An integrated approach to Sudden Unexpected Infant Deaths (SUDI) in the Tuscany Region: first year of experience.

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Introduction

The Tuscany Region has approximately 30,000 births every year and one of the lowest infant mortality rates in Italy (approx. 3/1000 live births) (Fig. 1). A Sudden Infant Death syndrome (SIDS) reduction campaign is carried out actively by the Semi per la SIDS family Association in collaboration with the regional SIDS Centre of the Meyer Children's Hospital (Florence) and the Tuscany Region. The SIDS prevention campaign has successfully improved the knowledge of SIDS and the risk reduction recommendations among the public and medical community. However, a thorough evaluation of the Sudden Unexpected Infant Death (SUDI) rate and appropriate support for the bereaved families have not yet been possible due to legal and organizational limitations. This project describes the implementation of a multiagency approach for the management of the SUDI cases in the Tuscany Region. The aim of the project is to create an integrated organization working for the benefit of families and professionals to ensure sensitive investigations to identify the causes of death and provide peer support for bereaved families.

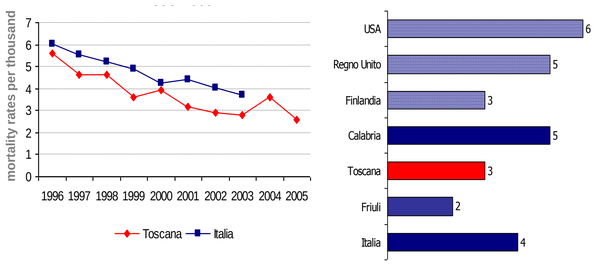


Fig. 1: **Mortality in the first year of life**. A: Tuscany Region Health Care Agency; ISTAT - Health for Hall. B: Mortality rates in the first year of life per thousand. Comparison between different countries and Italian regions. WHO.

AIM OF THE PROJECT

1. **To provide help and support to bereaved families**
2. **To evaluate the incidence of SUDI**
3. **To promote research in the field**

Creation of a multiagency task force

The first step of the project was the creation of a multiagency task force in order to promote cooperation between agencies and to favour the development of joint working practices. The task force is coordinated by the Regional SIDS Centre and consists of a representative of the Tuscany Region Prevention Department, a family association member (Semi per la SIDS), the director of the regional emergency services (118), a judge, a family paediatrician, the referee of the and three pathologists skilled in this specific field. Each pathologist is responsible for one of the three main areas in which Tuscany is subdivided (north-west, south-east and centre).

Intervention protocol

An intervention protocol was established and approved by all the members of the task force. The protocol indicates that when a SUDI occurs, the emergency service (118) must alert the judge, the pathologist responsible for the area where the case has occurred, the Regional SIDS Centre and the family association Semi per la SIDS. The Emergency services are the first contact with the family and they play a central role in implementing the protocol, therefore, important steps were taken to share informative material with the local hospital emergency services. A brochure (Fig.2) was printed containing general information on SIDS ad recommendations for providing immediate support for the family after the first communication.

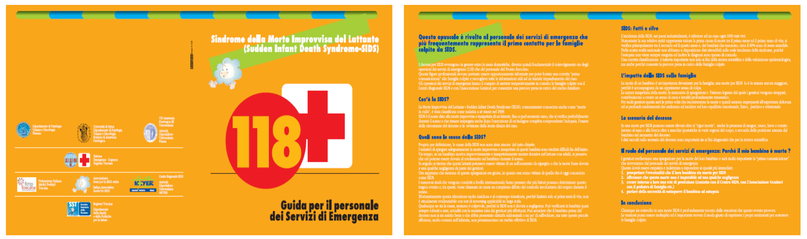


Fig. 2: **Leaflet for the emergency service 118**.

Emergency services collect details about the circumstances of death in order to provide initial information for the Regional SIDS Center, the pathologists and the police. A form containing the relevant issues on the death scene is available (Fig. 3) and has to be filled out and forwarded immediately. The main steps of the alert intervention protocol are listed below:

1.Contact the SIDS regional Centre and send the death scene form

2. Alert the pathologist and send the death scene form

3. Alert the judge


Associazione Semi per la SIDS-Onlus

Centro Regionale di Riferimento per lo Studio e la Prevenzione della SIDS

Sindrome della Morte Improvvisa del Lattante (Sudden Infant Death Syndrome-SIDS)/ Raccolta Dati da parte del personale dei servizi di emergenza.

SCENA DEL RITROVAMENTO

nome del bambino_____

trovato morto il_____ ora_____ da madre □ padre □ altri □ specificare _____

luogo del decesso:

in ospedale □ nome_____

in casa □
in culla/lettino: in camera coi genitori □ in camera separata □
in altro luogo dell'abitazione □ specificare_____
a letto con i genitori NO □ SI □
a letto con altre persone □ specificare_____
nel seggiolone NO □ SI □ in braccio NO □ SI □
nel passeggino NO □ SI □ nell'infant-seat NO □ SI □
altro □ specificare_____
temperatura nella stanza del ritrovamento Troppo caldo □, Troppo freddo □, Normale □
temperatura del bambino _____ °C
fumo nell'ambiente NO □ SI □

fuori casa □ specificare_____
nel passeggino in strada □ nel seggiolino in automobile □ in braccio □
abitazione altrui □ specificare luogo del ritrovamento_____

Following the communication, the pathologist reaches the hospital where the child has been transported and a full post-mortem examination is carried out in accordance with an agreed protocol. The three pathologists involved in the project are always on call.

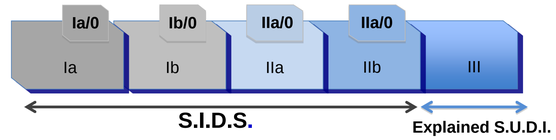
The results of the authopsy are disclosed to the families in two months time in a multiagency meeting with the pathologist, a pediatrician from the Regional SIDS centre and a Family Association representative. All the agencies provide continued information and support for the family. A final case discussion meeting takes place after six months.

Fig. 3: **Death scene form for the emergency services 118.** The form contains relevant questions on the death scene

Results

The results of the project for the first year of experience in 2009 were discussed in a one-day meeting held on the 12th of March 2010 at the Meyer Children's Hospital in Florence. The purpose of the meeting was: 1) to collect and discuss the cases; 2) to critically identify the weak points of the project and propose improvements.

Six SUDI and one case of a Sudden Death in a Toddler occurred in Tuscany between 01/01/2009 and 31/12/2009. SUDI cases were classified according to the classification below.



"/0": **Extension used to denote that a potentially important piece of information is missing**

Ia: No notable factors identified

Ib: Notable factors identified but not likely to have contributed to the death

IIa: Factor(s) identified that possibly contributed to the death

IIb: Factor(s) identified that probably contributed to the death

III: Factor(s) identified that provide a cause of death.

Blair PS, Byard RW, Fleming PJ. "Proposal for an International Classification of SUDI". Scand J of Forensic Science. 2009; 1: 6-9

As shown in the table below all the SUDI cases occurred in infants 1-6 months old. 5 out of 6 infants were male. Only one case (1) was not classifiable due to lack of postmortem examination.

The emergency services alert protocol worked in 50% of the cases (3, 5 and 6). For case 2 the communication of the death was given by the hospital and for case (4) by the legal doctor. In one case (1) information was lost. Two "audits" were organized with the agencies involved in the failure of the protocol.

CASE	AGE	SEX	DATE	TIME	ALERT	AUTHOPSY	CLASSIFICATION
1	4 MONTHS	M	29/04/2009	10,3	/	/	NC
2	6 MONTHS	M	30/04/2009	20	CITY HOSPITAL	05/05/2009	I b
3	5 MONTHS	M	18/06/2009	13	118	19/06/2009	II b
4	5 MONTHS	F	16/08/2009	3	LEGAL DOCTOR	17/08/2009	II b
5	45 DAYS	M	24/11/2009	6,2	118	24/11/2009	I b
6	4 MONTHS	M	11/12/2009	5,3	118	13/12/2009	II b/0

Conclusions

- In the firs year of the project the protocol failed in 50% of cases . Further collaboration between agencies is required to improve implementation of the protocol and ensure immediate and long-term support for bereaved families.
- The audit is an important tool for improving joint working practices and preventing future failure in the identification of the SUDI cases and appropriate analysis of the cause of death.
- The development of a structured multiagency system should be promoted by professionals to ensure care for families and sensitive investigation into the cause of death.