Shaken baby – on how to prevent this form of child abuse

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Aim of presentation

Focus on infants without speach

To initiate discussion on how we can prevent shaking abuse of small babies!

How common is abuse of babies and infants?

How common is any abuse of small children?

- It is thought that in UK 1/1000 children below 1 year of age is submitted to serious physical abuse!

(Based on review over many years of cases reported to a national registry for abused children)

How common is abuse with brain injury in small children?

Population based study Scotland:

- **25 per 100 000 years of life < 1 yr of age in Scotland – median age 2.2 mos**
- **45 per 100 000 years of life < 1 yr of age in the city of Glasgow**

Barlow, K. & Minns, R. (2000) annual incidence of shaken impact syndrome in young children. The Lancet, vol 356, November 4

The reasons?

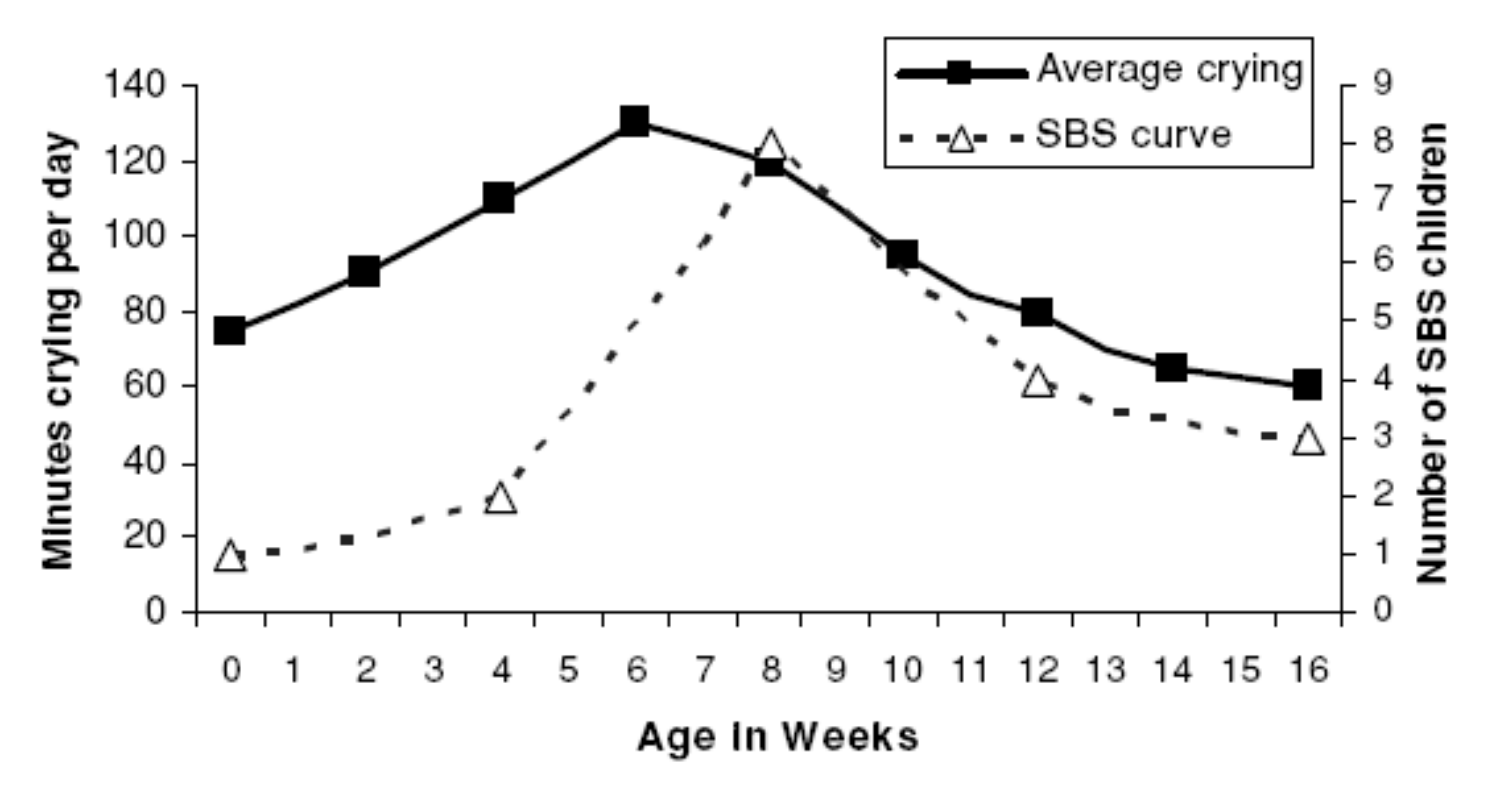
Triggering factors?

Babies thought to be crying a lot:

- There is an obvious and several times shown relationship between babies thought to be crying a lot and babies being abused.
- Remember - it is the feeling that a baby is crying a lot – not an objective assessment.

Triggering factors?

Babies thought to cry a lot:



Talvik et al: Acta Paediatrica 2008;97:pp782-785

Risk groups?

Many studies have indicated risk groups:

- Among the less privileged in the society.
- Abuse and psychiatric diseases.
- In minorities.

In whom do we MISS the diagnosis?

Studies in USA have shown:

- **Babies in complete families – no minority**
- **Babies < 6 mos & well off families**
- **Babies seen by private physicians**
- **Babies in families with private health insurance**

- **Our bias makes babies die unnecessarily (4 of 5 i this study)**

Jenny et al: JAMA 1999; 281: 621-626

How is a baby abused?

”Shaken baby syndrome”

Mechanisms of injury depends on weight:

- **Shaking**
- **Banging head against bed**
- **Suffocation**

From police video reconstruction

Brain injury in child abuse

Shakings of the infant are serious, violent and repeated!

No relation to trivial jostling during play as holding the infant overhead or bouncing the infant upon knee

”Shaken baby syndrome”

Mechanisms of injury:

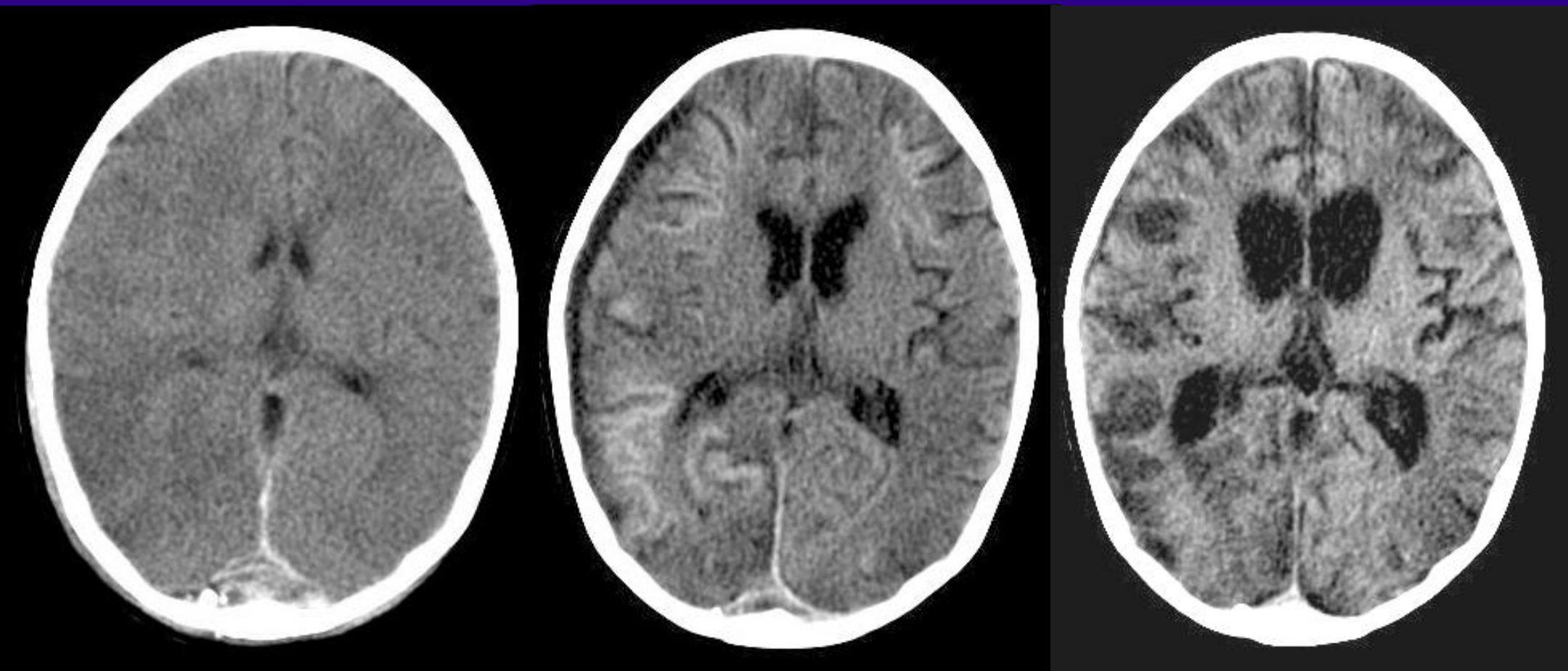
- Shaking
- **Banging head against bed**
- Suffocation

From police video reconstruction

Girl 11 months

Comparison CT over time

April 2. April 14. April 28.



What is the outcome when a baby is shaken?

Outcome following abuse < 1 yr

Clinical outcome in Canada (N= 364):

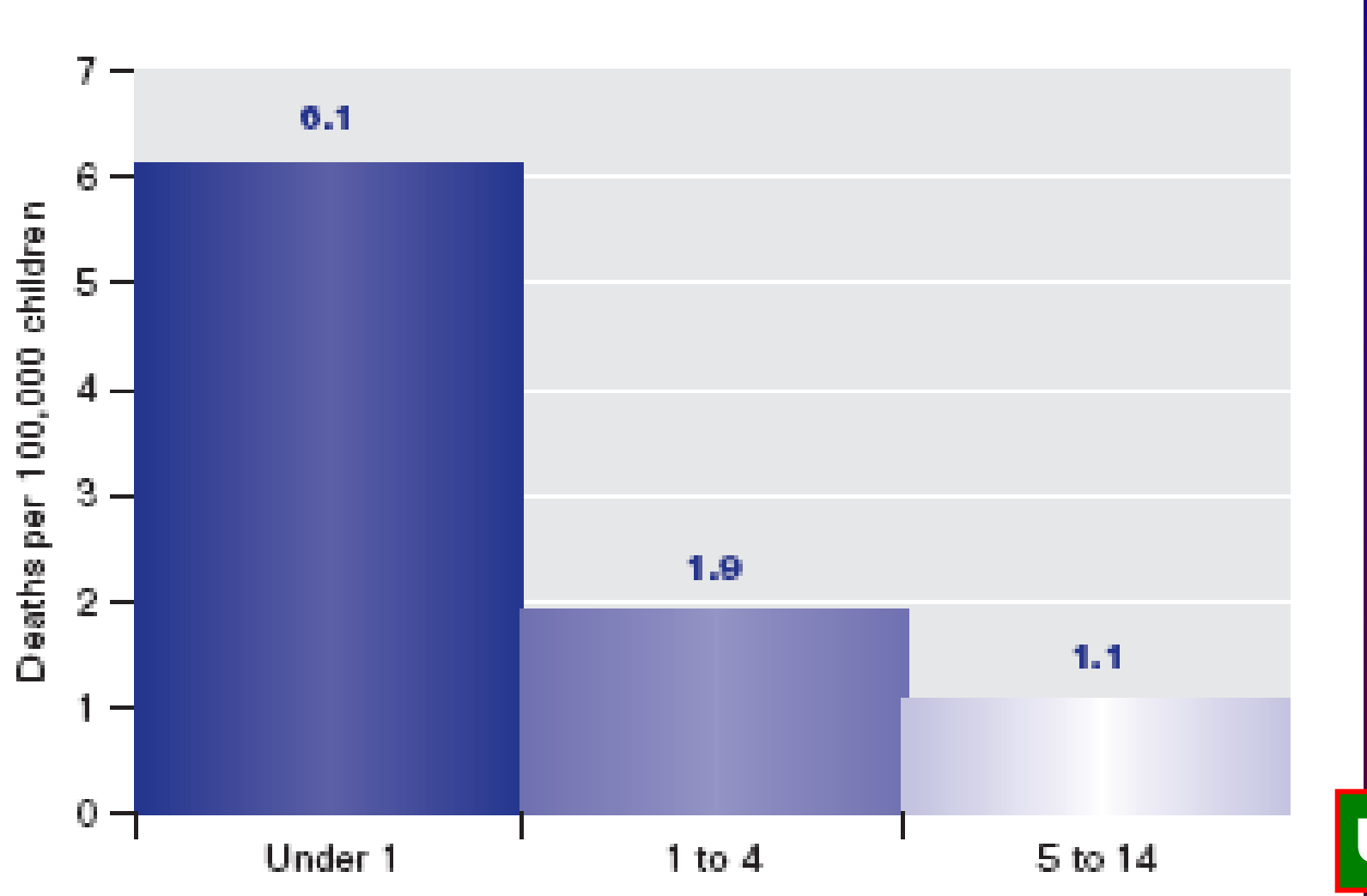
- Death 69 (19 %)

In the survivors:

- Normal 21 (7%)
- Moderate/severe disability 143 (48%)
- Coma/vegetative state 34 (12%)
- In need of multidiciplinary care 251 (85%)

CMAJ 2003; 168(2):155-159

No. of deaths from abuse over 5 yrs per 100,000 children in OECD countries



UNICEF

Prevention most important and cost effective!

Future possibilities!

- Every abused infant is very expensive for Society - at € 2 milj. during 30 years.
- Many infants are abused every year!

Future possibilities!

- Many infants are abused every year!
  - Prevalence 1:1000 infant below 1 year
  - 100 infants are abused every year in Sweden
  - Half of them (50) are severely handicapped
  - Abused infants generate a cost to Society of about € 500 milj every year in Sweden

Future possibilities!

- Anxiety among health care and school professionals prevent a correct diagnosis
- Anxiety in the parent/perpetrator prevents proper care for both parents and child
- Anxiety among the politicians hinders proper funding of preventive measures to be taken in order to minimize infant abuse.

Conclusion

Abuse of infants

- is a very difficult diagnosis in clinical practice
- generates enormous cost to Society every year!
- generates great anxiety at all levels in our Society – denial is common!
- can be prevented in up to 50% of severe infant abuse! (Dias et al, Pediatrics 2005)

Why are shaken babies different?

- Not premeditated – different epidemiology?
- An act in frustration and extreme stress
- No clear risk groups
- Difficult diagnosis – too late in most cases
- High mortality and morbidity - expensive
- Clear components of ignorance
- Shown to be possible to prevent

Can child abuse be prevented?

A pilot study

Credits for sponsorship

- The Ministry of Health and Social Affairs of Sweden
- The Stockholm County
- Karolinska Institutet/Hospital
- University of Linköping

Can a US program be used?

- Inspiration – yes
- Health care system is different
- Parents and child spend little time in maternity ward.

Presumptions

- Shaking a baby is rarely a premeditated action.
- Any parent, sufficiently frustrated, is at risk of injuring his/her child.
- There is a component of ignorance among parents about the fragility of a small baby.

Presumptions

- A crying baby is at risk.
- Teaching parents about how to handle their frustrations is useful.
- All parents must be included in the teaching program.

Study design - recruitment

Study group n = 590

- All parents to be delivered in Södersjukhuset, South Stockholm

Control group n = 855

- All parents to be in Uppsala

Study design

Preparations – teaching of staff

All nursing staff

- **in maternal health care**
- **in the materinty ward**
- **In well baby clinics**

Study design - intervention

Informing parents in three (3) doses

- in maternal health care
- in the materinty ward
- in well baby clinics

”Mental vaccination”

Study results - Choosing end point

Number of abused children?

- Poorly defined diagnosis
- Unreliable numbers – too few
- Incidence in Sweden unknown

Study results

< 30% of parents get info about SBS

- In our study group 90% got information
- More informed about SBS than about managing frustrations
- 3 doses meant that more parents received information.

Study results

How would information be received?

- General approach to info was positive
- Most thought information to be important and useful

Study results

Most important question?

- Has the prevention program managed to create the intended effects on the parent’s attitudes and behavior?

Study results

"I believe that any parent can lose control and shake a crying baby."

- Parents in the study group were less prone to disagree with this statement - but only 10 % totally agreed!

Study results

"Your ability to console is dependent on your state of emotions"

- Parents in the study group were significantly more convinced that this statement was true.

Study results

The intervention program tends to further support a positive attitude towards seeking professional help when the baby is crying and cannot be consoled.

Study results

The intervention fosters a positive attitude towards one of the most important strategies in reducing risk in an acute situation – to physically remove oneself from the baby.

Study results

Parents awareness and knowledge

The parent's knowledge is generally good but the intervention seems to have increased the level of knowledge even more.

Study results

Parents awareness and knowledge

A small but significant number of parents in the control group are not aware of the fact that violent shaking a baby can cause severe brain injury.

Study results

Parents awareness and knowledge

Intervention appears to have significantly increased parent's awareness of violent shaking and "shaken baby syndrome".

Study results

Parents awareness and knowledge

“Mental vaccination”, as intervention, appears to contribute to further spread in the society of general knowledge about violent shaking and “shaken baby syndrome”.

Study results

Parents awareness and knowledge

The information program has meant that parents are more prone to use the strategy of removing themselves from the baby when frustrated.

Study results

Parents awareness and knowledge

We have found a non-significant tendency towards a more consoling behavior among parents in the intervention group.

Study results

Parents awareness and knowledge

We have not been able to prove that "Mental vaccination" has been able to increase the use of relaxation techniques or seeking external help, only a tendency.

The most important result:

We have shown that the attitudes of parents have changed with an increased ability to absorb knowledge about, and to develop preparedness for using, strategies a stressed and frustrated parent can use to reduce risk of exposing the baby to injury.

The method we have designed in informing new parents and parents to be, about babies crying and the danger of violent shaking the baby, is now validated and the effectiveness assured in a Swedish context.

MENTAL
NON
VACCINATION