• After accidents, most common cause of death after 1 years of age
• Survival rate is getting high
• Different malignant diseases common to different ages

<table>
<thead>
<tr>
<th>Malignancy</th>
<th>Age</th>
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<tbody>
<tr>
<td>Leukaemia</td>
<td>All ages</td>
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<tr>
<td>Neuroblastoma and Wilms' tumour</td>
<td>0-5 years</td>
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<tr>
<td>Hodgkin's disease and bone tumours</td>
<td>Adolescence and early adult life</td>
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</table>
Aetiology

• Interaction between
  – Environmental factors (e.g. viral infection)
  – Host genetic susceptibility (e.g. gene mutation) → inherited or sporadic or unknown
  – Having syndromes has an association with an increased risk of cancer in childhood
    • Down's syndrome and leukaemia
    • Neurofibromatosis and glioma
Clinical presentation of cancers

• As a localised mass

• As a consequence of disseminated disease

• As a consequence of pressure from a mass on local structures or tissue
Investigations

- FBC- leukemia- abnormal most of the time
- Ultrasound, X-rays, CT and MRI scans- identify solid masses
- Nuclear medicine imaging- identify bone, bone marrow or neural malignancies
- Magnetic resonance spectroscopy- differentiate normal from malignant tissues
- Tumour marker studies- confirming the diagnosis of neuroblastoma
Investigations cont...

• Histology
  – bone marrow aspiration for leukaemia
  – biopsy for most solid tumours → immunohistochemistry
  → Electron microscopy

• Molecular and genetic techniques
  – To identify specific characteristics of certain tumour types
  – To predict the prognosis
Management

• Explain diagnosis to parents in a realistic, yet positive way

• Proceed with detailed investigation
  – to define the extent of the disease
  – assess the presence of metastatic disease

• Experienced multidisciplinary teams with facilities
  – intensive medical and psychosocial support
Treatment

Alone or in combination,

- chemotherapy
- surgery
- radiotherapy
Chemotherapy

- as primary curative treatment, e.g. in acute lymphoblastic leukaemia

- as adjuvant treatment to deal with residual disease and to eliminate presumed micrometastases after initial local treatment with surgery, e.g. in Wilms' tumour

- to control primary or metastatic disease before definitive local treatment with surgery and/or radiotherapy, e.g. in sarcoma or neuroblastoma
Radiotherapy & Surgery

Radiotherapy
• Risk of damage to growth and function of normal tissue

• Need for adequate protection of normal tissues and for careful positioning and immobilisation of the patient during treatment

  But difficult specially in young children

Surgery
• Take biopsy to establish the diagnosis

• To remove residual tumour after chemotherapy and/or radiotherapy
Side-effects of chemotherapy

- Blood transfusion
- Blood product support
- Bone marrow transplantation

Common infections associated with chemotherapy

- *Pneumocystis jiroveci* (carinii) pneumonia
- Fungal infections: aspergillosis and candidiasis
- Staphylococcal infections

Children with fever and neutropenia must be admitted to hospital for cultures and broad-spectrum antibiotics.

- Bone marrow suppression
  - Anaemia
  - Thrombocytopenia and bleeding
  - Neutropenia

- Immunosuppression
  - Infection

- Anorexia

- Nausea and vomiting

- Gut mucosal damage

- Alopecia

- Diarrhoea and Gram-negative infection

Side-effects of chemotherapy
Immunosupression

• Common viral infections can become life-threatening
  – Measles
  – Varicella zoster (chickenpox)

  ↓ Offers some protection

Prompt administration of immunoglobulin or zoster immune globulin

Aciclovir to treat established varicella infection

Live vaccines is contraindicated due to depressed immunity → During chemotherapy and from 6 months to a year subsequently
Other side-effects

• Cardiotoxicity – doxorubicin

• Renal failure and deafness - cisplatin

• Haemorrhagic cystitis – cyclophosphamide

• Neuropathy - vincristine
Supportive care

- prompt management of potential infections
- early nutritional support with regular dietetic input
- pharmacological control of nausea and vomiting
- use of blood products where necessary
- central venous catheters- to avoid multiple venepunctures
- Appropriate fertility preservation techniques
Psychosocial support

marital problems in parents and behavioural difficulties in both the child and siblings

• Provide opportunity to discuss the implications and their anxiety, fear, guilt and sadness
• Provide counselling and practical support
• Age-appropriate explanation of the disease for the child and their siblings
• Once the disease appears to be under control
  - Early return to school
Leukaemia

• Acute lymphoblastic leukaemia (ALL)
• Acute myeloid/acute non-lymphocytic (AML/ANLL) leukaemia

• Clinical presentation - result from infiltration of the bone marrow or other organs with leukaemic blast cells

- malaise
- infections
- pallor
- abnormal bruising
- hepatosplenomegaly
- lymphadenopathy
- bone pain

- blood count is abnormal, with low haemoglobin and thrombocytopenia and evidence of circulating blast cells
Brain tumours

• Signs and symptoms
  – raised intracranial pressure &
  – focal neurological signs depending on the site of the tumour

  • headache (classically worse on lying down)
  • vomiting (especially on waking in the mornings)
  • papilloedema
  • squint secondary to VIth nerve palsy
  • nystagmus
  • ataxia
  • personality or behaviour change
Brain tumours contd...

• Tumour detection
  – MRI scan
  – No Lumbar puncture if raised intracranial pressure is suspected
  – Biopsy is not always possible due to the tumour location

• Outcome of treatment is associated with
  – anatomical position of the tumour
  – histological subtype
Brain tumours contd...

functional implications of the site of the tumour,
the potential hazards of surgery
use of radiotherapy in treatment

Risk to develop

Neurological disability
Growth related problems
Endocrine problems
Neuropsychological problems
Lymphomas

• **Non-Hodgkin's lymphoma (NHL)** - common in childhood
  • malignancies of the cells of the immune system
  • lymph nodes are the predominant site of disease
  • Clinical features - depend on the site
  • T-cell malignancies - mediastinal mass with varying degrees of bone marrow infiltration
  • B-cell malignancies - localised lymph node disease usually in the head and neck or abdomen (pain, a palpable mass or intussusception)

**Diagnosis & Staging**
• radiological assessment of all nodal sites (CT or MRI)
• examination of the bone marrow and CSF

**Treatment**
• multi-agent chemotherapy
• **Hodgkin's lymphoma - common in adolescence**
  • presents as painless lymphadenopathy, most frequently in the neck
  • Lymph nodes are much larger and firmer than in normal lymphadenopathy
  • systemic symptoms are uncommon

**Diagnosis & Staging**
• Biopsy
• Intra-abdominal disease – MRI, CT, staging laparotomy with biopsies

**Treatment**
• Combination chemotherapy, with or without radiotherapy
• High prognosis
Neuroblastoma

arise from neural crest tissue in the adrenal medulla and sympathetic nervous system

Diagnosis
• Clinical and radiological features
• Raised urinary catecholamine
• Confirmatory biopsy

Prognosis
• Age and stage of disease at diagnosis
• Chromosomal studies

Detection of metastasis
• Bone marrow sampling
• Bone scan and MIBG (metaiodobenzyl guanidine) scan

Treatment
• Surgery
• Chemotherapy
• Peripheral blood stem cell rescue
Wilms' tumour (nephroblastoma)

- originates from embryonal renal tissue
- commonest renal tumour of childhood

**Signs & Symptoms**
- Large abdominal mass

**Uncommon**
- poor appetite
- poor weight gain
- abdominal pain
- Anaemia
- Haematuria
- hypertension

**Diagnosis**
- Ultrasound or CT/MRI
- Histology
- Staging information

**Treatment**
- Initial chemotherapy for all children over 6 months of age
- Radiotherapy- only if required

- Overall, the prognosis is good
- But, relapse carries a poor prognosis
Soft tissue sarcomas

**Head and neck**
Most common sites of disease

*Clinical features*
Proptosis, nasal obstruction or bloodstained nasal discharge

**Genitourinary tumours**
- Next most common
- Involve the bladder, paratesticular structures or the female genitourinary tract

*Symptoms*
- Dysuria
- Urinary obstruction
- Scrotal mass
- Bloodstained vaginal discharge

**Metastatic disease (lung, liver, bone or bone marrow)**
- Poor prognosis
- Treatment depends on the site, size and extent of disease
- Combination chemotherapy and often radiotherapy
Bone tumours

- Uncommon before puberty
- Common among males
- Limbs are the most common site

Types
- Osteogenic sarcoma
- Ewing's sarcoma - common in younger children

Symptoms
- Asymptomatic most of the time
- Persistent localised bone pain
- Detection of a mass

Prognosis
- Difficult to treat
- But, prognosis improved
- Combination chemotherapy
- Radiotherapy

Diagnosis
- X-ray
  - destruction and variable periosteal new bone formation
  - soft tissue mass
Retinoblastoma

- Malignant tumour of retinal cells
- Affect one or both eyes
- Rare
- Bilateral tumours are hereditary
- Present within the first 3 years of life

**Treatment**
- chemotherapy to shrink the tumour followed by local laser treatment to the retina
- Radiotherapy for advanced disease

**Prognosis**
- Many will cure
- But visual impairment
- Risk of second malignancy- heridity
Liver tumours

Rare

Types
- Hepatoblastoma
- Hepatocellular carcinoma

Clinical Presentation
abdominal distension or with a mass
Pain and jaundice (rare)

Investigations
- Ultrasound or CT/MRI- confirms a large intrinsic liver mass
- Elevated serum alphafetoprotein (AFP)- sensitive marker for determining response to

Prognosis
Hepatoblastoma > Hepatocellular carcinoma

Treatment
Surgical resection
Chemotherapy
Liver transplantation
Germ cell tumours

- Rare
- Arise from the primitive germ cells which migrate from yolk sac endoderm
- Found in the gonads
- Chemotherapy - very good outcome
Terminal care

• A time comes when death is inevitable
  – Palliative care at home
  – parents need practical help and emotional support
  – Pain control and symptom relief
Emotional & Behavioral Problems

G.G.W.C. Wijesekara- Department of Nursing
• Know about normal emotions & behaviours
• Understand common & minor deviations
• Understand common responses to stress, physical illness and injuries
• Recognise and manage emotional and behavioural disorders
Child’s Behaviour
Emotional Responses
Personality

• Knowledge
• Learned behaviours/ Emotional Responses
• Attitudes

Genetics

• Parenting Attitudes
• How they handle their children

Environmental Influences

Family
Separation Response

• During hospitalization, the child is distressed by
  – separation anxiety (if parents are not present)
  – threat of strange surroundings
  – stress of pain or illness

• Allow ‘rooming in’ for young child's parent if he/she has to be admitted to hospital
Separation Response Contd...

Triphasic acute separation reaction

**Protest**
- Crying, Distress
- Angry refusal to be comforted
- Asking for mummy

**Despair**
- Moping
- Not Playing
- Not eating

**Detachment**
- Apparent cheering up & recovery
- Indifferent to parents on return to them

- fearful, unhappy or in pain
- cling to attachment figure & be comforted by her presence

After detachment, recreation of original closeness can take weeks with following phases

- irritability
- misbehaviour
- Clinging (attachment)
• Selective clinging/bonding diminishes over time
  – By age 2: develop attachment with father & other family members
  – By school age: Can tolerate separation for several hours

Frightening events
Affect child’s capacity to learn how to cope with anxiety on their own
• Children with poor attachment relationship in their early years

Self- Centered Individuals

• Seek affection & attention from others
• Difficult to build close personal relationships
• Difficult to confirm with social rules of conduct
Temperament

• **Personality** differ from individual to individual

  Genetics    Environment

• Not a fixed thing, but changes slowly with experiences—on how other people deal with them
Features of a child born with difficult temperament

- **predominantly negative mood** - whinging, moaning, crying
- **intense emotional reactions** - screaming rather than whimpering, jumping for joy rather than smiling
- **irregular biological functions** - a lack of rhythm in sleeping, hunger or toileting
- **negative initial responses to novel situations**, e.g. pushing a new toy away
- **protracted adjustment to new situations** - taking weeks or months to settle into a new playgroup

• If the features present

• Vulnerability factor for future emotional and behaviour problems

  – Parents need emotional support to deal with
  – If parents’ response to child’s this behaviour is rough

low self-esteem or the development of behaviour problems in child
Self-esteem

Development of view & make of attributions → Experience of praise & success → Development of inner self-confidence & self-worth
Self-esteem contd…

- Emotional, sexual or physical abuse
- Neglect
- Repeated failure, academically or socially

Undermine self-esteem

Shame & Failure

- No attempt to new activities or explore new situations
- Adopt to extraordinary & problematic behaviours (to take attention of others)
- Emotional & Behaviour disorders
  - Depression anxiety disorders
  - Dysparaxia, enuresis, fecal soiling

- Restrict development of coping skills
- Restrict knowledge of the world
Cognitive / Thinking Style

• Evolution of thinking style

< 5 Years
  • Concrete thinking
  • Egocentric (child is the centre of the world)

Middle child-hood (6-12 yrs)
  • Thought is practical & orderly
  • But tied to immediate circumstances & specific experiences

Late teens (> 15 yrs)
  • Abstract thinking
Coping with chronic or serious illness

- **Cognitive Responses**
  - Over Acceptance ------------ Denial
    - Allow illness to take over their lives
    - Refusal to accept
      - Ignore signs & symptoms
      - Poor adherence to treatments

- **Emotional Responses**
  - Sequences of
    - Shock
    - Denial
    - Anger
    - Acceptance & Adjustment
Coping with chronic or serious illness contd...

- Behavioural Responses
  - Regression of behaviour
    (behave younger than they are actually)
    - Sleeping, feeding, toileting, academic performances & peer relationships

- Somatic Responses
  - Expression of worry & distress through bodily symptoms
    - E.g. Recurrent abdominal pain
Factors affecting development of mental health problems following chronic illnesses

- **Nature of illness** - severity, chronicity, presence of constant discomfort and demands of treatment
- **Stage of illness**
- **Age of the child** - more negative impact between the age of 6 months and 3 years
- **Personality features**
- **Intellectual capacity**
- **Family factors**
Family Influences

• Child's family is the most potent influence in the child's mental health
  – Genetic causes
  – Non-genetic courses

• angry disagreement between family members
• parental mental ill health, especially maternal depression
• divorce and separation or death
• overprotection
• lack of parental authority
• physical and sexual abuse
• emotional rejection or unremitting criticism

• use of violence, terror, threats of abandonment or excessive guilt as disciplinary devices
• taunting or belittlement of the child
• inconsistent, unpredictable discipline
• using the child to fulfill the unreasonable personal emotional needs of a parent
• inappropriate responsibilities or expectations for the child's level of maturity
Influences outside the family

• Experiences with other children

**Bullying**
– Encourage of having a number of steady, good-quality peer relationships
Problems of the preschool years

- Meal refusal
- Sleep-related problems
- Disobedience, defiance and tantrums
- Aggressive behaviour
- Autism
Meal refusal

• Possible reasons
  – a past history of force-feeding
  – irregular meals so that the child is not predictably hungry
  – unsuitable meals
  – unreasonably large portions
  – multiple opportunities for distraction, e.g. TV
  – has taken foods in between meals
  – Provision of little variety in diet
Meal refusal contd...

- Assessment of dietary problems
  - family history of eating problems
  - parenting style
  - what do others say?
  - is it part of a broader problem?
  - food diary to record child's intake specially to assess How much food is eaten between meals?
Meal refusal contd…

• Strategies
  – Avoid confrontation at mealtimes
  – Develop a relaxed atmosphere
  – Use favourite foods as a reward
  – Reduce eating between meals if necessary
Sleep-related problems

• Difficulty in settling to sleep at bedtime
  – Difficult as parents not present

Most instances - normal response to separation anxiety

– Other reasons

• Too much sleep in the late afternoon
• Displaced sleep/wake cycle - not waking child in morning because did not settle until late on the previous night
• Over stimulated or overstressed in evening
• Kept awake by siblings or noisy neighbours or TV in the bedroom
• Erratic parental practices: no bedtime or routine to cue child into sleep readiness, sudden removal from play to go to bed without prior warning
• Use of bedroom as punishment
• Dislike of darkness and silence - night light and playing story tapes
• Difficulty in settling to sleep at bedtime contd…
  – Management

  • creating a bedtime and a bedtime routine which cues the child to what is required
  • telling the child to lie quietly in bed until he falls asleep, don’t command them to sleep
• Waking at night
  – Normal, but some children cry

Cannot settle themselves back to sleep when parents are absent

If couldn’t settle before sleeping

Even if could settle before sleeping

As setting is different
• Darker & quieter surrounding
• Nightmares
  – Bad dreams which can be recalled by the child
  – Common & rarely require professional attention
    • Reassure the child
  – Require professional attention
    • If they occur frequently or
    • If they are stereotyped in content leading to morbid preoccupation
• Night (sleep) terrors
  – A state of high arousal and confusion

**Characteristics**

Child sitting up in bed, eyes open, seemingly awake but obviously disorientated, confused and distressed and unresponsive to parents questions and reassurances

child settles back to sleep after a few minutes and has no recollection of the episode in the morning

• Need little more reassurance for parents
• Record time and awake the child 15 minutes before the terror is expected
Disobedience, defiance and tantrums

• Disobedience
  – Normal toddlers → refusing to comply with parents' demands → reaction as they understand that the world is not organised around them
  – Show angry towards parents/close guardian and may fine with others
  – Parents may get exhausted and demoralised
Managing toddler disobedience

• Ensure the demand is reasonable for the developmental stage of the child

• Tell the child what you want him to do rather than nagging about what you don't want him to do

• Praise for compliance, especially when it is spontaneous (catch him doing the right thing)

• Use simple incentives to reward good behaviour

• Avoid threats that cannot be carried out

• Carry out threats that are made

• Ignore defiance as much as possible
• **Temper tantrums**
  – Ordinary responses to frustration
  – Common and normal in young preschool children
  – Examine the child to identify potential medical or psychological factors

• **Medical Factors**
  • global or language delay,
  • hearing impairment (e.g. glue ear)
  • medication with bronchodilators or anticonvulsants
Tantrums: management strategies

- Affection and attention
- Distraction
- Avoiding antecedents
- Ignoring:
  - Effective but can be difficult
  - No surrender
- Time out from positive reinforcement
  - Walk away, returning when quietens down
  - Separate from siblings
  - Put on a 'naughty chair' for a short time
- Cuddling tightly
- Star chart
Aggressive Behaviour

• Much aggressive behaviour is learned
  – By being rewarded (often unintentionally)
  – By copying parents or siblings

• Other factors
  Tired or stressed with
  • Language and developmental disorders
  • Deafness or communication problems

• Management is similar to tantrum management
  – Make rules, stick to them, keep cool, don't give in and use timeout if necessary

Parents shouting at or hitting the child
• Once established, an aggressive behavioural style is remarkably persistent over a period of years
Autism

- Autism spectrum disorder (ASD)
- group of complex neurodevelopment disorders characterized by
  - repetitive and characteristic patterns of behavior
  - difficulties with social communication and interaction
  - symptoms are present from early childhood and affect daily functioning
Autism contd…

• Diagnosis

Very early indicators
• no babbling or pointing by age 1
• no single words by age 16 months or two-word phrases by age 2
• no response to name
• loss of language or social skills previously acquired
• poor eye contact
• excessive lining up of toys or objects
• no smiling or social responsiveness

Late indicators
• impaired ability to make friends with peers
• impaired ability to initiate or sustain a conversation with others
• absence or impairment of imaginative and social play
• repetitive or unusual use of language
• abnormally intense or focused interest
• preoccupation with certain objects or subjects
• inflexible adherence to specific routines or rituals

Require symptomatic treatment and behavioural therapy
Problems of middle childhood

- Nocturnal enuresis
- Faecal soiling
- Recurrent unexplained somatic symptoms/somatisation
- Tics
- Hyperactivity
- Antisocial behaviour
- Anxiety
- School refusal
- Educational underachievement
Nocturnal enuresis

**Causes**
Delay in acquiring sphincter competence
Emotional stress may cause secondary enuresis
Organic causes
  - urinary tract infection
  - faecal retention severe enough to reduce bladder volume and cause bladder neck dysfunction
  - polyuria from osmotic diuresis, e.g. diabetes mellitus, or renal concentrating disorders, e.g. chronic renal failure

**Treatment**
Treatment usually considered only at >6 years of age

**Management**
- Explanation
- star charts
- enuresis alarm
Faecal soiling

Abnormal for a child to soil after the age of 4 years

**Causes**

- rectum loaded with faeces/ faecal retention
- constipation, possibly following dehydration during an illness
- inhibition of defecation because of pain from a fissure
- inhibition because of fear of punishment for incontinence
- anxieties about using the toilet

**Management**

Faecal retention- the rectum needs to be emptied, initially with a stool softener and laxative followed by retraining
Somatic symptoms/somatisation

• As a mean of communicating emotional distress

• sources of stress should be identified

• Symptoms
  – recurrent abdominal pain, headaches, limb pain, aching muscles, fatigue and neurological symptoms

• Require a thorough physical examination to reassure the child and family that there is no underlying organic cause
Tics

• What it is?
  – Quick, sudden, coordinated movement
  – apparently purposeful
  – recurs in the same part of the child's body
  – can often be reproduced by the child on request

• Common presentations
  – typically around the face and head - blinking, frowning, head-flicking, sniffing, throat clearing and grunting

• Occur when the child is inactive disappear when actively concentrating

• Management through reassurance

• Chronic tic disorder with multiple motor tics and vocal tics requiring medication & specialist supervision
Attention deficit hyperactivity disorder (ADHD)

- Usually affects preschool children, males more than females

**Clinical features**
- cannot sustain attention
- excessively active
- socially disinhibited
- poor at relationships
- prone to temper tantrums
- poor school performance

**Management**
- educational psychologist assessment
- behaviour modification
- programmes by parents and teachers
- stimulant medication if necessary
Antisocial behaviour

• Presentation - steal, lie, disobey, light fires, destroy things and pick fights

• Reasons
  – failure to learn when to exercise social restraint
  – lack of social skills, such as the ability to negotiate a disagreement
  – they may be responding to the challenges of their peers in spite of their parents' prohibitions
  – they may be chronically angry and resentful
  – they may find their own notions of good behaviour overwhelmed by emotion such as sadness or temptation
Anxiety

• Specific or general
• Fear of a specific object or situation
• Irrational fears
  – the dark, ghosts, kidnappers, dogs, spiders, bats, snakes
• Some of these persist into adulthood
• Usually not affect child’s ordinary life
• If ordinary life is affected
  – behavioural therapy with exposure to the feared event
  – If not controlled, specialist mental health referral
School refusal

Present as physical symptoms

**Reasons**
- Separation anxiety from parents
  - illness, a death in the family or a move of house
- Anxiety provoked by some aspect of school
- True school phobia

**Management of school refusal**

- Advise and support parents and school about the condition
- Treat any underlying emotional disorder
- Plan and facilitate an early and graded return to school at a pace tolerable for the child with all involved (child, family, teachers, educational psychologist and educational welfare officers)
- Help the parents make it more rewarding for the child to return to school than stay at home
- Address bullying or educational difficulties if present
Educational underachievement

Causes

Long-standing problem
• Visual problems
• Hearing problems
• Dyslexia
• Generalised specific learning problems
• Hyperactivity
• Anti-education family background
• Chaotic family background

Recent onset of problem
• Preoccupations (parental divorce, bullying, etc.)
• Fatigue
• Depression
• Rebellion against teacher, parents or 'swot' label
• Unsuspected poor attendance at school
• Sexual abuse
• Drug abuse
• Schizophrenia (rare)
• Degenerative brain condition, rare but important
Problems of adolescence

- Anorexia nervosa
- Chronic fatigue syndrome
- Depression
- Deliberate self-harm
- Drug misuse
- Psychosis
Management of emotional and behavioural problems

Interplay between adversities in the family, peer group and school, and strengths or vulnerabilities in the child
• **Assessment**
  
  **Interview both parents if possible**
  - Quality of their marriage and the parents' mental state
  - Ask open questions
  - Assess the attitudes of the parents to the child
  - estimate the frequency, severity, duration and the impact of the problem

  **Interview the child alone as appropriate**
  - Extent of the child's suffering
  - Ask very simple and specific questions
• **Management**

In general, children's emotional and behavioural problems:

- Are psychological rather than pharmacological
- Do not need the child to be admitted to hospital
- Involve parents as key participants
- May involve a variety of health and social service professionals

Require combined treatment with several professionals involvement

**Main psychological treatment interventions**

- Explanation and reassurance
- Parenting groups
- Behaviour therapy
- Family therapy
- Cognitive therapy
- Individual or group dynamic psychotherapy
THANK YOU