

Management of mass disasters related to the sinking of clandestine immigrants

Wiem BEN AMARI^{1,2}, Hela SIALAI^{1,2}, Narjes KARRAYI^{1,2}, Fatma DAOUDI^{1,2}, Zouhir HAMMAMI^{1,2}, Malek ZRIBI^{1,2}, Samir MAATOUGI^{1,2}.

1- Department of Forensic medicine, University Hospital Habib Bourguiba Sfax

2- Faculty Of Medicine, Sfax University Tunisia

Abstract

The sinking of an illegal immigration ship constitutes an unpredictable event, responsible for a mass disaster that can generate a large media resonance. Therefore, it constitutes a medical and social emergency.

In this work, we propose to describe the management procedure of mass disasters related to the sinking of illegal immigrant ships and to document the main difficulties encountered.

Even if important advances have been made in the management and the identification process of clandestine immigrants, various challenges and difficulties remain to be overcome to provide a rapid response to the families, who are uncertain about the destiny of their missing relatives.

Keywords: Mass Disasters; Management; Sinking; Clandestine

INTRODUCTION

Since the "Arab Spring" revolution, Tunisia, just like other countries in the Mediterranean basin, has witnessed the expansion of the phenomenon of illegal immigration (1,2).

The shipwreck of an illegal immigration boat is an unpredictable event, responsible for a real mass disaster, which can instantly generate a large number of deaths. It, therefore, constitutes a medico-legal emergency. Indeed, this type of disaster mobilizes multiple stakeholders including forensic doctors whose mission is to confirm the cause of death, to date it but also and to identify these bodies, often unknown. Moreover, this tragic event can generate significant media coverage and take on a social and political dimension, especially when the victims are of different nationalities (3). This constitutes a medical and social emergency.

In this work, we propose to describe the procedure of management of mass disasters related to the shipwreck of illegal immigrants in the forensic department of Sfax and to document the main difficulties encountered.

1 - Procedure for medico-legal management of deaths due to shipwreck of illegal immigrants

The bodies of shipwrecked illegal immigrants are recovered by the agents of maritime security and the military of the sea army and they are then transported in body bags, to the morgue of the forensic department of Sfax.

When they arrive at the morgue, the forensic team composed of 12 doctors and 10 workers, reinforced, if necessary, by volunteers (Tunisian Red Crescent, International Red Cross, health workers ...), provides medico-legal management of the bodies, in collaboration with the scientific police.

The morgue is composed of a reception office on the first floor (Figure 1), and an autopsy room (Figure 2) in the underground.



Figure 1: The reception office of the Forensic Department of Sfax



Figure 2: The autopsy room of the Forensic Department of Sfax

When a mass disaster is announced by the authorities, the department's staff inquires about the number of victims. They prepare in advance and classify by number cadaver bags, craft envelopes, and numbered plastic bags for the conservation of personal objects, numbered labeled swabs for the collection of samples for DNA analysis, numbered plasticized boxes, numbered post-mortem data sheets as well as all

the material necessary for the autopsy (gloves, scalpels, gowns...).

In these rooms, the management of corpses is organized in successive stages involving an antemortem unit, a psychological support unit, a post-mortem unit, and an identification commission. The management of mass disasters in our department is conducted according to the recommendations of Interpol (4).

- 1.1- Activity of the post-mortem unit

This unit involves forensic doctors, as well as forensic agents. Its task is to collect post-mortem data for identification purposes.

Reception and sorting: The corpses are received on carts where a number is assigned to each one according to the order of arrival, by a single person (supervisor of the service), to avoid duplication. The body is then taken to the autopsy room and placed on the table, accompanied by the number sign, envelope bags, and swabs with their number.

Primary identification measures: Forensic officers take fingerprints and photographs of clothed bodies (face, full body front, and back view). The national digital fingerprint file is immediately consulted for matches.

Then, the forensic doctors proceed to search personal effects and identity documents or cell phones, carefully note and describe these effects as well as the clothes on the post-mortem data collection forms, before removing them and keeping them in the corresponding envelopes and bags (which will be later sealed by the authorities).

The recovered phone chips are turned over to the forensic science department to identify their owners and trace the phone calls that preceded the death. These calls may also help identify the organizer of the clandestine migration.

External examination of corpses: Photographs of the unclothed corpse accompanied by its numbered sign are taken. The distinctive signs (scars, deformations, tattoos, amputations...) are described and photographed. The external examination of the body includes a detailed description of its morphological characteristics (height, weight, skin and eye color, length, and color of hair) and particular signs, which will be recorded on the post-mortem data sheet. Any traumatic injury is examined, photographed, and noted, and its ante or post-mortem nature is sought as well as the causative agent and/or mechanism. External signs of drowning are also sought (lip and nostril foam, fish eye appearance, cyanosis, adipocere, scavenger lesions...). The external examination also provides information allowing the approximate dating of death.

The dental examination with dental formula is also performed and any distinctive element (prosthesis, implant, accessory...) is noted.

Forensic autopsy: A complete and systematic forensic autopsy is performed on all bodies to confirm the cause of death (mechanical asphyxia by submersion), and to eliminate any other cause, especially that of the intervention of a third person. The autopsy will also allow us to note any internal element that could be used for identification (pacemaker, osteosynthesis material, prosthesis, intrauterine device, absence

of gallbladder or appendix...), which will be recorded on the post-mortem file.

Forensic sampling: Duplicate samples are systematically taken for a genetic study: blood and cartilage samples for fresh bodies, and cartilage only for putrefied bodies. They are then stored at -20 degrees.

Storage of corpses: The bodies are then stored in the dedicated areas. After saturation of the refrigerated cells and the disaster chamber, the department is equipped with an external refrigerated cell of 30 m² of surface to keep the corpses there while waiting for their identification and their inhumation.

- **1.2- Psychological support unit**

This unit is composed of psychiatrists and psychologists who come on-site to provide the necessary assistance to the families of missing persons. They also take care of the people involved in the management of the corpses if necessary.

- **1.3- Ante-mortem Unit**

The function of this unit is to collect antemortem data on missing persons to create a computerized database. It involves forensic doctors and the authorities. International organizations, such as the International Committee of the Red Cross, also contribute to this activity through their representatives present in sub-Saharan Africa.

Data collection is based on the families and acquaintances of these people, social networks, witnesses, survivors of shipwrecks, and Interpol files if available (4). Medical records, dental records, X-rays, and reports from the treating physicians of missing persons may also be used.

This collection of factual data is combined with the collection of saliva and blood samples from relatives (ascendants, descendants, siblings) of missing persons for a comparative DNA study with samples from cadavers.

- **1.4- Identification Commission**

This commission looks for cross-referencing between antemortem and post-mortem data. In case of a positive match, a comparative study of DNA samples, if available, is performed to confirm the identity. In case of the unavailability of a reference sample, the identification will not be formal. Identity will only be formally established if there is a match of fingerprints or a definite relationship (or sibling) based on the DNA analysis. After a final check of the results, a list of identified persons is made.

- **1-5- Disposal of corpses**

Identified corpses are given to their families for inhumation after the production of a certificate of inhumation in the name of the deceased.

For the unidentified corpses at the end of the whole procedure, they are temporarily stored in the morgue while waiting for the municipal authorities to take care of their inhumation in the municipal cemeteries in individual and numbered graves, with a correspondence between the number of the file in the forensic department and the number of the grave.

2. Logistical and organizational shortcomings of the management process

The procedure for managing these disasters encounters several difficulties due to intrinsic and extrinsic logistical shortcomings.

- **2.1. Intrinsic weaknesses**

First of all, we note the inadequacy of the space for fluid management of this type of disaster, which meets the international standards in this area. The small size of the rooms and their layout prevent the one-way circulation of cadavers and makes it difficult to receive more than five cadavers at a time. In addition, the autopsy room has neither a vacuum system nor a negative pressure system to ensure effective ventilation. This leads to poor working conditions and a health risk for the staff.

In addition, the delay of inhumation leads to a saturation of the refrigerated rooms, in particular in the absence of a system of arrangement of the corpses allowing to optimize of the available surface. The capacity is therefore quickly exceeded.

On the other hand, the staff of the service is limited to about twenty people. All human reinforcement is based on the principle of voluntary work, generally provided by people with little or no training.

Finally, we must underline the absence of a forensic odontologist and of a mobile radiology machine (nor easy access to the radiology department), which causes us to lose useful data for identification.

2.2. Extrinsic threats

The threats are essentially represented by the large flow of victims in a short period, which affects the quality of the work done, and exposes the staff to risks (such as blood exposure accidents, and burnout) due to exhaustion and reduced vigilance (5).

At the same time, we deplore the absence of an established action plan at the regional level, which defines the different stakeholders and the task allocated to each of them, and is systematically triggered when a disaster occurs. This is in addition to the absence of a strategic stock of material that can be systematically and rapidly mobilized in the event of a mass casualty.

In addition, the general working climate in case of disaster is generally unfavorable with political, media, and social pressures, whether the victims are Tunisians or foreigners. Indeed, the teams are asked to act quickly but efficiently. Any error of identification would be dramatic. Moreover, unpredictable reactions from the families of the missing persons, impatient to know the destiny of their loved ones, have been observed with violence and threats towards the staff, and even a storming of the autopsy room. Security measures should be put in place to protect the workers.

Finally, we should mention the difficulties caused by the delay in burying corpses not identified by the local authorities because of the delay in preparing the graves and the lack of anticipation of the needs. This leads to the accumulation of corpses in the premises of the forensic department, whose capacity is already limited, and to the decomposition of badly preserved corpses. The treatment of other shipwreck victims then becomes very difficult in cluttered and poorly sanitized areas.

CONCLUSION

In this work, we have exposed the experience of the forensic department of Sfax in the management and identification of corpses of the

shipwreck of illegal immigration. This experience is characterized by the acquisition of technical competence, and the availability of the various participants with the establishment of an internal management protocol while following the international protocols. This efficient and multidisciplinary organization has allowed the identification of several bodies. Even if important progress has been made, various challenges and difficulties remain to be overcome to provide a rapid response to the families, who are uncertain about the destiny of their missing relatives.

REFERENCES

1. Naima E, Hiddi H. *L'émigration clandestine au miroir de l'art audio-visuel Tunisien: «L'image de la Herga vers Lampedusa: Une tragédie artistique ou une catastrophe humaine?»*. *Journal des études en Science Humaine et sociales*. N32.2018.
2. Zagaria V. *'Burning' borders: migration, death and dignity in a Tunisian coastal town*. *The London School of Economics and Political Science (LSE)*; 2020.
3. Heller C, Pécoud A. *Counting migrants' deaths at the border: From civil society counter statistics to (inter) governmental recuperation*. *American behavioral scientist*. 2020;64(4):480-500.
4. Interpol [Internet]. Available at www.interpol.int/fr/INTERPOL-expertise/Forensics/DVI.
5. Charfi N, Elleuch S, Bouali MM, Omri S, Feki R, Smaoui N, et al. *Évaluation de l'impact de la prise en charge médicopsychologique des survivants d'un naufrage sur les intervenants*. *La Revue de Médecine Légale*. 2019;10(4):155-64