulsivity decreases with age

Faraone et al. 2003. World Psychiatry, 2(2), 104-113
Kessler et al. 2005. Biol Psychiatry, 57,1,11332-1452

 **Comorbidity of ADHD: MTA study**

- ODD: 40%
- Anxiety Disorder : 34%
- Conduct Disorder: 14%
- Tic Disorders: 11%
- Mood Disorders: 4%



- However, relatively little is known about the occurrence of ADHD in ASD because:
 - Studies of ADHD exclude subjects with ASD.
 - The DSM-IV and ICD-10 does not allow for the diagnosis of ADHD.



Symptoms of ADHD in ASD

- Problems with attention often occur in children with autism.
- Autistic children have difficulty in processing information.
- These contribute to their social deficits.
- In clinic samples, at least 10% of patients referred for assessment of ADHD suffer from comorbid ASD.



Presentation of ADHD in ASD

- Hyperactivity and impulsivity out of proportion to the level of autism.
- Symptoms often mixed with oppositional behavior and mood instability.
- Note: In some children with ASD, hyperactivity is replaced by hypo-activity in adulthood.



Diagnosis of ADHD in ASD

- Diagnosis of ADHD only if symptoms are severe and persistent.
- Rule out medical factors, such as, thyroid disorders.
- Rule out other psychiatric conditions.
- Use appropriate rating scales.
- Patient should meet the criteria of both ADHD and ASD.



Treatment of ADHD in ASD

- Treat both the symptoms of ADHD and those of ASD.
- Use medications with behavioral therapy and educational treatment.
- Stimulants form the mainstay of treatment, despite the erroneous belief that 1) they do not work in autism; and 2) they cause more side effects.



Mood Disorders in persons with ASD



What are mood disorders?

- Mood disorders are characterized by an abnormal disturbance of mood.
- Types include:
 - Major Depression
 - Bipolar Disorder
 - Dysthymia
 - Depression NOS
 - Depression with psychotic features



Depression

- Depression is a medical disorder characterized by a disturbance of mood, thinking, and behavior.
- The disturbance should last for at least 2 weeks and should result in a significant degree of impairment.



Depression

- The symptoms consist of:
 - Depressed mood that is qualitatively different from normal sadness
 - Loss of interest in pleasurable activities
 - Problems with sleep and appetite
 - Difficulty in organizing and paying attention
 - Interpersonal difficulties (eg. Work and relationships).
 - Suicidal behavior
 - Psychosis in extreme cases



Depression: causes

- Depression is caused by a combination of genetic and environmental factors.
- Depressed persons often have a family history of depression.
- There is also an association with negative life events (eg. Death, divorce etc.)
- However, irrespective of the cause of depression, there is no difference in the symptoms.



Prevalence

- In Western countries, the prevalence of depression is about 15%.
- Before puberty, the sex ratio is equal
- Females are more commonly affected after puberty.



Depression in ASD

- Persons with ASD can also develop depression
- 30% of referrals with higher-end ASD (Asperger syndrome and normal-IQ Autism) get a diagnosis of Depression.

Ghaziuddin, 1998; 2005

Gillberg and Billstedt, 2000

M University of Michigan Medical School *Prevalence of Depression in ASD*

- **High rates (~50%) in clinic patients with PDDNOS (Atypical autism)**

Mouridsen et al., 2007.

- **Across the life span, depression is probably the most common psychiatric disorder in persons with ASD.**

Ghaziuddin 2002; Matson et al., 2007.

- **However, there are no community based studies.**

M University of Michigan Medical School *Symptoms of Depression in ASD*

- **In higher functioning patients: depressed mood, increasing withdrawal.**
- **In lower functioning patients: weight loss, regression of skills.**
- **Special features: increase in morbid fixations, quasi-psychotic features, increase in obsessive features.**

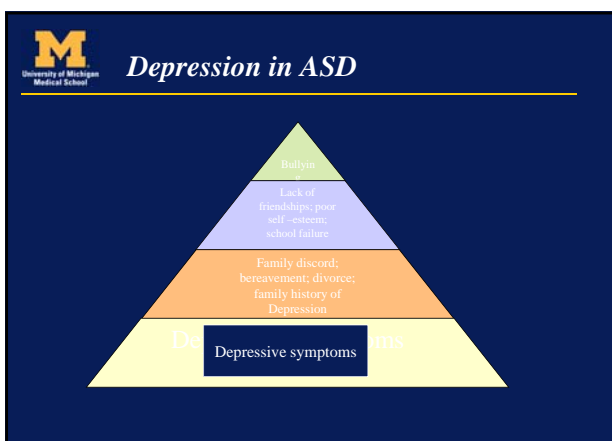
M University of Michigan Medical School *Causes of Depression in persons with ASD*

- **Exposure to stressful events, such as, bullying in school; change of educational programs; family problems etc.**
- **Depressed children with ASD are more likely to have a history of exposure to stressful events than non-depressed children.**
- **Therefore rule out depression as a cause of behavioral change if there is a history of exposure to recent negative life events.**

Ghaziuddin et al., 1995.


M University of Michigan Medical School *Causes of Depression in ASD*

- **Some studies suggest that parents of children with ASD are more at risk of depression than those of other developmental disorders such as Down syndrome.**
- **Therefore, think of depression as a likely cause of behavioral change if there is a strong family history of depression.**




M University of Michigan Medical School *Causes of Depression in ASD: Summary slide*

- **Genetic factors:**
 - Family history of mood disorders
 - Common genetic mechanisms?
- **Environmental factors/life events:**
 - Bullying and teasing in school
 - Social and sexual difficulties
 - Family discord
- **Combination**


 **Suicidal behavior in persons with ASD**

- Sometimes adolescents and adults with autism and Asperger syndrome commit suicide.
- The underlying cause is depression.
- Parents and professionals should take suicidal behavior and comments seriously.


 **Suicidal behavior in ASD**

Burt Bacharach's daughter commits suicide
New York Times, Fri Jan 5, 2007, 8:06 PM ET


- The only child of pop songwriter Burt Bacharach and actress Angie Dickinson has committed suicide after a lifetime struggling with a form of autism.
- Nikki Bacharach, 40, died "quietly and peacefully" at her home in the northern Los Angeles municipality of Thousand Oaks on Thursday night, a statement said.
- She was diagnosed with Asperger Syndrome following her premature birth in 1966, and her father recounted her struggles that year in the song "Nikki."

 **Take-home message.....**


- Parents and care-givers should have a high index of Depression in persons with ASD.

 **When should you suspect depression in persons with ASD?**

- When "new" symptoms occur, such as:
 - Crying spells
 - Sadness
 - Aggression
 - Irritability
 - Increasing social withdrawal
 - Loss of interest in pleasurable activities
 - Regression of skills

 **When should you suspect depression in persons with ASD?**

- When "old" symptoms get worse, such as:
 - Anger outbursts
 - Irritability
- When the person with ASD goes through major life events, such as:
 - Change of school
 - Bullying in school
 - Death and divorce in the family
 - Especially after puberty
- When there is a strong family history of Depression.

 **Assessment**

- Detailed psychiatric examination
- Rule out medical causes (eg. Thyroid dysfunction)
- In ASD without MR: Structured interviews possible (eg. SADS-PL); Rating scales (eg. Hamilton)
- In ASD with MR: no structured interviews, scales such as the Reiss Scale; Aberrant Behavior Checklist.
- Consensus and Best Estimate Diagnosis



Treatment issues

- Antidepressants (eg, SSRIs) are most commonly used.
- In many children with a mixture of mood and hyperactive symptoms, antidepressants are combined with stimulants.
- Combination of cognitive behavior therapy and medications in higher functioning subjects.
- In refractory cases: augmentation strategies, mood stabilizers, ECT.



Mood Disorders

Bipolar Disorder



Bipolar Disorder (Manic Depressive Illness)

- Characterized by cycles of mood disturbance: depression followed by elation or irritability.
- Duration of the cycles varies.
- Usual age of onset is early adult life.



Bipolar Disorder (Manic Depressive Illness)

- Bipolar disorder is less common than Depression occurring in about 1-2% of the population.
- It is also caused by a combination of genetic and environmental factors.
- It is being increasingly diagnosed in children and adolescents.



Special features in children

- Manic children seldom present with euphoria. Most predominant mood is irritability.
- "Affective storms" or prolonged and aggressive outbursts common.
- Course more chronic compared to that in adults.
- Symptomatic overlap with ADHD.
- "Atypical" features more common in child-onset bipolar disorder (BPD) than in adult-onset BPD.



Bipolar Disorder and ASD

- Some studies have suggested links between bipolar disorder and higher functioning autism and Asperger syndrome



Bipolar Disorder and ASD

- In one study, the rate of bipolar affective disorder in family members was 4.2%, higher than in the general population; it was significantly higher in families with Asperger's syndrome, suggesting an etiological link between Asperger's syndrome and manic depression.

DeLong and Dwyer (1988)



Bipolar Disorder in ASD

- Diagnosis depends on the presence of mood lability and a history of cyclical mood changes.
- History of onset is critical.
- Family history of mood disorders, especially bipolar disorder, is important.
- Use rating scales, such as, YMRS (Young Mania Rating Scale).



Treatment of Bipolar Disorder in ASD

- Mood stabilizers are the main drugs.
- These include lithium, depakote etc.
- A low dose of an antipsychotic medications, such as risperidone, often necessary in the acute stages.
- If mania occurs, hospital admission should be considered.
- Treat any environmental and social factors.



Dysthymia

- Dysthymic Disorder is a chronic condition characterized by depressive symptoms that occur for most of the day, more days than not, for at least 2 years.
- In children, the mood may be irritable rather than depressed, and the required minimum duration is only 1 year.



Depression NOS

- NOS=Not Otherwise Specified
- Symptoms of depressive disorder that do not meet the criteria of any specific depressive disorder.



ASD + Uncommon Psychiatric Disorders

Psychotic disorders
Catatonia



ASD + Psychotic Disorders

- Persons with ASD sometimes develop psychotic episodes.
- These are characterized by hallucinations; delusions; regression of skills; and loss of a sense of reality.
- The usual age of onset is late adolescence or early adulthood.
- Causes may range from severe depression to schizophrenia to medical conditions.



Depression with psychotic features

- Sometimes depressive symptoms are accompanied by loss of reality as shown by:
 - Hallucinations (seeing or hearing things that do not exist)
 - Delusions (false beliefs)
 - Paranoid thinking



Depression with psychotic features

- Persons with ASD sometimes develop psychotic features, especially during late adolescence and early adulthood.
- Some higher functioning persons, such as those with Asperger syndrome, show a thought disorder resembling that of schizophrenia.
- The underlying cause is usually depression.



Take-home message....

- When higher functioning persons with ASD develop psychotic behavior (eg. hearing voices; having abnormal beliefs etc.), rule out underlying Depression.




Autism and Schizophrenia

- Although the prevalence of schizophrenia in ASD is not increased, some patients with ASD develop schizophrenia (Volkmar and Cohen, 1991).
- While autism and schizophrenia are generally regarded as two distinct disorders, there are similarities between the two conditions which need to be explored.




Catatonia in ASD


- Catatonia is a disorder in which the patient becomes slow in his movements, regresses and loses his skills, and in some cases, becomes mute.
- It can occur secondary to depression and psychosis.
- Rarely, it can also result from medical conditions, such as, severe infections.
- If not treated, it can lead to starvation and death.


 **Catatonia in ASD**


- Some patients (~15%) with autism develop catatonia during late adolescence and early adulthood.
(Wing and Shah, 2007)
- The symptoms often begin with obsessive slowing and an increase in compulsive behaviors.
- In severe cases, ECT may be necessary.
(Doshche, 2007; Ghaziuddin et al., 2005)

 **Catatonia in ASD: a case history**


- SB, a 14-year-old girl with ASD (Asperger syndrome)
- Six month history of increasing withdrawal; crying spells; losing interest in school and her hobbies.
- Main interest: horses; now less interested.
- History of religious preoccupations; feelings of guilt (“Am I a good Christian?”); problems with sleep and appetite.

 **Catatonia, Depression, ASD**




 **Other Psychiatric Disorders in ASD**

- Anxiety Disorders
 - Obsessive Compulsive Disorder
 - Generalized Anxiety Disorder
 - Simple Phobias
 - Selective Mutism
- Sleep Disorders
- Eating Disorders
- Miscellaneous

 **Other psychiatric disorders in persons with ASD**

Anxiety Disorders in persons with ASD

 **Anxiety Disorders in Autism**

- Common types are
 - Obsessive Compulsive Disorder
 - Generalized Anxiety Disorder
 - Simple Phobias

 **Obsessive Compulsive Disorder**

- Characterized by obsessions or compulsions or both
- Often these are part of the definition of autism

 **Consider Obsessive Compulsive Disorder when:**

- There is a clear onset
- There is a change of the type of symptoms
- There is an increase in the severity of pre-existing symptoms

 **Prevalence of OCD in ASD**

- 37% of high functioning subjects with autism in a study met the criteria for OCD (*Leboyer et al., 2006*).
- However, distinction between “autistic rituals” and “OCD phenomena” is controversial.

 **Generalized Anxiety Disorder**

- Characterized by free floating anxiety
- The patient worries about events that may occur in the future, such as illness
- Often co-exists with mild depression
- Physical symptoms, such as sweating, stomach ache, common.

 **Simple Phobias**

- People with autism/PDD often show a variety of phobias
- These interfere with their quality of life and cause distress
- Common phobias are fear of elevators, fear of heights and needles etc.

 **Selective mutism and ASD**

- Selective mutism is a disorder in which the child speaks only in some settings (eg. Home) and does not speak in others (eg. School).
- Some patients with milder forms of ASD initially present with selective mutism.
- All cases of selective mutism should be screened for ASD.



Treatment of Anxiety Disorders in ASD

- Behavioral treatments such as de-sensitization of phobia, should be tried.
- Social and psychological interventions, eg. Cognitive behavior therapy, useful in some patients.
- Medications especially Selective Serotonin Receptor Inhibitors (Prozac etc.) should be tried.



Sleep in ASD

- 40-80% of children with ASD suffer from sleep disorders.
- Problems include: irregularity in sleep/wake pattern; sleep onset problems; frequent and prolonged night-time awakenings or early morning awakenings; reduced sleep and poor sleep routines (Hoshino et al., 1984; Wiggs and Stores 2004).



Sleep in ASD

- Sleep problems are correlated with a more severe behavior phenotype (Schreck et al., 2004).
- One study found that EEG abnormalities; epilepsy; and sleep disorders were more common in children with the regressive form of autism than in children with the non-regressive form (Gianotti et al., 2008).



Conclusion

- Almost always, Autism Spectrum Disorders (ASD) are life-long conditions.
- An overwhelming number of persons with ASD suffer from additional behavioral, psychological and psychiatric problems.
- Standard treatments of ASD work better when associated problems are treated in a timely and systematic manner.
- Treatment of associated psychiatric problems improves the quality of life of the affected individuals and reduces the burden of care of families.



Psychiatric Disorders in ASD: What is needed

- Need population based studies.
- Need specific assessment tools especially in lower functioning individuals with ASD.
- Need more awareness among parents and professionals.
- Need to develop specialist services.



Thank you