

Details from the German Case-Control Death-Scene Investigation Study on SIDS

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Objective

Up to date, most studies carried out death-scene investigations by retrospective parent interviews. Furthermore, some studies were restricted to SIDS cases only. From a methodological prospective, interview data may be affected by recall bias, particularly in case-control studies. In studies on cases only, interpretation of results may be further limited due to lacking reference data from controls.

Design and Methods

This is the first study applying a combination of two approaches:

1. Data on sleep environment and death scene are obtained prospectively by objective, standardized observations and measurements made by specially trained doctors of legal medicine in homes shortly after a SIDS case has been found dead. The study protocol includes: • temperatures (*degrees Celsius*) of the room, the heating device, the body, and outdoors; • dimensions (*metres*) of the room and the cot; • type, dimensions (*centimetres*) and weight (*gramms*) of all bedclothes; • type, dimensions (*centimetres*) and softness (*millimetres that a 1-kg weight sinks in*) of the mattress; • type of the infant's clothing; • pacifiers or other items found in the cot; • devices in the vicinity of the cot; • information on doors and windows (dimensions and whether open or closed during reference sleep).

2. Sleep environment and death-scene data from SIDS cases are compared to identically obtained data from randomly selected living controls, matched to cases by gender, age, region, and season.

Infants who died suddenly and unexpectedly between the 8th and 365th day of life are eligible for this study, which includes an autopsy (with full virology and toxicology) and a parent interview. For each index case, three living controls are enrolled. Additional information, including socioeconomic status and other confounders, is available from parent interviews.

Conclusions

Since April 1999, 61 cases and 183 controls could successfully be included in this study. Interim results suggest that despite of its complexity, this type of study is feasible. The main question that remains to be answered by this study is whether indications of hypoxia, rebreathing or hyper-thermia as the mechanisms of death can be revealed by comparing "objective" scene data from cases and controls. Additional explorative analyses will also be performed.

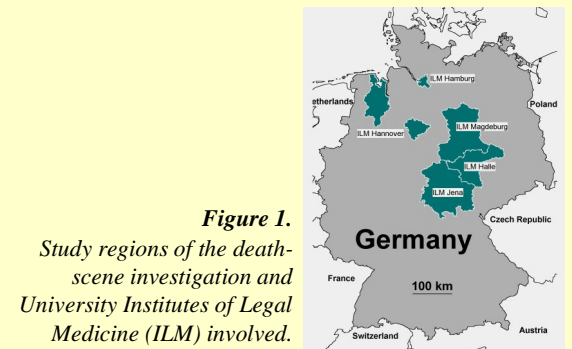


Figure 1. Study regions of the death-scene investigation and University Institutes of Legal Medicine (ILM) involved.



Figure 2. Measuring devices for death-scene investigation: (1) electronic scale, (2) device to measure mattress softness, (3) ear thermometer, (4) electronic thermometer with three different probes, (5) ultrasound distance meter.

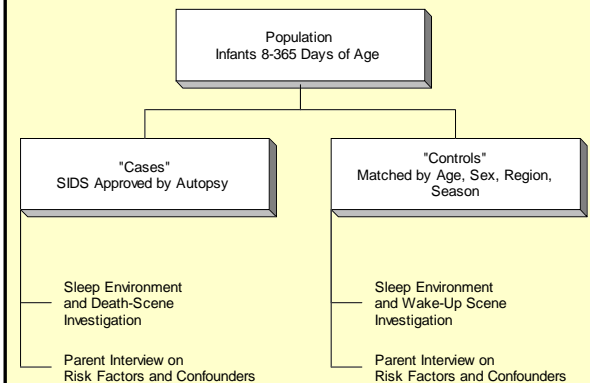


Figure 3. Case-control study design.