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A Study of Courses Related to Drug Abuse Prevention in Medical Sciences Curriculum in Iran

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Abstract

Background: One of the most effective ways to prevent substance abuse is to promote addiction knowledge in influential social groups.
Objectives: The purpose of this study was to identify the current status of substance abuse education in medical universities of Iran in order to develop a targeted curriculum on drug abuse and include it in the curriculum of medical students.
Methods: In this descriptive library study, documentary (library) method and checklists were used for data collection. In order to identify the extent to which the existing units and courses deal with substance abuse and with the subject of addiction, the announced titles for active disciplines of the Ministry of Health and Medical Education were reviewed in 2017 - 2018.
Results: Of the 7685.5 units taught in different faculties of medical sciences universities in all disciplines except clinical residency programs.106.1% (optional or mandatory) are related to substance abuse. Of these, 49.5 units were related to the pathophysiology, treatment and pharmacology of substances, and 57.6 units covered topics related to prevention strategies and pathologies of substance abuse.
Conclusions: Despite the high importance of substance abuse issues for medical sciences students, a general unit for prevention and familiarity with the physical, psychological and social consequences of substance abuse does not exist in most of these disciplines. Therefore, it is recommended that studies be conducted to provide specific courses related to the substance abuse phenomenon or to consider substance abuse topics in the courses related to this subject.

Keywords: Substance Abuse, Addiction, Medical Sciences, Units, Course Topics

1. Background

One of the major global health and social problems is substance abuse and its associated social harms. Therefore, a proper understanding of this phenomenon and its adverse consequences and identifying the risk factors associated with drug abuse and strategies to counteract this global problem are essential (1, 2). Over 30 million people worldwide and over 2.5 million in Iran are addicted to addictive substances. These statistics further highlight the importance of attention to rigorous scientific strategies for the prevention and control of substance abuse (3).

Adolescents and young people are at the highest risk for substance abuse and the lack effective and efficient counseling services, lack of targeted planning for leisure times, having peers who use drugs, lack of adherence to religion, mental and psychological problems and lack of knowledge about substance abuse and its physical, psychological, economic and social consequences are among the most important risk factors for drug abuse in these groups (4, 5).

Strategies to fight against substance abuse come in the form of three main approaches: combating the supply and distribution of drugs, therapeutic interventions and rehabilitation and preventing the demand for it in the society, especially in vulnerable groups. One of the most effective ways to prevent substance abuse is the promotion of the knowledge of different social groups, especially the influential ones (6, 7).

Promoting knowledge helps people to change attitudes and adopt and learn social skills to fight substance abuse and can lead to the elimination of misconceptions about drugs and reduce the tendency to abuse drugs (4,

8-13). Effective education is achieved when there is a scientific, rigorous, planned and purposeful framework (11, 14-16). The results of various studies have shown that educational centers that implement drug abuse prevention plans in the form of targeted and planned educational programs are successful in changing attitudes and reducing substance abuse (4, 7).

The higher education curriculum includes all formal and informal learning opportunities designed and implemented in formal courses to improve students' knowledge, attitude and social and professional skills (9, 16, 17). One of the most important challenges of higher education systems in the world is to continuously modify academic curricula such that they can educate students who are responsive to the needs of society and the institutions they serve, while also benefiting from scientific and technological developments (14-16, 18).

Academic curricula, after repeated designs and implementations over time, need to be revised periodically; otherwise, a phenomenon called curriculum deterioration occurs that means obsolescence and the lack of relevance of courses and contents to social needs and developments (14, 18).

Reviewing and updating curricula is one of the most important responsibilities of higher education (7, 12, 16). These reviews should be based on each country's culture and its social, communication, technological, ethical, aesthetic, and belief systems. In restructuring the curriculum of higher education, combining theory and practice, meeting the political and economic development, creating national and international commitment among learners, taking into account different learning strategies, involving all educational standards and providing the grounds for progress should be considered as criteria for building the framework for higher education curriculum (17).

The mission of medical sciences graduates is to control, preserve and promote community health, and as the phenomenon of substance abuse is one of the most important threats to the health of societies, these students should have an accurate understanding of substance abuse so that they can take more effective steps to prevent it from spreading in the community. Promoting the knowledge of the pharmacological effects of drugs, social, psychological and physical consequences of drug abuse, social attitudes, as well as norms and legal penalties related to this phenomenon can be the outline of students' educational programs (4).

2. Objectives

Considering the increasing importance of effective coping strategies in the prevention of social harms, such as substance abuse, the present study aimed to examine the topics and courses related to drugs and psychedelics and their prevention in different disciplines and at different levels of Iranian medical universities and to identify the gaps in education and prevention of substance abuse.

3. Methods

This was a descriptive study since we examined the course titles related to medical sciences fields of study in order to identify the extent to which the existing units and courses are related to substance abuse and addiction. Data collection was performed in 2017 - 2018 academic year using documentation (library) and a checklist designed by the researchers. The announced course titles for all the disciplines currently active in the Ministry of Health and Medical Education were used to identify the extent to which the existing units and covered the subject of substance abuse and addiction.

Titles of medical sciences courses were downloaded and used from the website of the Ministry of Health and Medical Education or the universities of medical sciences. In this method, we first extracted a list of disciplines from all faculties of medical universities in the country, and the units in each discipline that were likely to cover substance abuse were entered into the checklist. According to the panel of experts (Epidemiology, Community Medicine, Medical education, Health Education), the title and nature of the courses proportionate to the field of study were considered as the criteria. Thus, units that were likely to cover subjects related to substance abuse, including its pathophysiology, pharmacology and treatment or prevention as a personal or social harm, were entered into a table, and then the details of the course titles were examined. If the courses were related to drugs and psychedelics, their pharmacological effects, drug abuse prevention, drug toxicities, etc., they were considered as a completely related unit, and finally, a comparative table of similar or drug-related units was completed. The collected information was first described and categorized and then compared.

4. Results

After examining the courses and their titles in each discipline, the results were presented in Tables 1 and 2 based on field of study.

Possibly-related units are those which depending on the title of the course or its scope were likely to have topics related to the subject under study and their headings were examined. The results showed that out of the 7685.5 units in different faculties of medical universities of Iran

Table 1. The Status of the Disciplines and Units Possibly Related and Completely Related to Substance Abuse and Addiction Which Are Active in the Ministry of Health and Medical Education

Faculty	The Number of Disciplines	Total Number of Units	Possibly-Related Units, No. (%)	Completely-Related Units, No. (%)
Paramedicine	6	827	27 (3.26)	20 (2.41)
Pharmacology	5	387	10 (2.60)	7 (1.80)
Traditional medicine	2	98	0 (0)	0 (0)
Management	9	599	4 (0.66)	4 (0.66)
Nursing and midwifery	17	960.5	50.5 (5.25)	44.5 (4.89)
Medicine and basic medical sciences	21	1039	17 (1.64)	13 (1.25)
Dentistry	10	1239	12.5 (1.1)	4.6 (0.37)
Health	23	1349	53 (3.93)	9 (0.81)
Nutritional sciences	7	439	6 (1.36)	0 (0)
Welfare and rehabilitation Sciences	6	748	11 (1.47)	4 (0.53)
Total	106	7685.5	191 (2.48)	106.1 (1.38)

that are taught for in disciplines except clinical residency programs, 106.1 units (whether optional or compulsory) covered drugs and psychedelics. Of these, 49.5 units were related to the pathophysiology, treatment and pharmacology of substances, and 57.6 units covered topics related to prevention strategies and pathologies of substance abuse.

5. Discussion

In the present study, out of a total of 7685.5 units taught in different faculties of medical universities of Iran, which are taught for all disciplines and all levels except clinical assistantship, 106.1 units (both optional and compulsory) covered drugs and psychedelics. Of these, 57.6 units covered the prevention of social harm and substance abuse in their headings. The curricula in Iran do not specify the number of hours devoted to each subject, and it is not possible to state precisely how much of the hours taught in these courses address substance abuse prevention strategies. Most of the topics focused on the prevention of substance abuse, and the prevention of social harms caused by drug abuse mostly belonged to the courses of nursing and midwifery faculties, and in other active disciplines, little attention was paid to these topics. The examination of courses and course titles in some medical universities in the Middle East also suggests that drug and alcohol prevention programs are prioritized in their curricula.

Weill Cornell College of Medical Sciences in Qatar has devoted one of its six public health curriculum priorities to the subject of substance abuse and has set up a separate training center to control alcohol and drug abuse (19). Also, a two-year training course in social medicine and family medicine has been defined at the School of Medicine of Egypt's Ein Al-Shams University that addresses educational issues in the field of substance abuse (20).

Outside of the universities of the region and the Eastern Mediterranean Regional Office (EMRO), in other universities around the world special attention has been paid to training programs on social harms including substance abuse. In the Department of Health, School of Medicine, University of Alabama in the United States of America, more than 10 hours of specialized training in the field of social medicine, behavioral and cultural diseases, and social harms are devoted to substance abuse and ways to handle it (21). In addition to health and community courses at the Medical School of Imperial University in London, short-term three-months summer courses are planned on the subject of social harms, including substance abuse, and applicants can attend these courses and receive the necessary training to control and the fight against drug and alcohol abuse (22).

The role and importance of proper education about the complications and risks of drug abuse have been repeatedly demonstrated in various studies on the causes of addiction. For example, the results of a survey of the causes of addiction in the female population, many respondents considered the main cause of addiction to be false beliefs and lack of awareness of the consequences of drug abuse (23). Also, a study found that among the prisoners who used drugs, most of them cited inadequate and inaccurate awareness of the effects of drugs as the reason for their tendency towards drug abuse (24). Therefore, it can be stated that educating and promoting knowledge on the issues of

substance abuse play a very important role in combating substance abuse in future generations (8, 14, 18). In fact, one of the essential and fundamental ways to reduce the general effects of substance abuse and to save the costs of prevention and treatment at the community level is to educate and increase knowledge about addiction (11, 16, 25), and this issue is more significant among health students and staff, because they are directly involved with the substance abuse phenomenon and addicts in the community (5, 13).

Various studies conducted to evaluate the knowledge of medical students about substance abuse in Iran have shown insufficient awareness and knowledge of students (3, 8, 26, 27). Improving the knowledge and attitude of medical students as custodians of the fight against drug abuse in the society can be very effective in the success of drug abuse prevention programs (6, 7). Therefore, special attention should be paid to the issues of substance abuse and addiction research in order to enhance students' knowledge in this regard, and the number of courses related to these subjects, especially in the medical universities of the country, should be increased to provide more effective and cost-effective prevention and treatment at the individual and community levels.

What is important to consider in educating and preventing substance abuse, especially among the youth, is that giving awareness alone will, in some cases, can increase the tendency toward this problem (28). Therefore, education in the form of scientific methods and with preplanned training programs should be offered in topics such as addiction research.

It should be noted that in the present study, all courses of medical universities in Iran, including optional and compulsory ones, were evaluated, which is among the strengths of this research.

5.1. Limitations

Some courses were not available, especially clinical assistantship, which is among the limitations of the present study. Also, the course titles do not provide a clear overview of what topics are being taught and they are mostly generalized.

5.2. Recommendations

In order to enable medical graduates to expand their preventive activities in the community, and ultimately, to better implement preventive and anti-substance abuse programs and to reduce substance abuse in the community, it is suggested to include the issues of drug abuse and social harms prevention in all public or optional courses of the Ministry of Health (considering the situation in our country which is on the transit path of drugs in the world). It is also advisable to devise interdisciplinary courses to increase students' information about substance abuse. Specialized summer and winter schools for the prevention and treatment of substance abuse in medical universities are also recommended.

Supplementary Material

Supplementary material(s) is available here [To read supplementary materials, please refer to the journal website and open PDF/HTML].

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Footnotes

Conflict of Interests: Authors declare no conflict of interest.

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Table 2. Courses Related to the Subject of Drug Abuse Based on Discipline and Degree

Degree	Pathophysiology, Treatment and Pharmacology			Related Factors and Strategies for Drug Abuse Prevention		
	Discipline	The Related Subject	No. of Units	Discipline	The Related Subject	No. of Units
Associate's Degree	Medical emergency	General pharmacology	2	-		
		Mental health and medical emergencies	1			
Bachelor's Degree	Operation room	Medical emergency	2	General Hygiene	Mental Health and Addiction	2
	Physiotherapy	Psychiatry	2	Midwifery	Family and feminine psychology	2
					Principles of epidemiology and fighting diseases	2
					Embryology	2
					Pregnancy and childbirth, abnormal pregnancy and childbirth	2
					Maternal and child health and fertility	2
	Anesthesiology	Symptomatology and physical examination	2	Anesthesiology	Psychology	2
					Sociology and social pathology of women	1
				Nursing	Mental health nursing	2
					Psychiatric nursing	2
		Basic principles of pharmacology	2		Family and individual health nursing	2
					Healthy child nursing	2
		Medical emergency	2		Mental health nursing	2
		Principles and methods of pain management	2			
		Specific pharmacology	2			
	Health information technology	Pharmacology	2	-		
		Specific pathology	2			
Master's Degree	Toxicology	Clinical Toxicology	2	Community Health Nursing	Nursing & Community Health (Vulnerable Groups)	2.5
	Environmental toxicology	Toxicology of the environment in disasters and emergencies	2	Counseling in midwifery	Sociology and Social Pathology of Women	1
	Neonatal intensive care	The principles of neonatal nursing care	3	Psychiatric Nursing	Group and Family Psychiatric Nursing Interventions	2
					Substance Abuse Nursing (From Prevention to Family-Based Rehabilitation)	1
	General surgery	Palliative care and the role of nurse in it	1	Midwifery	Sociology and social pathologies of women	1
	Psychiatric nursing	Psychiatric nursing interventions for children and adolescents	2	Pediatric nursing	Adolescent nursing	4

	Genetics	Behavioral genetics	2	**Neonatal intensive care**	Neonatal nursing	3
				Geriatric nursing	Geriatric nursing 1 (physical and functional disorders)	4
				Epidemiology	Social epidemiology in health	2
MD	**General pharmacology**	Chemotherapy	2			
		Management of toxicity	2			
		Food and diet therapy	3			
	Medicine	Clinical psychiatry education	3	Health psychology		2
				Epidemiology of non-communicable diseases		2
	Dentistry	-	-	Mental illness		1
				Specialized dentistry		2
				Oral and dental health (practical)		1
PhD	**Medical biotechnology**	Biosafety and laboratory principles	1			
	Health education and health promotion	Promotion of youth and adolescent health		2		
				Promoting health and preventing high risk behaviors		2
	Neurology	Neuropharmacology	2	-		
		Neuroscience research methods	4	-		
	Endodontics	Pharmacology	0.5			
	Oral and maxillofacial surgery			Psychiatry		0.1
	Addiction studies: Specialty in Drug Abuse Studies					