

The Importance of Medical Toxicology Training

Banagozar-Mohammadi A¹, Zaare-Nahandi M², Kavehei M^{3*}

¹ Toxicology Ward, Philosophy and History of Medicine Research Center, Internal Medicine Department, Tabriz University of Medical Sciences, Tabriz, Iran

² Nephrology Ward, Chronic Kidney Diseases Research Center, Medical Education Research Center, Education Development Center, Tabriz University of Medical Sciences, Tabriz, Iran

³ Faculty of Medicine, Tabriz University of Medical Sciences, Tabriz, Iran

ARTICLE INFO

Article Type:

Letter to the Editor

Article History:

Received: 7 Feb 2016

Revised: 12 Feb 2016

Accepted: 25 Apr 2016

Keywords:

Mortality

Poisoning

Training

Medical Toxicology

ABSTRACT

One of the most common reasons for reference of patients to the emergency department or sending them to high level specialized centers is poisoning. The treatment of these patients requires special scientific and practical skills, that in the absence of skilled staff necessary to perform diagnostic and therapeutic procedures the mortality and morbidity rate of these patients will be greatly increased. This study is a case report of a patient death cases of poisoning after staying in one of the health centers in Iran due to lack of medical staff and unfamiliarity physicians with properly managing the poisoning patients.

Copyright©2016 Forensic Medicine and Toxicology Department. All rights reserved.

► *Implication for health policy/practice/research/medical education:* Medical Toxicology Training

► *Please cite this paper as:* Banagozar-Mohammadi A, Zaare Nahandi M, Kavehei M. *The Importance of Medical Toxicology Training. International Journal of Medical Toxicology and Forensic Medicine.* 2016; 6(3): 191-2.

Concerning to the widespread prevalence of poisoning in Iran (1), one of the most common reasons to reference to the emergency department of hospitals or sending patients to high level treatment centers or dispatch centers is poisoning (2, 3), and lack of skilled staff due to lack of professional training can increase the patients mortality.

One of the basic duties of education vice chancellor in all medical schools is curriculum development and professional training based on community needs (4,5) and in the absence of holistic planning, we will

have irreparable consequences in the area of health promotion and the quality of public health and patient centered health care.

In this study we report a poisoned patient death who died after staying in one of the health centers in the country due to lack of diagnostic and therapeutic measures. A 35-years old patient with no history of disease, attempts to use a cup of the battery pack water and 3 rat poison tablets and after that with abdominal pain, nausea, vomiting and shortness of breath transported by ambulance to a medical center. He died because of cardiogenic and hypovolemic shock. The study of this patient case made clear that medical treatment done about this patient was similar to many poisoned patients who are treated in no specialized scientific hospitals. If scientific principles were respected during diagnostic and treatment actions, the patient might not die.

Corresponding author: Banagozar Mohammadi A.

Faculty of Medicine, Tabriz University of Medical Sciences, Tabriz, Iran

E-mail: m.kavehei@yahoo.com

In peer review of mentioned case some of the shortcomings are as follows: lack of proper history taking; lack of accurate recording of the patients vital signs and symptoms and lack of proper and precise registration of measures; the patient was extubated without indication while the patient needs prophylactic intubation based on clinical status; interpretation of LAB tests was not done; the lack of proper and frequent patient visits; non use of reliable intravenous line; no treatment of acidosis and hyperkalemia; and many other bugs. Given that lack of timely and appropriate treatment of poisoning, similar to other diseases or maybe worse than other diseases- because of the urgency, can cause the mortality rate increased (6, 7). So educating of medical toxicology to the medical students, physicians and medical staff is essential and this have an important role in reduction the mortality rate of these poisoned patients, but since most of the country medical schools lacks an independent and equipped toxicology wards and most medical students don't taught the theoretical and clinical poisoning courses (4, 8, 9), they are not expert enough in toxicology management and medical graduates do not have the necessary expertise to deal with poisoned patients. Lack of enough experience, lack of knowledge about poisons, lack of understanding of the indications and contraindications diagnostic and therapeutic procedures and the inability to sense all can be due to lack of systematic and continuous training in poisoning. As a result, it seems to suit the needs of society on the one hand, and on the other hand , due to the presence of forensic medicine and medical toxicology (one of medical specialities in Iran) experts in most universities of medical sciences, curriculum designing for training theoretical and specially clinical toxicology, beside the ongoing and systemic training, should be paid attention by authorities of the Iranian Ministry of Health and Medical Education so that in the future, we will see the reducing of morbidity and mortality rates that caused by

poisoning and we witness improvement in the quality of health of our society.

References:

1. Zare F, Maleki M. Epidemiology of poisoning in children admitted to urmia imam hospital, during 2002-2006. *Scientific Journal of Forensic Medicine*. 2009;15(3):171-5.
2. Hashmnejad M, Fatehi R. Epidemiological Study of Poisoning in Patients of Karaj Shariati Hospital in 2011 to 2012. *International Journal of Medical Toxicology and Forensic Medicine*. 2014;4(1):17-22.
3. Masoumi Gh, Ganjei Z, Teymoori E, Sabzghabae AM, Yaraghi A, Akabri M, et al. Evaluating the Prevalence of Intentional and Unintentional Poisoning in Vulnerable Patients Admitted to a Referral Hospital. *J Isfahan Med Sch*. 2013;31(252):1452-60. [in Persian]
4. The introduction of council for undergraduate medical education. The council for undergraduate medical education. Deputy ministry for education. Iranian Ministry of Health and Medical Education: Available from: URL: [Http://scume.behdasht.gov.ir/uploads/172_274_moarefi.htm](http://scume.behdasht.gov.ir/uploads/172_274_moarefi.htm) [in Persian]
5. About council of graduate medical education. Iranian council for graduate medical education. Deputy ministry for education. Iranian Ministry of Health and Medical Education: Available from: URL: [Http://cgme.behdasht.gov.ir/uploads/264_778_About.htm](http://cgme.behdasht.gov.ir/uploads/264_778_About.htm) [in Persian]
6. Paulozzi LJ, Yongli Xi, Recent changes in drug poisoning mortality in the United States by urban-rural status and by drug type. *Pharmacoepidemiology and drug safety*. 2008;17(10):997-1005.
7. Unintentional poisoning deaths--United States, 1999-2004. Centers for Disease Control and Prevention (CDC). *MMWR. Morbidity and mortality weekly report* 56.5. 2007;93-6.
8. Headings of the medical education lessons. Secretariat of the council for undergraduate medical education. Deputy ministry for education. Iranian Ministry of Health and Medical Education: Available from: URL: http://scume.behdasht.gov.ir/uploads/172_275_Sarfasi_64.pdf [in Persian]
9. Medical education programs in Iranian medical schools. Deputy ministry for education. Iranian Ministry of Health and Medical Education: Available from: URL: [Http://scume.behdasht.gov.ir/uploads/Daneshkadeh.htm](http://scume.behdasht.gov.ir/uploads/Daneshkadeh.htm) [in Persian].