MEDICO LEGAL RESPONSIBILITY IN ACUTE POISONING CASES: HIGHLIGHT ON THE RELATED EGYPTIAN LAWS

Dena Mohamed Naguib Abdel Moawed¹, ²

¹Department of Forensic Medicine and Clinical Toxicology, Faculty of Medicine, Zagazig University, Egypt
²Department of Forensic Medicine and Clinical Toxicology, Faculty of Medicine, Badr University in Cairo, Egypt

ABSTRACT

Introduction: According to the World Health Organization (WHO), acute poisoning cases were reported to be 3 million, with annual deaths up to 20,000. Even in medicolegal cases, the main duty of a doctor is “to save the patient's life”, and then fulfill the basic medico-legal duties to assist the investigating officer in the case. Ignorance of medico-legal duties is not an excuse or defense for avoiding punishment or penalty in a court of law.

Aim: This article aims to highlight the medicolegal duties of doctors in acute poisoning cases and to increase their medicolegal awareness to handle these issues properly.

Methodology: Data were collected by systematic searching for related articles between the years 2010 and 2023 using suitable keywords through different databases: Google, PubMed, Google Scholar, Web of Science, and WHO reports. All related peer-reviewed articles from these databases were included in the study. On the other hand, articles from unknown publishers and closed-access articles were excluded. Reference to related Egyptian laws was made.

Results: The medicolegal duties of the doctor in acute poisoning cases include the legal obligation to treat all patients in emergency cases, inform authorities, ensure proper maintenance of records, collect, and preserve samples, make a dying declaration and death certificate, and recommend a postmortem examination in case of death.

Conclusion: Doctors not only have a medical duty to manage the patient and save his life, but they also have medicolegal duties, which must be known to handle the medicolegal issues properly.

Keywords: Medicolegal, Responsibility, Acute poisoning, Egyptian laws.

INTRODUCTION

Exposure to a high dose of an external substance that can have a negative impact on a biological system is considered poisoning. It may result in minor effects, significant damage, or even death (Althobaiti, 2023; Lalit and Mamta, 2018). There are regional differences in the epidemiology of different types of poisoning. Acute poisoning prevalence, type, mortality, and morbidity vary depending on the socioeconomic, cultural, and degree of medical infrastructure of the country (Ham et al., 2020).

Poisoning may be suicidal, homicidal, or accidental. Children have been known to suffer accidental poisonings by eating contaminated food, ingesting poisonous plants, or getting bitten by an animal. Homicidal poisoning happens when a person or group of people deliberately endanger others’ lives. Using poison by oneself with the goal of ending one’s life is known as suicidal poisoning (Asghar et al., 2010; Flaig et al., 2013; Stevenson and Tuddenham, 2014; Majowicz et al., 2016). The World Health Organization (WHO) estimates that 350,000 people died in 2000 because of accidental poisoning. In the meantime, intentional ingestion contributed to almost 250,000 fatalities. According to one study, unintentional poisoning claimed the lives of 1,930,000 people worldwide in 2012, 84% of whom resided in developing countries (Albano et al., 2022).

Acute poisoning refers to exposure to a poison by any method for a short period (less than 24 hours). It might be intentional or unintentional. It is a frequent reason for hospital emergency room visits and has been linked to morbidity and mortality (Molla et al., 2022).
Acute poisoning is a significant global cause of mortality and morbidity. The World Health Organization (WHO) estimates that there are 3 million acute poisoning cases and 2, 20,000 each year. According to reports, acute poisoning was estimated to range from 0.3% to 7.6% in children (Dai et al., 2022).

When a poisoning victim is taken to a doctor, even if it is a medico-legal matter, the doctor's priority is "to save the patient's life," after which they must perform the necessary medico-legal formalities to support the investigating officer. Refusing to treat any patient in an emergency is unethical (Panda et al., 2021).

Lack of awareness of the doctor's medico-legal obligations could result in legal trouble for failing to fulfill his obligations. In a court of law, ignorance of the law is not an acceptable defense or justification for avoiding punishment (Millo et al., 2017).

AIM OF THE CURRENT RESEARCH
This article aims to highlight the medicolegal duties of doctors in acute poisoning cases and to increase their medicolegal awareness to handle these issues properly, with a focus on the related Egyptian laws.

METHODS
Data were collected by systematic searching for related articles between the years 2010 and 2023 through different databases: Google, PubMed, Google Scholar, and Web of Science. The articles were searched separately using the following keywords: “medicolegal”, “duties”, “doctors”, and “acute poisoning” and in combination using the Boolean operators “or” or "and." The included articles were then searched for eligible articles.

Inclusion Criteria: Related peer-reviewed articles from previous databases.

Exclusion Criteria:
- Articles from unknown publisher.
- Closed-access articles.

RESULTS
The responsibility of a doctor in a case of acute poisoning has two parts (Kumar et al., 2014):
- Medical duty: clinical management of the patient.
- Medico-legal duty: proper documentation and preservation of samples to help the legal investigations related to poisoning (Figure 1).

A- Medical duties of doctors in acute poisoning cases:
Early intervention is crucial to minimize the consequences of toxicity, but the diagnosis of poisoning can be challenging because the sufferer may be comatose or have been intoxicated by someone else (Thompson et al., 2014).

It's crucial to distinguish between poisoning and other medical disorders. When several patients exhibit the same clinical signs, intentional poisoning should be ruled out, along with the likelihood of accidental food poisoning, infection, diseases caused by extreme situations, and mass hysteria (Koyama, 2000).

The overall management strategy entails:
Emergency stabilization, during which the CNS depression, airway, respiration, circulation, and breathing should all be restored right away; Clinical evaluation using a medical history, physical exam, and laboratory investigations; Decontamination of exposed parts like skin/ eye by washing with copious water or gut decontamination by gastric lavage and administration of activated charcoal; Elimination of absorbed poison can be done by procedures like hemodialysis; the administration of life-saving Antidotes, competent Psychiatric treatment, and other procedures can all be used to remove absorbed poison (Al-Haidari, 2012; Godara et al., 2019).

B- The Medicolegal duties of doctors in acute poisoning cases:
I-Legal obligations in emergency cases
No matter the type or method of poisoning, in every public or private hospital, it is obligatory to treat all poisoning cases. It must be underlined that the Physician’s main responsibility is to manage the patient's condition with appropriate skill and care to preserve life. Referrals to the closest referral hospital should be made if the patient can’t be managed with the current facilities (Millo et al., 2017).

A licensed medical professional who is in charge has no right to refuse to treat life-threatening conditions, such as poisoning cases are sent to the nearest hospital (Narayan, 2005).
If death occurs during treatment, the medical doctor wouldn’t be punished even if there is no consent from the patient in an emergency (Yatiraj, 2013).

II-Informing the authority

According to (Raut et al., 2020), every incidence of poisoning, including homicidal, suicidal, and accidental cases, shall be reported to the police by a medical professional. He has a responsibility to protect society from homicidal poisoning. He should undertake all the possible measures to prevent the patient from being exposed to more poison (Parikh, 2019).

The doctor must provide all the information if the police ask for it on the case. Professional discretion has no place, and the doctor will likely face punishment if no or incorrect information is provided (Millo et al., 2017).

Food poisoning cases that may have been accidental should be reported to the public health authorities so that appropriate preventive measures can be implemented (Krishan, 2011).

III-Maintenance of medical records:

It is obligatory to make a written record of all the findings, which helps prove a suspicious case of poisoning in question in court (Pillay, 2011).

According to (Rodrigues and Banaulikar, 2007), the attending physician should record the following preliminary information: the patient's full name, age, sex, occupation, date, and who brought them (if the patient is a minor or unconscious).

The type of the poison, the time it was ingested, the moment symptoms appeared, the type of vomit, any distinctive smells, any treatments given, drug hypersensitivity, and the reason for the poisoning should all be included in the history (Raut et al., 2020).

In general examination: consciousness level, patient behavior, vital signs, skin condition, pupil condition, breath smell, and vomitus appearance. All systemic examination information should be documented as well (Singhal, 2016).

1- Collection and preservation of samples:

Postmortem diagnosis of poisoning is extremely challenging, so every suspected poisoning case requires a medical professional to keep all relevant evidence, including vomited material, stomach content, blood, urine, and feces samples. Additionally, any suspicious food, drink, or pharmaceutical products need to be stored (Raut et al., 2020).

According to (Pillay, 2011) and (Krishan, 2011), all preserved evidence should be preserved in discrete wide-mouthed glass bottles or jars with tightly fitting glass stoppers and correctly labeled with the patient's name, the sample type, and the examination date.

Urinary and blood samples are preferred in situations of acute poisoning. Ideally, two 10 ml samples of blood should be collected, one with a preservative (EDTA and sodium fluoride), and the other without. Now, the anticoagulant and preservative are already present in the containers used to collect blood samples (Millo et al., 2017).

The urine can be extracted (20ml) and preserved with thymol. Ideally, two samples should be taken; one immediately after the victim arrives by completely emptying the bladder. The second sample should be taken 30 minutes after the first sample. The second sample will give an approximate blood level of the poison. Urine is a very good sample for screening drugs (Aggarwal, 2014).

2- Dying declaration and Death certificate

In several nations, if a patient is in critical condition and may not survive, the doctor should notify the closest magistrate to record the dying declaration. A dying declaration is a written or verbal statement made by a dying person by an illegal act to provide details of the circumstances leading to his death. If death is imminent, he should make the dying declaration in front of an impartial witness, such as nurse or emergency personnel (Yatiraj, 2013).

In the event of acute poisoning, a death certificate shouldn't be given until the cause of death has been determined by a postmortem autopsy (Pillay, 2011).

3- Call for Postmortem Examination

If the patient dies of suspected poisoning, the deceased corpse should be sent for a medicolegal postmortem, and the police should be notified (Millo et al., 2017).
4- Making opinion in Poisoning Cases
When a patient survives suspected poisoning or when a death due to suspected poisoning occurs, the opinion should be carefully stated. In non-fatal cases, the treating physician will be consulted for a medicolegal opinion, and in fatal cases, the autopsy physician who performed the postmortem examination will be consulted (Millo et al., 2017). In non-fatal cases of acute poisoning, the doctor shouldn’t express any opinion until he is confident in the case based on the patient's history, symptoms, and toxic analysis. It is advised to consult another healthcare professional in cases of suspected homicidal poisoning (Kumar et al., 2014).

The clinical findings in treatment papers, the results of the postmortem autopsy, and the results of the chemical analysis of the viscera after death are all adequate to determine the precise cause of death (Howard et al., 2018).

There are some valid reasons to record false negative results, such as when a poisoned patient is admitted for a few days of hospital treatment before death. Also, the poison may be metabolized, expelled, or removed from the body. The physician must be aware of the circumstances that may result in falsely negative or positive results (Jaiswal et al., 2015).

C- The role of autopsy in acute poisoning cases:
From a medicolegal perspective, the diagnosis of acute poisoning has particular significance. The medicolegal doctor faces some difficulties; for example, the circumstantial evidence for the initial suspicion of poisoning may be missed, toxicology results might not be reported for a few weeks, and laboratory results might not be relevant. For these reasons, it's critical to conduct an accurate, thorough internal and external examination and collect samples for further investigation (Howard et al., 2018).

History and circumstantial evidence:
*History and circumstantial evidence* are essential before an autopsy. For diagnosing poisoning, friends and family can be consulted about the patient's toxicological, medical, psychological, and social history. Suicide notes, the presence of any suspicious item, such as tablets, bottles, vials, or ampoules, is beneficial to unconscious or dead persons (Martinez et al., 2005).

- **External examination:**
Clothes should be examined carefully for the presence of poison stains, vomitus, or fecal matter (Lalit and Mamta, 2018). Many poisons can be detected externally through symptoms such as froth or discharge at the mouth and nostrils (opium or organophosphorus poisoning), as well as oral odors (phenol, ether, opium, alcohol, organophosphorus compounds, cyanides, chloroform, and camphor). Ulceration around the lips and nose (corrosives) and bite marks with signs of inflammation were common autopsy findings in acute poisoning cases (Datir et al., 2015).

- **Internal examination:**
For signs of irritation, erosion, or discoloration from corrosives or irritating poisons, the mouth and throat are checked. Corrosive substances cause ulcers and corrosion of the tongue, esophagus, and the oral mucosa. Examining the contents of the stomach is advised (Castano et al., 2007). Examining the larynx, trachea, and bronchi will reveal any signs of inhaled poison and volatile irritants. Alcohol and barbiturates mainly cause laryngeal edema with congestion and edema of the lung. Ammonia and phenol poisoning may cause bronchopneumonia if survived few days before death (Lalit and Mamta, 2018). Internal autopsy findings of congested organs, cerebral and pulmonary edema were frequent in asphyxiant poisons (Datir et al., 2015).

- **Postmortem toxicology samples:**
Drugs and toxins that were present in the body before death may be negatively impacted by autolysis, putrefaction, and postmortem redistribution of the autopsy samples (Negrusz and Cooper, 2013). It is important to gather postmortem samples as soon as possible. Separate disposable hard plastic or glass tubes should be used to collect the samples. Each sample must be marked with the deceased's full name, the type of sample, the date and time of collection, and the collector's signature. Samples should be quickly examined at -20ºC or otherwise stored at a maximum of 4ºC. According to (Flanagan et al., 2005), there should only be
a small (10–20%) headspace left in the specimen tubes. Important toxicology samples in acute poisoning are blood (10ml from peripheral vein or 30ml of central blood should be preserved with sodium fluoride or potassium oxalate) and urine (30 ml by needle, or catheter, or bladder cut if there is no urine).

Gastric content (30 ml of vomiting or aspirate or 30 gm of stomach if absent content) is also important in acute poisoning cases. Other samples, like vitreous humor, bile, and tissue samples, may also be important (Dinis-Oliveira et al., 2016).

Related Egyptian Laws:
As mentioned before, doctors should be aware of their country’s law. In a court of law, ignorance of the law is not an acceptable defense or justification for escaping punishment or penalty (Millo et al., 2017). Many articles in the Professional Ethics Regulations No. 283 of Year 2003 regulate some matters related to the doctor's responsibilities in emergency cases and criminal cases, of which acute poisoning is one of them.

Article (24):
In non-emergency cases, the doctor may apologize for treating any patient at the beginning or at any stage for personal or professional motives. However, in emergency cases, the doctor can’t apologize.

Article (28):
It is not allowed for a doctor to perform a medical examination or treat a patient without informed consent. In cases of surgical intervention, written consent is required from the patient or his guardian, except for life-saving reasons.

Article (30):
It is not allowed for a doctor to disclose his patient’s secrets that he has access to by obligation of his profession unless in cases of judicial decision, or in cases of the possibility of serious harm to others, or in other cases defined by law.

Article (32):
If the patient dies inside a private medical facility, the responsible physician should notify the authorities as a person reporting the death.

Article (33):
The doctor must inform the authorities about criminal suspicion injuries and events and write a detailed medical report on the case at the time it is presented to him. The doctor can call another colleague to share in case discussion and report writing.
The Egyptian Penal Code, in accordance with the latest amendments of Year 2003,
also approved some articles regarding the limits of medical liability and penalties for violations such as medical negligence and forgery of official documents such as a death certificate.

**First: The reasons for permissibility (such as treating emergency cases)**

**Article 61:**
There is no punishment for anyone who commits a crime that he was forced to commit by the necessity of protecting himself or others from a danger to the soul and that he can’t prevent in any other way.

**Article 63:**
There is no punishment if the act is committed by an Amiri employee in the following cases: First, if the act is committed in the implementation when he is ordered by a superior whom he is obligated to obey. Secondly, if he has good intentions.

**Second: Medical Responsibility**

**Article 222:**
Any doctor, surgeon, or midwife who gives a fabricated certificate regarding a pregnancy, illness, disability, or death while knowing that it is forged, shall be punished with imprisonment or a fine.

**Article 238:**
Whoever wrongly causes the death of another person because of his negligence, carelessness, lack of caution, or failure to obey the laws, decisions, bylaws, and regulations, will be punished by imprisonment for a period of not less than six months and a fine not exceeding two hundred pounds, or by one of these two penalties.

**Article 244:**
Whoever accidentally causes injury or harm to a person because of his negligence, carelessness, lack of caution, or failure to obey the laws, decisions, bylaws, and regulations, will be punished by imprisonment for a period not exceeding one year and a fine not exceeding two hundred pounds, or by one of these two penalties.

**CONCLUSION**

Acute poisoning is an important cause of morbidity and mortality throughout the world. It may be accidental, homicidal, or suicidal. Doctors not only have a medical duty to manage the patient and save his life, but they also have medicolegal duties, which should be known to handle the medicolegal issues properly to avoid punishment by law.

Autopsy has an important role in the postmortem diagnosis of acute poisoning cases through external examination, internal examination, and postmortem toxicology samples.

**RECOMMENDATIONS**

- Doctors should be aware of their medicolegal responsibilities by recognizing the profession-related laws of their country to deal with legal issues properly and avoid penalties.
- Efforts should be made before making an opinion in the diagnosis of acute poisoning in the dead by proper history taking, external examination, internal examination, and postmortem toxicology samples.
- Accurate collection, preservation, and recording of evidence with the maintenance of the chain of custody are recommended in every case of acute poisoning.

**Conflict of Interest:** The author has no relevant interests to disclose

**REFERENCES**


Medicolegal Responsibility in Acute Poisoning: A Review of the Egyptian Legislation

Dena Mohamed Naguib

1st Department of Forensic Medicine and Toxicology, Faculty of Medicine, University of Alexandria, Alexandria, Egypt

The responsibility of the medical doctor in cases of acute poisoning: A review of the Egyptian legislation

The responsibility of the medical doctor in cases of acute poisoning: A review of the Egyptian legislation

Abstract:

The aim of this study was to review the role of the medical doctor in cases of acute poisoning and to highlight the Egyptian legislation. The study was conducted by reviewing the medical records of patients with acute poisoning admitted to the emergency department of a hospital in Alexandria, Egypt. The results showed that the medical doctors have a significant role in the management of patients with acute poisoning. It is recommended that further research is needed to improve the management of patients with acute poisoning and to increase the awareness of the medical doctors of their role in this field.

Keywords: Acute poisoning, Medical doctor, Egyptian Legislation.