Letter to Editor

Integrating a Medical Toxicology Rotation into a Psychiatry Residency Program in Iran: Addressing an Urgent Educational Gap

Dear Editor

Clinical (Medical) toxicology is a dynamic and ever-changing field that focuses on drug overdoses, poisonings, adverse drug effects, and substance use disorders, including addiction and withdrawal.[1] Additionally, in cases of intentional toxic events, it becomes closely intertwined with societal factors and psychiatric comorbidities. This paper introduced a novel concept for expanding medical education in Iran. Its publication aimed to draw attention to significant aspects, yet overlooked, gaps in medical education that have been addressed in other countries for years.

Various cases of acute poisoning are referred to our hospital, often associated with mental health conditions or suicide attempts. These include patients under psychiatric care for mental illness and substance abuse, as well as first-time attempters who exhibit psychiatric disorders. A critical gap becomes evident in patient disposition, as the majority of recovered cases decline inpatient mental evaluation and urge toxicologists for early discharge. Understanding toxicological mechanisms can deepen residents' insight into psychotropic drug safety, adverse drug effects, and drug interactions—critical components of psychiatric pharmacotherapy. Despite these clinical realities, formal medical toxicology training remains limited in most psychiatric curricula.

In Iran, suicide attempts constitute a significant public health burden, with intentional poisoning as the predominant method. Hajebi and colleagues, in a study covering 83.6% of Iran's population in 2009, found self-poisoning to be the most common method for both suicide attempts (90.4%) and completed suicides (38.3%).[2] A five-year population-based survey in Northwestern Iran (2017–2021) analyzed 3,456 suicide attempts, revealing that poisoning with medications accounted for 87.3% of cases, far surpassing other methods such as cutting (8.2%) or hanging (2.1%). The incidence rate escalated dramatically from 99.49 to 247.41 per 100,000 population during this period, underscoring an alarming trend. Women comprised 68.5% of attempters, and only 2.8% had prior attempts, indicating many first-time crises requiring prompt psychiatric intervention.[3] In a one-year study of poisoning cases at Loghman Hakim Hospital, Vatandoost and colleagues reported that 93.7% (18,282 of 19,511) of poisoning cases were intentional.[4]

We reviewed the literature on interdisciplinary collaboration between medical toxicology and psychiatry worldwide. A 2003 survey by Ingels and colleagues, in Academic Psychiatry, serves as a precedent, addressing this issue within US psychiatry residency programs.[5] Based on responses from 80 of 171 programs (46.8%), the study revealed that 4% offered predefined medical toxicology electives, while 65% allowed residents to design their own elective. However, only two programs reported residents having pursued one. This scarcity of formal training is particularly striking when considering that, according to 2023 US poison control center data, only 18.4% of all poison exposures were intentional.[6]

Although experiences with such rotations remain limited, they are promising. Residents gain practical exposure to toxicology consultations, improving their confidence in managing psychiatric emergencies and comorbidities. The two-decade-old US experience underscored a persistent academic need. A search of PubMed and Scopus databases identified no formal course—mandatory or elective—for medical toxicology training within the Iranian psychiatry residency curriculum, highlighting a significant deficiency.

Implementing a one-month rotation could bridge this gap. By immersing residents in ward rounds, case discussions, and simulations, the rotation would foster skills in differential diagnosis and multidisciplinary

care, enhance inter-specialty collaboration, and reduce hospital stays, and referral delays. The high prevalence of intentional poisonings in Iran necessitates such integrated training. A tailored one-month medical toxicology rotation, informed by local needs, would empower future psychiatrists to effectively navigate this critical intersection. Iranian medical education bodies should prioritize this initiative to reduce morbidity and support mental health. We suggest a pilot one-month rotation in a toxicology ward, which could serve as a model. This pilot program would involve supervised patient management, journal clubs on psychotoxicology (focusing on substance-related disorders and adverse drug effects), and needs assessment using pre- and post-rotation surveys to evaluate knowledge gains.

Declaration of AI

I have not used any AI in preparation of this article.

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