Klinikum Harlaching

Klinik für Kinder- und Jugendpsychosomatik

Regulatory Disorders in Infancy and Early Childhood – why feeding may become difficult

N. v. Hofacker

DAIMH Annual Meeting, Utrecht, Nov. 11th, 2011

Klinikum München

Klinikum Harlaching

Regulatory disorders in infancy and early childhood

- Excessive crying
- Sleeping disorders
- Feeding disorders
- Other age/developmentally dependant regulatory problems
  - Excessive anxiety, separation anxiety disorder (SAD), excessive clinging
  - Oppositional-defiant behaviours
  - Aggressive behaviours

Klinikum München

Klinikum Harlaching

Regulatory disorders in infancy and early childhood

General criteria

- Regulatory problem in one or more behavioural domains
- Dysfunctional parent-child interaction
- Achievement of developmental milestones may be impaired
- Duration of at least one month

Klinikum München

Klinikum Harlaching

Regulatory disorders in infancy and early childhood

Concept of regulatory disorders implies a trias of

- Regulatory problem of the infant
- Stressed parent-infant relationship
- Associated psychosocial risks of the parents and the family

➔ Who is the patient? The infant-caregiver relationship!

Klinikum München

Regulatory disorders in infancy and early childhood
Etiology

Child related risks

- Pre- and perinatal biological risks
- Prematurity
- Acute or chronic medical illnesses
- Impaired postnatal adaptation
- Neurodevelopmental immaturity
- Difficult temperament

Regulatory disorders in infancy and early childhood
Etiology

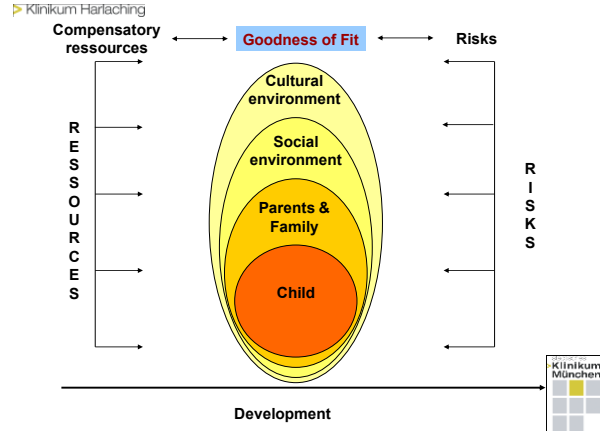
Parent related risks

- Impaired postnatal adaptation
- Acute or chronic illnesses
- Psychosocial risks
- Marital conflicts
- Unwanted pregnancy
- Broken childhood
- Insufficient social support
- Parenting problems

Regulatory disorders in infancy and early childhood
Etiology

Protective factors

- **Intuitive Parenting (parental coregulation supporting maturation of infant self regulation)**
- Easy child temperament
- Social attractiveness
- Intelligence
- Humor
- Functional parent-child and familial relationships
- Capacity of triangulation
- Social support of mother/parents/family



Regulatory disorders in infancy and early childhood

Severity

- Duration (< vs. > 3 months)
- Number of regulatory domains affected (1 vs. 2 or more domains) = pervasivness
- Impaired achievement of developmental milestones
- Associated impairement/stress of parent-infant relationship (perturbation vs. disturbance vs. disorder)

Regulatory disorders

Diagnostic workup: history

- History of symptoms, developmental history, precipitating factors
- Parental expectations, perceptions, emotions, cognitive causal attributions, „ghosts in the nursery“ (Fraiberg) etc.
- Infant behavioural regulation
  - Self consolation
  - Sleep-wake regulation
  - Feeding history
- Biological and psychosocial risks of infant, parent and family

Regulatory disorders in infancy and early childhood

Diagnostic workup

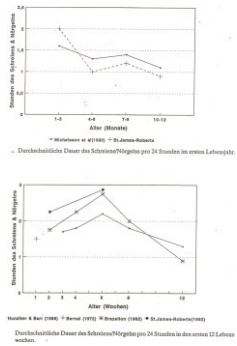
- Behavioural protocols
- Parent questionnaires
  - Infant temperament (Bates/ICQ, Rothbart etc.)
  - Parental psychopathology (EPDS, SCL-90R)
  - Marital relationship
  - Parent-infant relationship (Parenting stress index/PSI, PIR-GAS)
- Psychological testing (Bayley Scales)
- Classification according to ZTT/0-3R
- Behavioural observation in different contexts

Regulatory disorders
Excessive crying

Diagnostic criteria

- Subjective parental perception of infant crying as a problem to ask for help
- Cyring > 3 hrs./d, > 3d/week, > 3 weeks (Roule of 3, Wessel, 1954)

Regulatory disorders
Excessive crying - etiology



Durchschnittliche Dauer des Schreiens/Nörgelns pro 24 Stunden im ersten Lebensjahr.

Durchschnittliche Dauer des Schreiens/Nörgelns pro 24 Stunden in den ersten 12 Lebenswochen.

Regulatory disorders
Excessive crying

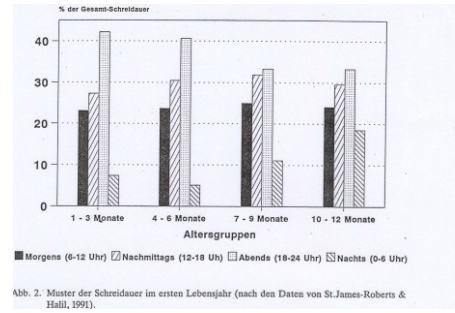


Abb. 2. Muster der Schreidauer im ersten Lebensjahr (nach den Daten von St.James-Roberts & Halil, 1991).

Regulatory disorders
Sleep disorders

Diagnostic criteria

- Infant/toddler unable to fall asleep > 6th (12th) month of life
- In young infants, esp. ≤ 3rd month of life strong association with excessive infant crying

Sleep onset disorder (Sleep Onset Protodysomnia)

- Infant falls asleep only with parental support
- Sleep onset > 30 min.

Sleep maintenance disorder (Night Waking Protodysomnia)

- Nocturnal waking periods and unability to fall asleep without parental support > 3 times/night in at least 4 nights/week
- Average nocturnal waking periods > 20 min.

Regulatory disorders
Sleep disorders: expected vs. individual sleeping needs

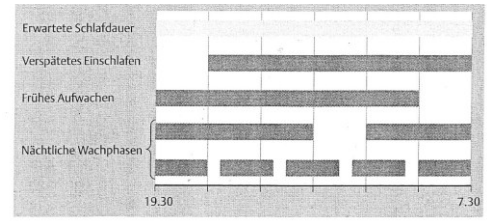


Abb. 5 Erwartete Schlafdauer und Bettzeit: Entspricht die Bettzeit von 19:30–7:30 Uhr dem effektiven Schlafbedarf (hellblauer Balken), dann schläft das Kind durch. Stimmen Bettzeit und Schlafbedarf nicht überein, kommt es zu verspätetem Einschlafen, frühem Aufwachen oder nächtlichen Wachphasen (blaue Balken).

Regulatory disorders in infancy and early childhood
Feeding disorders

- 35% feeding problems ≤ 4 months of life (breastfed or formula fed)
- 17% of infants have their formulas changed several times because of feeding problems
- 1.4% - 8% failure to thrive (FTT)
- Only in 5.8% of FTT relevant medical problems
- In 70% of severe early feeding problems persistence up to age 4 - 6 y

Regulatory disorders in infancy and early childhood
Feeding disorders

Presenting clinical symptoms

- Food avoidance, reluctance to being fed/to eat
- Picky eating, selective eating, bizarre eating habits
- Inappropriate feeding behaviours as to age/context
- Rumination/vomiting
- Oral-motor problems
- Orofacial hypersensitivity, avoidance/reluctance to chew, swallow

Regulatory disorders in infancy and early childhood
Feeding disorders

Temperament, taste, gene-environment interaction and the "supertasters"…..

Regulatory disorders in infancy and early childhood
Feeding disorders

Individual variation in taste perception of „bitterness"
(Essick et al., 2003)

„Supertaster":

- … experience more intensive oral burn and flushing with spicy foods, more intensive flavour of high fat diets
- .... show twice as good lingual tactile acuity in recognizing correctly letters, introduced into the mouth
- .... show significantly higher mean densities and diameters of fungiform papillae
- Lingual tactile acuity, density/diameter of fungiform papillae and rating of bitterness highly correlate

Regulatory disorders in infancy and early childhood
Feeding disorders

Shortterm consequences

- Infant demands for increased distraction, stimulation to accept beeing fed
- Continuing, non-structured food offers outside mealtime situation
- Forced infant feeding
- Progressive loss of infant/child selfregulation of feeding/eating behaviour

Regulatory disorders in infancy and early childhood
Feeding disorders

Longterm outcome

- Risk for delay in cognitive development
- Socio-emotional, behavioural problems
- Anxiety disorders
- Persisting eating disorders in childhood and adolescence

Feeding disorders in infancy and early childhood
Classification (proposed DSM-V-criteria, www.dsm5.org)

A Eating or feeding disturbance as manifested by persistent failure to meet appropriate nutritional and/or energy needs associated with one or more of the following
- Significant weight loss (or failure to gain weight or faltering growth in children)
- Significant nutritional deficiency
- Dependence on enteral feeding
- Marked interference with psychosocial functioning

B no evidence that lack of available food or an associated culturally sanctioned practice is sufficient to account alone for the disorder

C Does not occur exclusively during the course of AN or BN, no disturbance in the way of which one's body weight or shape is experienced

D If the eating disturbance occurs in the context of a medical condition or another mental disorder, it is sufficiently severe to warrant independent clinical attention

Feeding disorders in infancy and early childhood
Subtypes (proposed DSM-V-criteria)

Food refusal due to limited interest in eating, restrictive eating („infantile anorexia“)

- Onset 9th month to 3rd year of life
- Infant/child signals only limited hunger, interest in feeding, prefers to play, talk, walk around during mealtimes
- Normal infant development
- No traumatic event
- No underlying medical condition as cause
- Related to infant temperament

Feeding disorders in infancy and early childhood
Subtypes (proposed DSM-V-criteria)

Food refusal due to sensory aversion (selective eating)

- Infant/child refuses food due to consistency, smell, texture, temperature
- Starts often during introduction of new foods
  - temperament: „Neophobia“, frightened when confronted with new foods, 66-78% of variance genetically determined
- When confronted with refused food: grimassing, spitting out, gagging, vomiting
- Refusal of similar foods as to appearance, colour, texture, taste or smell (tendency to generalization over time)

Klinikum Harlaching

Feeding disorders in infancy and early childhood
Subtypes (proposed DSM-V-criteria)

Food refusal due to sensory aversion (selective eating)

- Reluctance to try new foods, no problems in eating familiar foods
- Possible delay in oralmotor skills and/or in language development
- May be associated with increased anxiety during mealtimes, social phobia during preschool or school age
- Not caused by a traumatic experience
- Not caused by food allergy or a underlying medical condition

Klinikum Harlaching

Feeding disorders in infancy and early childhood
Subtypes (proposed DSM-V-criteria)

Food refusal due to aversive experience (posttraumatic feeding disorder)

- Acute onset, persistent food refusal
- May begin at any time of life
- Related traumatic, aversive experience in the oro-facial area or gastrointestinal tract, such as:
  - Mechanical ventilation, tube-feeding
  - Gastroesophageal reflux
  - Surgical procedures of the GI-tract
  - Events of agging/choking associated with intense anxiety
  - Force feeding

Klinikum Harlaching

Feeding disorders in infancy and early childhood
Subtypes (proposed DSM-V-criteria)

Food refusal due to aversive experience (posttraumatic feeding disorder)

- Selective or generalized food refusal
- Intense anxiety, panic when confronted with food, spoon, which increases with approach of food/spoon
- Vegetative signs of anxiety, stress
- Orofacial hypersensitivity
- Frequently need to be tubefed

Regulatory disorders in infancy and early childhood
Feeding disorders

History

- Pediatric-neurodevelopmental history including:
  - Nutrional and feeding history
  - Parental and familiary psychosocial risks
  - Maternal eating disorders
  - Parental experiences of separation and/or loss

Klinikum Harlaching

Regulatory disorders in infancy and early childhood
Feeding disorders

Diagnostic workup

- Simulataneous medical and psychosocial diagnostic workup rather than successive workup !
- Infant weight, height, BMI
- Clinical exam including neurodevelopmental exam
- If clinical exam and screening lab does not show a relevant abnormality, probability of invasive diagnostic workup to show relevant results is very low (1%).
- ➔ restrictive diagnostic workup, guided by clinical hypotheses
- Behavioural observation (feeding interaction) is central!

Klinikum Harlaching

Regulatory disorders in infancy and early childhood
Feeding disorders

Diagnostic criteria

- Parents perceive feeding situation subjetively as problematic
- Duration > 1 month
- Feeding frequency ≥ every 2 hrs.
- Feeding duration ≥ 45 min.

Klinikum Harlaching

Regulatory disorders in infancy and early childhood
Feeding disorders

Intervention – multilevel approach

- Adress underlying medical conditions
- Developmental orientation
- Interaction- and relationship-focused
- Include parental psychopathology and psychodynamics, beliefs, cognitive perceptions, expectations
- Adress familiy relationships regarding feeding/eating/mealtime behaviours
- Multiprofessional approach and close multiprofessional cooperation

Regulatory disorders in infancy and early childhood
Feeding disorders

Intervention – basic aspects

- Strictly no force feeding!
- Structured meals with no foods/sweetened drinks in between
- Include other affected regulatory domains
- Include parental (distorted) perceptions, cognitions and expectations about causes, appropriate mealtime behaviours etc.

Regulatory disorders in infancy and early childhood
Feeding disorders

Feeding/mealtime rules promoting healthy mealtime behaviours

- Support infant/child selfregulated mealtime behaviours/self feeding
- Mealtime duration
  - Limited in cases of food refusal due to aversive experience
  - Extended in case of food refusal due to restrictive eating
- If mealtime is terminated due to infant behaviour, only after announcement
- Clearly separate feeding/mealtime situations from play times
- Positive reinforcement of adequate behaviours
  - Reinforce selfregulated feeding, not eating amount
  - Do not use foods (sweets) for positive reinforcement

Feeding disorders in infancy and early childhood

Feeding/mealtime rules promoting healthy mealtime behaviours

- Adequate limit setting, limit attention to inadequate mealtime behaviours
- Offer 3-4 healthy food choices at each mealtime
- Limit portions of foods to amounts, that infant can eat, second portion if needed
- Don‘t give up on new foods!
- Promote family mealtimes: parent/sibling modelling. Important especially in cases of selective eating. Meals are about more than food.

Feeding disorders in infancy and early childhood

- **Restrictive eating (infantile anorexia)**
  - Sufficient mealtime duration important
  - Family mealtimes
  - Limit distracting conditions, care for low stimulus mealtimes, social interactions as motivation to eat
  - Caloric supplements may be warranted
  - In refractory cases increasing apptetite by cyproheptadine may be helpful

Feeding disorders in infancy and early childhood

- **Selective eating**
  - Usually despite selective eating no nutritional deficiencies, psychological stress only from social isolation
  - Treatment as early as possible („sensitive period" for acceptance of new foods 6th month through end of 2nd year of life)
  - During preschool age only intervention, if extremely selective eating or in case of social problems
  - Graded exposure to new foods with positive reinforcement of food acceptance
  - Structured rotation of new foods
  - Modelling

Feeding disorders in infancy and early childhood

- **Food refusal due to aversive experience (posttraumatic feeding disorder**
  - Systematic desensitation, graduated exposure to eliciting stimuli
  - Limit mealtime duration
  - Flooding is effective, but ethically questionable
  - Refer to specialized treatment facilities
  - Feeding during sleeping times may promote extinction of aversive experiences

Feeding disorders in infancy and early childhood

Conclusions

- Detection of regulatory and feeding problems as early as possible
- Feeding problems should be taken serious as they may develop into serious health problems and are stressing for the caregiver-infant relationship
- Detect associated relationship disturbances
- Approaches should be developmentally oriented
- Focus on dysfunctional interactions and mealtime behaviours
- Refer to specialized institutions if needed