Child Psychiatry

Aetiology

Brain damage
• rate of psychiatric disorder among children with brain damage is related to the severity of the damage, though not closely to the site

Lead intoxication
• there is an established association between IQ and total body lead (inverse relationship)
• may be other factors, such as low IQ is known to be related to social adversity – playing near roads etc.

Family
• Family risk factors for psychiatric disorder in childhood are additive
  1. severe marital discord
  2. low social status
  3. large size or overcrowding
  4. paternal criminality
  5. maternal psychiatric disorder
• Protective factors include:
  • good mothering
  • strong affectionate ties within the family
  • sociability and the capacity for problem solving in the child
  • support outside the family (individuals, school, church)
• patterns of child rearing are not clearly related to childhood psychiatric disorder

Divorce
• children of divorced parents have more psychological problems
• problems greatest in the year following divorce
• among children brought up by a divorced mother, boys have more problems than girls

Death of a parent
• children aged below 4-5 do not have a complete concept of death
• children aged 5-11 have a better understanding of death
  • may become depressed and overactive, and may show disorders of conduct
  • some have suicidal thoughts and fantasies about reuniting with the dead parent, although suicidal actions are rare
• children over the age of 11 have responses similar to adults
## Psychological measures used in the assessment of children

<table>
<thead>
<tr>
<th><strong>Intelligence tests</strong></th>
<th><strong>Description</strong></th>
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| Stanford-Binet intelligence scale | • Provides mental age  
• Seldom used  
• Weighted to verbal abilities and may result in a cultural bias  
• More useful for middle-class parents and for low ability |
| WISC-III-R | • Provides both verbal and performance ability as well as overall IQ  
• Used for children aged 6-14 years  
• Cannot be used for IQ below 40 |
| Weschler pre-school and primary scale of intelligence (WPPSI) | • A version of WISC used for younger children (4-6.5 years) and the mentally retarded |
| British ability scales | • Twenty-four subscales suitable for 2.5-17 years, covering six areas:  
1. Speed of information processing  
2. Reasoning  
3. Spatial imagery  
4. Perceptual matching  
5. Short-term memory, retrieval  
6. Application of knowledge |
| Goodenough-Harris drawing test | • A brief test of non-verbal intelligence for children aged 3-10 years |

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<th><strong>Social development assessments</strong></th>
<th><strong>Description</strong></th>
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<tr>
<td>Vineland social maturity scale</td>
<td>• Provides ‘social age’</td>
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<tr>
<td>Adaptive behaviour scales (Nihira)</td>
<td>• Rating scales to evaluate abilities and habits in 10 behavioural areas</td>
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<tr>
<td>Gunzberg progress assessment charts</td>
<td>• Provides a clear visual display of self-help, communication, social and occupational abilities</td>
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<tr>
<th><strong>Other developmental assessment</strong></th>
<th><strong>Description</strong></th>
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</table>
| Denver developmental scale | • Assessment of gross and fine motor skills, language, and social development  
• Used for children up to 2 years |
| Bayley scales of infant development | • Can be scored on mental and psychomotor development indices  
• Comprehensive  
• Reliable to ages 2 months to 2.5 years |

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<tr>
<th><strong>Educational attainment</strong></th>
<th><strong>Description</strong></th>
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<tr>
<td>Neale analysis of reading</td>
<td>• Graded test of reading ability, accuracy,</td>
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<tr>
<td>Test</td>
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<tr>
<td>Schonell graded word reading test</td>
<td>Child reads words of increasing difficulty</td>
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<tr>
<td>Schonell graded word spelling test</td>
<td>Child spells words of increasing difficulty</td>
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Problems of preschool children

Prevalence

- Most common abnormalities of behaviour are (Richman et al.):
  1. bed-wetting at least 3 times a week (37%)
  2. wetting by day at least once a week (17%)
  3. over-activity (14%)
  4. soiling at least once per week (13%)
  5. difficulty settling at night (13%)
  6. fears (13%)
  7. disobedience (11%)
  8. attention-seeking (10%)
  9. temper tantrums (5%)

Prognosis

- certain problems detected in 3 year olds are more likely to persist until the age of 8:
  1. over-activity
  2. conduct disorder
  3. speech difficulty
  4. effeminacy
  5. autism

Some common problems of preschool children

Temper tantrums

- often due to unwitting reinforcement by excessive attention and inconsistent discipline
- usually respond to kind but firm and consistent setting of limits

Sleep problems

- most common problem is wakefulness at night
- most frequent between the ages of 1 and 4
- when sleep disturbances are severe or persistent:
  1. problems may be made worse by physical or emotional disorders
  2. may be exacerbated by parents’ overconcern or inability to provide reassurance
- a behavioural approach is usually sufficient
- nightmares and night terrors are common among healthy toddlers and seldom persist for long

Feeding problems

- see causes of sleep disturbance (i.e. parents)

Pica

- is the eating of items considered as inedible
• common causes include:
  1. brain damage
  2. autism
  3. mental retardation
  4. emotional distress
• usually diminishes as the child grows
Conduct and Oppositional disorders

Classification
1. Conduct disorder confined to the family
2. Unsocialized conduct disorder
3. Socialized conduct disorder
4. Oppositional defiant disorder
5. Other conduct disorders
6. Conduct disorder, unspecified

Clinical features
• Characterized by ‘a repetitive and persistent pattern of dissocial, aggressive or defiant conduct’
• Involves ‘major violations of age-appropriate social expectations, and is therefore more severe than ordinary childish mischief or adolescent rebelliousness’
• ‘isolated dissocial or criminal acts are not in themselves grounds for the diagnosis’

Specific symptoms
• stealing is more common in CD
• aggressive behaviour
• truancy from school
• vandalism
• firesetting:
  • mainly boys ten years or older
  • normal intelligence
  • express aggression inappropriately
  • conduct or personality disordered
  • poor peer relationships
  • behave and achieve poorly at school
  • single parent families
• drug abuse
• deviant sexual behaviour

Prevalence
• 2/3 of psychiatric disorders among 10 and 11-year-old children are conduct disorders (Isle of Wight study, Rutter et al., 1970)
• prevalence approx. 12 %
• more common among boys
• urban = rural

Aetiology
1) Constitutional factors
   a) Genetic factors
      i) adult criminality has a genetic predisposition, but the evidence is less strong in the case of children
   b) Chromosome abnormalities
i) may contribute as a result of learning difficulties and problems in social adaptation

c) Intrauterine factors
   i) brain damage may contribute to antisocial behaviour

d) Birth injury and prematurity
   i) may be confounded by the separation that occurs when the child is if low birthweight or ill

2) **Physical disease and injury**
   a) adverse medical histories are more common in delinquent children than in matched controls
   b) evidence of trauma to the CNS has been found to be more common among aggressive young people
   c) possible association between epilepsy and aggressive behaviour

3) **Temperament**
   a) link between *difficult* temperament and antisocial behaviour

4) **Environmental factors**
   a) The family
      i) antisocial behaviour is linked with (Patterson, 1982):
         (1) lack of ‘house’ rules – that is, no set routines and other activities
         (2) failure by the parents to monitor the children’s behaviour
         (3) lack of effective contingencies and inconsistent responses to undesired behaviour
         (4) lack of techniques with which to deal with crises or problems within the family
      ii) Wilson (1980) found that weak parental supervision was the factor most strongly associated with delinquency
   b) Extrafamilial factors
      i) higher prevalence of conduct disorders in urban than in rural areas
      ii) role of peer group dynamics

5) **Other associations**
   a) between severe behavioural problems in young people, and psychotic symptoms such as paranoid ideation or visual hallucinations
   b) between conduct disordered behaviour and depression, suicidal ideation and attempts, and drug and alcohol abuse
   c) lower than average IQ in boys
   d) *reading disability* has been found in about 1/3 of conduct disorders
   e) *depression*

**Prognosis**
- antisocial behaviour tends to persist into adulthood, with 50% still exhibiting antisocial tendencies
- better prognosis in socialized conduct disorder
F90  Hyperkinetic and Attention Deficit disorders

Classification
F90  Hyperkinetic disorders
   F90.0  Disturbance of activity and attention
   F90.1  Hyperkinetic conduct disorder
F90.8  Other hyperkinetic disorders
F90.9  Hyperkinetic disorder, unspecified

Clinical features
1) Impaired attention and hyperactivity
2) These behavioural problems should be evident in more than one situation
3) Deficits in persistence and attention should be diagnosed only if they are excessive for the child’s age and IQ
4) Symptoms of conduct disorder are neither exclusion nor inclusion criteria for the main diagnosis
5) The characteristic behavioural problems should be evident before 6 years and of long duration

Epidemiology
• 1/3 of children are described by their parents as being overactive, and 5-20 % of schoolchildren are so described by teachers
• prevalence of hyperkinetic syndrome is around 0.1%
• M:F=3:1

Aetiology of hyperkinetic syndrome
1) Genetic
   a) higher concordance in MZ twins than in DZ twins
2) ‘Minimal Brain damage’
   a) generally discredited
3) Neurodevelopmental abnormality
   a) hyperactivity associated with:
      i) low IQ
      ii) clumsiness
      iii) language delay
      iv) abnormalities of speech
      v) perinatal complications
4) Other associations
   a) postulated link with food additives, e.g. tartrazine
   b) links with lead poisoning

Treatment
1) Behavioural approaches to managing difficult behaviours
2) Ritalin:
   a) side effects include anorexia, insomnia, reduced growth rate, and labile moods
Outcome

- hyperactivity tends to lessen with age
- some features tend to persist into adult life:
  - poor school performance
  - relationship activities
  - antisocial behaviour (in around 25%)
  - 20% meet the criteria for antisocial personality disorder
F84  Pervasive Developmental Disorders

F84.0 Childhood Autism (Kanner, 1943)

Epidemiology
- prevalence of 2 per 10,000
- M:F=3:1

Clinical features
- Kanner described four main features of autism:
  1. autistic aloneness
  2. delayed or abnormal speech
  3. an obsessive desire for sameness
  4. onset in the first two years of life

1) Abnormalities apparent before the age of three
2) Restricted, repetitive and stereotyped patterns of behaviour, interests, and activities:
   a) rigid and restricted patterns of play
   b) intense attachment to unusual objects
   c) unusual preoccupations and interests
   d) marked resistance to any change in the environment or daily routine
3) Impaired social relationships
   a) as an infant the child was slow to smile, unresponsive and passive, with a dislike of physical contact and affection
   b) lack of empathy and cooperative play
   c) failure to employ usual methods of non-verbal communication such as 
      indicating behaviours
4) Language abnormalities
   a) language acquisition is delayed and about 50% of cases never develop language
   b) abnormalities include:
      i) echolalia
      ii) poor comprehension and use of gestures
      iii) pronominal reversal (use of ‘you’ for ‘I’)
      iv) abnormalities in intonation, rhythm and pitch
5) Cognitive abnormalities
   a) majority are mentally retarded (70%)
   b) only 5% have an IQ above 100
6) Other associations
   a) epilepsy (25 % develop seizures around adolescence)
   b) rubella
   c) phenylketonuria
   d) tuberose sclerosis
   e) neurolipidoses
   f) infantile spasms
Aetiology

1) Genetic
   a) higher concordance among MZ twins
   b) condition is 50x more frequent in the siblings of affected persons
   c) cognitive abnormalities are more common among the siblings of autistic parents

2) Organic brain disorder
   a) increased rate of perinatal complications
   b) increased brain serotonin levels
   c) some reports of reduced neuronal size in the limbic system, and reduced cell number in the cerebellum

3) Abnormal parenting
   a) Kanner initially suggested that autism was a response to cold, detached, and obsessive parents

4) Theory of mind
   a) by the age of 4, most children are able to form an idea of what others are thinking
   b) an autistic child lacks this appreciation of what information others possess and what they are likely to be thinking

Treatment
• counselling and advice to parents
• behavioural methods, including operant conditioning and shaping
• teaching of communication skills, involving both non-verbal and verbal methods – known as total communication
• use of HALOPERIDOL can lead to decreased level of social withdrawal, hyperactivity, stereotypies, fidgetiness, and emotional lability
• other drugs that have been used are:
  • FENFLURAMINE
  • NATREXONE
  • PROPRANOLOL
  • BUSPIRONE

Outcome
• some children show improvement after 5-6 years old
• the better the level of functioning early on, the better the outlook – an above average non-verbal IQ and speech at age five are hopeful signs
• some useful speech is acquired by about 50% of autistic children
• two-thirds of all autistic children remain severely handicapped in adult life
• only 15% are able to live independently
• in adult life, ¾ of children met the DSM-III criteria for schizotypal personality disorder
F84.2 Rett’s syndrome

Clinical features
- occurs only in girls
- onset between the ages of 7 and 24 months
- characterized by normal early development, followed by gradual loss of manual dexterity and speech
- often develop autistic features and stereotypies, e.g. hand-wringing
- eventually the child develops severe mental handicap and gross motor disabilities

F84.5 Asperger’s syndrome

Epidemiology
- M:F=10:1

Clinical features
1. Severe impairment in reciprocal social interaction
2. ‘An all-absorbing, circumscribed interest in a subject’
3. Attempt to introduce and impose stereotyped routines
4. Speech and language problems – tends to be ‘formal and pedantic’
5. Non-verbal communication problems
6. Motor clumsiness
7. Group activities are stressful

Other problems
- school refusal
- running away
- temper outbursts
- suicidal threats
- stealing
- mutism

Childhood disintegrative disorder
- a.k.a. Heller’s disease
- Development is usually normal for the first two years, before onset of autistic symptoms:
  - loss of cognitive function
  - abnormalities of social behaviour and communication
  - loss of motor skills and of bowel or bladder function
  - unfavourable outcome
Specific Developmental Disorders

Specific reading difficulty
• defined as a reading age well below (usually 1.5-2 standard deviations) the level expected from the child’s age and IQ

Epidemiology
• M>F

Aetiology and associations
• more likely to have minor neurological abnormalities
• more likely to come from socially disadvantaged homes
• associated with conduct disorder (complex relationship)
• most likely to be a disorder of brain maturation affecting one or more of the perceptual and language skills required for reading

Clinical features
• errors in reading include:
  • omissions
  • substitutions or distortions of words
  • slow reading
  • long hesitations
  • reversal of words or letters
• may also be poor comprehension
• writing and spelling are impaired
• confusion between left and right
• may also be associated emotional problems

Treatment
• educational support

Outcome
• only a quarter achieve normal reading skills by adolescence

Developmental disorders of speech and language

Aetiology
• no cause is usually found
• most common cause is mental retardation
• deafness
• cerebral palsy
• pervasive developmental disorder
• social deprivation
Clinical features

- marked developmental delay in acquiring normal speech, in the absence of any primary cause

Classification

1) **Speech articulation disorder**
   - a) prevalence of 2-3% among American 6-7 year olds
   - b) use of speech sound is below the level appropriate for the child’s mental age but language skills are normal

2) **Expressive language disorder**
   - a) Use of expressive spoken language is below the level appropriate for the child’s mental age; language comprehension is normal
   - b) may have restricted vocabulary, difficulties in selecting appropriate words and immature grammatical usage
   - c) 50% develop normal speech by adulthood

3) **Receptive language disorder**
   - a) in most cases, expressive language is also disturbed
   - b) may be unable to follow simple instructions, or respond to familiar names

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**Acquired aphasia with epilepsy (Landau-Kleffner syndrome)**

Clinical features

- normal language development is followed by loss of both receptive and expressive language, but general intelligence is retained
- there are EEG abnormalities, which are nearly always bilateral and temporal
- most children develop seizures either before or after the change in expressive language
- usually starts between the ages of 3 and 9 years of age

Aetiology

- an inflammatory encephalitis has been proposed

Treatment

- programme of speech training carried out through play and social interaction

Outcome

- two-thirds are left with a receptive language deficit, the other 1/3 recover completely

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**Specific developmental disorder of motor function**

- a.k.a. dyspraxia/‘clumsy child syndrome’
- normal movements are unaffected, but coordination is poor
• children are late in developing skills such as dressing, walking, and feeding
• may have difficulty in writing, drawing, and copying
• IQ shows good verbal, but impaired performance scores
F93 Emotional Disorders with specific onset in childhood

Maternal overprotection (Levy, 1943)
- studied children aged 8
- used case controls
- maternal overprotection was defined as:
  - excessive contact
  - prolongation of infantile care
  - prevention of independence
- fathers were generally submissive
- overprotected children had three times as many operations

Prevalence
- Isle of Wight Study (Rutter et al. 1970):
  - 2.5% in both boys and girls
- 5% in a London study
- rate of conduct disorder is about twice that of emotional disorder
- general prevalence of about 6-9% in 7-11 year olds
- 1/3 of referrals to child guidance clinics are for emotional disorder

Separation Anxiety Disorder
- onset is before the age of six
- diagnosis is not made when there is a generalized disturbance of personality development

Epidemiology
- 3-4% among 7-11 year olds

Aetiology
1) sometimes preceded by a frightening experience:
   a) brief, e.g. admission to hospital
   b) prolonged, e.g. conflict between the parents
2) can develop in response to anxious or overprotective parents
3) anxiety-prone temperament in the child

Treatment
- reduction of stressors
- anxiolytic drugs if condition is severe
- behavioural techniques used for phobias
Phobic anxiety disorders
• usually concern animals, insects, the dark, school, and death

Epidemiology
• usually begin before the age of five
• most have declined by the early teenage years
• prevalence of only 2-4% by the age of 11

Treatment
• most improve without specific treatment
• simple behavioural therapy

Social anxiety disorder of childhood

Clinical features
• starts before the age of six
• there is anxiety with strangers greater or more prolonged than the fear of strangers which normally occurs in the second half of the first year of life
• these children are markedly anxious in the presence of strangers, and avoid them
• not accompanied by severe anxiety on separation from the parents
School refusal

Epidemiology

- prevalence of 1-2%
- slightly more common in boys
- more common during three periods in school life:
  1. age 5 (starting school)
  2. 7 years (change to junior school)
  3. at 11 years (starting secondary school)
  4. 14 years and older, when there is often associated depression and difficulties in school

Aetiology

- associated with separation anxiety especially in younger children
- may occur after a minor life event, e.g. illness
- some older children have a depressive disorder
- differ from truants in a number of ways:
  - come from more neurotic families, and have more neurotic traits
  - more depressed, passive, and overprotected
  - better records of schoolwork and behaviour
- increased incidence of anxious, overprotective mother in combination with a weak, passive, ineffectual, or absent father
- children are often emotionally immature and have not learned to accept frustration – when challenged by new and anxiety-provoking environments, they become panic-stricken and very angry

Clinical features

- there are often somatic symptoms such as headache, abdominal pain, diarrhoea, sickness, or vague complaints of feeling ill – these complaints occur on school days but not at other times
- the final refusal may occur after several events:
  - following a period of increasing difficulty
  - after an enforced absence such as respiratory infection
  - after an event at school such as change of class
  - following a problem in the family such as illness of another family member

Treatment

- an early return to school is important (The Kennedy Approach)
- discussion with teachers is needed
- depressive disorder should be treated
  - it has been reported that antidepressants are effective for school refusal, even when there is no depression

Prognosis

- worse prognosis in older children
- higher incidence of psychiatric disorders (e.g. agoraphobia) in adult life
Other childhood psychiatric disorders

Functional enuresis

- is the repeated involuntary voiding of urine occurring after an age at which continence is usual – most children achieve daytime and night-time continence by 3 or 4 years
- may be nocturnal or diurnal or both
- nocturnal enuresis is referred to as primary (no preceding period of continence) or secondary

Epidemiology

- prevalence:
  - 10% at 5 years
  - 4% at 8 years
  - 1% at 14 years
- nocturnal enuresis:
  - 7% of boys at age 7
- M:F = 3:1
- the majority never reach child clinics
- daytime wetting is much less common
- occurs more frequently in boys

Aetiology

1) Genetic
   a) 70% of children with enuresis have a first degree relative who has been enuretic
   b) concordance rates in MZ twins are 2x higher than in DZ twins
2) Psychological factors
   a) rigid toilet training
   b) negative or indifferent attitudes of parents
   c) stressful events leading to anxiety in the child

Associations

- Helman’s triangle (in childhood) is a good predictor of future violence:
  1. bedwetting
  2. firesetting
  3. cruelty to animals
- retiring nature
- nocturnal enuresis is associated with encopresis

Treatment

1) Reassurance
   a) many young children improve after an explanation
2) Behavioural
   a) restricting fluid before bedtime
   b) lifting the child during the night
   c) star charts to reward success
3) *Enuresis alarm*
   a) ‘pad & bell’
   b) requires six to eight weeks of treatment
   c) a cure is defined as 14 nights of continual dryness
   d) successful in 70-80% of cases, although 1/3 relapse within a year
   e) poor success in:
      i) children under the age of six
      ii) children who are uncooperative
      iii) mentally handicapped (takes longer)
      iv) maternal anxiety
4) *Tricyclic antidepressants*
   a) imipramine or amitriptyline (25-50 mg nocte)
   b) most bed-wetters improve initially, and about 1/3 recover completely
   c) however, most relapse when treatment is stopped
5) *Desmopressin*
   a) synthetic ADH
   b) similar efficacy to tricyclic antidepressants
   c) most relapse if treatment is stopped
   d) side effects include rhinitis, nasal pain, nausea, and abdominal pain

**Functional Encopresis**
- is the repeated voluntary or involuntary passing of faeces into inappropriate places after the age at which bowel control in usual in the absence of known organic cause
- the diagnosis should not be made unless the chronological and mental ages are greater than four years
- may be *primary* or *secondary*

**Epidemiology**
- prevalence:
  - 6% at 3 years
  - 1.5% at 7 years
- 3-4x more common in boys

**Aetiology**
1) *Physical causes*
   a) chronic constipation
   b) anal fissure
   c) Hirschprung’s disease
2) *Psychological causes*
   a) common in children who smear faeces
   b) parental attitudes to toilet training:
      i) unrealistic expectations
      ii) excessively punitive
      iii) lack of consistent approach
c) soiling sometimes begins after an upsetting event, e.g. the illness of a parent or sibling

Treatment
1) *Behavioural program*
   a) encouraging child to sit on the toilet for 10 minutes after each meal, with rewards
2) family or individual psychotherapy if there are associated emotional problems or conflicts between the parents

Prognosis
- when treated, most cases improve within a year
- unusual to persist beyond the middle teenage years
- aggressive behaviour may persist, and indicates worse prognosis

**Elective mutism**
- the child refuses to speak in certain circumstances, although he does so normally in others
- usually, speech is normal in the home but lacking in school
- often associated with other negative behaviours such as refusing to sit down or play when invited to do so

Epidemiology
- usually begins between 3 and 5 years, after normal speech has been acquired
- prevalence of approx. 1 in 1000

Treatment
- no evidence that treatment is effective

Prognosis
- can persist for months or years
- a five- to ten-year follow-up showed that only 50% had improved

**Stammering**
- disturbance of the rhythm and fluency of speech

Epidemiology
- M:F = 4:1
- affects about 1% of children

Treatment
- speech therapy
Prognosis

- most children improved whether treated or not

Gender identity disorders

Effeminacy in boys

- no evidence of biological cause
- some proposed associations:
  - encouragement of feminine behaviour by the parents
  - lack of boys as companions in play
  - a girlish appearance
  - lack of an older male with whom the child can identify
- more likely to precede homosexuality or bisexuality than transsexualism in later life

Tomboyishness in girls

- significance is not known

Physical Abuse in Childhood

- occurs in 1 in 1000 children under the age of 4
- 25% are intellectually damaged, due to repeated head trauma
- 20% of siblings are affected
- more likely to occur with:
  - prematurity of child
  - unemployment (50% of fathers)
  - social isolation
  - parents’ own abusive childhood

Recognised sequelae of physical abuse

1. anxiety states and anxiety-related symptoms
2. post-traumatic stress disorder
3. depression
4. dissociation
5. paranoid reactions and mistrust
6. excessive reliance on primitive defence mechanisms
7. borderline personality disorder (especially in women)
8. aggressive and destructive behaviour at home and at school
9. cognitive and developmental impairment
10. delayed language development
11. neurological development
12. abusive behaviour with their own children
Child Sexual Abuse

Recognized sequelae

1. anxiety states and anxiety-related symptoms
2. post-traumatic stress disorder
3. depression
4. dissociation
5. paranoid reactions and mistrust
6. excessive reliance on primitive defence mechanisms
7. borderline personality disorder (especially in women)
8. inability to control sexual impulses, which may manifest as precocious sexual play
9. weakened gender identity
10. increased incidence of homosexuality
11. increased incidence of child molestation
12. drug and alcohol abuse
13. eating disorders