

Fetal Alcohol Syndrome & Dysphagia

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Fetal Alcohol Syndrome (FAS) Facts

- Cluster of related defects resulting from prenatal exposure to alcohol
- Incidence in US is 2 cases per 1000 newborns (Church & Abel, 1998).
- FAS is more prevalent than Down's syndrome (1 in 660) or spina bifida (1 in 1000) (Church, Eldis, Blakley, & Bawle, 1997).

Deficits Associated with FAS

- Deficits experienced by each client will vary from severe mental retardation with brain stem involvement to slight deficits that are not detected until much later in life when developmental problems begin to surface (Luke, 1977).
- Alcohol can pass from the mother's blood to the baby's blood, which can cause damage to the growth of the baby's cells -- causing severe damage to the brain and spinal cord regions (WebMD, 2011).

Deficits cont'd

- A discrepancy between the fetus' actual size and the expected size for gestational age (growth retardation) can be detected as early as 16 weeks gestation (Luke, 1977).
- FAS infants exhibit prenatal growth deficiency, low birth weight (2,500 grams or below), breech presentation and poor Apgar scores.

Physical Abnormalities

- short palpebral fissures
- flat midface
- epicanthal folds
- low nasal bridge
- indistinct philtrum
- minor ear anomalies
- short nose
- thin upper lip
- micrognathia (Sampson, Streissguth, Bookstein, Little, Clarren, Dehaene, Hanson, & Graham, 1997).
- Deformities of joints, limbs, and fingers
- small head circumference and brain size (microcephaly)
- craniofacial anomalies
- heart defects are also common in children with FAS (Harms, 2011)

Other Disorders

- Hearing disorders including:
 - delayed maturation of the auditory system
 - sensorineural hearing loss
 - intermittent conductive hearing loss
 - recurrent otitis media
 - central hearing loss (Church et al., 1998)
 - FAS children may also experience:
 - growth deficiency
 - cognitive impairments
 - behavioral disturbances
 - central nervous system abnormalities
 - neurological impairment (Sampson, et al., 1997).

Communication Disorders & FAS

- deficits in fluency
- lack of intonation
- voice dysfunctions
- slurred speech
- poor articulation
- Expressive and receptive language delays are present in 86% of patients (Castrogiovanni, 2008).

Dysphagia & FAS

- Dysphagia would appear to be a major concern for families and infants diagnosed with this syndrome due to:
 - the possibility of neurological impairment
 - common occurrence of craniofacial anomalies
 - long and effortful oral feeding times
 - Dysphagia in infants is most commonly caused by neurological impairment acquired during fetal development (Groher, 1997)

Dysphagia & FAS

- Findings from a variety of studies found:
 - Abnormal feeding patterns due to delayed oral motor development
 - Distractibility during feeding
 - poor sucking ability
 - easily fatiguing during oral feedings (Van Dyke et al., 1982).
 - weak gag reflexes
 - constant drooling
 - Aspiration
 - Micrognathia (Adickes & Shuman, 1983).

Neurological Impairment & FAS

- Neurological impairment can:
 - reduce an infant's ability to appropriately suck and swallow
 - Damage to the brainstem causes swallowing problems - main control center for swallowing is located in that region
 - Damage results in an inability of the infant to take any food by mouth because the sucking reflex may be poor
 - cannot consume anything orally-may not have the opportunity to receive sensory inputs from the mouth and pharynx, which would in turn stimulate the development of brain regions that control various feeding movements
 - orally consuming solids and liquids helps typically developing infants generate more refined oral motor movements (Groher, 1997)
 - suck-swallow-breathe synchrony is pivotal for establishing appropriate feeding and swallowing skills

Craniofacial Anomalies & Feeding in FAS

- Feeding problems include:
 - poor sucking
 - inadequate volume of intake
 - lengthy feeding times
 - nasal regurgitation
 - coughing
 - choking
 - excessive air intake (Kummer, 2008)
 - Church and colleagues (1997) found 52% of FAS participants had cleft palates and 18% had a cleft lip and palate.

Signs of Dysphagia in Pediatric Population

- having little interest in feeding
- extension of muscles during feeding
- extensive time required to feed
- spilling of food or liquid out of the mouth
- coughing during feeding
- challenges with breathing when feeding
- failure to thrive (Prasse et al., 2009)

Lifetime of Defecits

- No cure
- Physical defects
- Mental deficits
- Craniofacial anomalies
- Learning disabilities/delays
- Parental/family counseling to cope with behavioral difficulties

In Summary...

- Swallowing deficits for infants diagnosed with fetal alcohol syndrome are challenging and may also be life threatening if the signs of aspiration are not caught quickly.
- Special care needs to be taken when feeding these infants during the first year of life.
- Alternate means of feeding may be required to provide the infant with adequate nutrition and hydration.
- Pediatric dysphagia may be commonly found in fetal alcohol syndrome, therefore, more research needs to be conducted in this area to ensure safe oral consumption and adequate nutritional intake for this population.

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