A43 The Infant Injury Database

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Learning Overview: After attending this presentation, attendees will be aware of the Infant Injury Database (IID), the types of data archived in the database, the composition of the population sample, and the mechanism for requesting access to the data. This presentation provides a more detailed description of the database previously described by Soto Martinez et al.[1]

Impact on the Forensic Science Community: This presentation will impact the forensic science community by creating awareness of and providing information about a valuable resource for conducting evidence-based research on the recognition and diagnosis of child abuse.

The IID is a valuable data source for forensic and clinical practitioners interested in developing statistically sound, validated diagnostic models to inform decision-making with regard to abusive injury. It is a comprehensive collection of demographic information, investigative information (law enforcement, medical examiner death investigation, child protective services), scene observations, medical history, and autopsy findings from all pediatric (0–5 years) examinations conducted at the Harris County Institute of Forensic Sciences (HCIFS). To mitigate the introduction of selection bias, age was the only factor limiting inclusion into the IID. All data pertaining to Postmortem Examinations (PME) were prospectively collected from autopsy reports and gross rib exams or full pediatric skeletal exams conducted by an HCIFS forensic anthropologist. Full pediatric skeletal exams were conducted, per the pathologist's request, on cases of concern for abusive injury or suspicious circumstances.

For each case in the database, 2,071 fields of data (discrete and free-text) are collected with the ability to attach additional comments to any data field. General case information, such as demographics, height/weight, and manner/cause of death, is documented in the first 25 fields of the database. Ninety-nine fields describe the events leading up to the terminal event (i.e., co-sleeping, napping, traumatic injuries), and detail information such as who found the decedent (i.e., mother, father, parent's paramour, etc.) and where they were found (i.e., bed, bassinet, crib, couch). These fields also describe the decedent's physical appearance (i.e., lividity, rigor mortis, cold to the touch) upon discovery or assessment by medical personnel. If the decedent was not transported to the hospital, observations from scene photos are recorded in 27 fields, describing the decedent's sleep environment (when applicable) and general home environment (i.e., clean, unkempt, insect activity, etc.). Eighty-seven fields document the decedent's medical history (prenatal, birth, and postnatal) and family medical history. Parental/caregiver social histories (tobacco, alcohol, and illicit drug use) are documented in 21 fields. History with child protective services involving the decedent, sibling, and/or parent/caregiver are recorded in 157 fields, including number of investigations, associated allegations, and allegation determination. Medical examiner findings are recorded in 1,655 fields and are organized by location of injury, such as external body, internal body, and skeletal system. External injuries to specific body parts (i.e., face, lips, left hand, buttocks, etc.) are documented in 76 fields, including injury type (i.e., contusion, laceration, abrasion, etc.) and whether the observed injuries resulted from medical intervention. There are 106 fields for documenting internal injuries to body organs, and subcutaneous and intramuscular soft tissues, which includes descriptions of injury type (i.e., hemorrhage, pulpification, laceration). The largest number of PME fields (*n*=1,473) are dedicated to the documentation of skeletal injuries. There are fields for recording fracture type, number of fractures, and stage of healing for almost every bone in the body. Free-text boxes are utilized for documenting injuries to the bones of the hands and feet as these types of injures are uncommon.

Currently, the IID contains data on 710 pediatric cases (female=289, male=421) and the sample continues to expand. These data were collected intermittently from 2010 to 2013 and have been continuously collected from 2014 to the present. Infants form the largest group in the IID (<12 months=633, 89%), followed by children 1–2 years of age (*n*=32), 2–3 years of age (*n*=22), 3–4 years of age (*n*=15), and 4–5 years of age (*n*=8). With regard to ethnicity, African Americans form the largest group in the IID (*n*=305, 43%), followed by Hispanics (*n*=237), White/European Americans (*n*=150), and Asians (*n*=18).

Reference(s):

1. Soto Martinez, Miriam E., Jennifer C. Love, Deborrah C. Pinto, Jason M. Wiersema, Sharon M. Derrick, Angela Bachim, Christopher Greeley, et al. The Infant Injury Database: A Tool for the Study of Injury Patterns in Medicolegal Investigations of Child Abuse. *Journal of Forensic Sciences*, (July 2019), https://doi.org/10.1111/1556-4029.14120.

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