

Drug use, drug use disorders, and treatment services in the Eastern Mediterranean region: a systematic review



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Drug use is an increasing global public health concern. We reviewed the prevalence and patterns of drug use, drug use disorders, and the extent of treatment services in 21 countries and one territory in the Eastern Mediterranean region from 2010 to 2022. Online databases were systematically searched on April 17, 2022, along with other sources for grey literature. The extracted data were analysed and used for synthesis at the country, subregional, and regional levels. The prevalence of drug use is higher in the Eastern Mediterranean region than global estimates, with cannabis, opium, khat, and tramadol among the main drugs used in the region. Data on the prevalence of drug use disorders were scarce and heterogeneous. Treatment facilities for drug use disorders are available in most countries, but opioid agonist treatment exists in only seven countries. There is a need to expand evidence-based and cost-effective care. Limited data exist, especially regarding drug use disorders, treatment coverage, and drug use among women and young people.

Introduction

Drug use and drug use disorders are global public health and social problems associated with adverse health consequences and direct and indirect economic burdens.¹ The extent and nature of the problems vary from place to place and change over time. In 2020, almost 275 million people used drugs and 36 million people had drug use disorders globally.²

The Eastern Mediterranean region includes 21 countries and one territory with a population of around 745 million people. These countries share some similarities in social structure, such as all having majority Muslim populations with a high proportion of young people. However, substantial differences also exist. Six countries are high-income countries, 11 are middle-income countries, and the rest are low-income countries. Although the life expectancy in most of the region is 65–78 years, it ranges widely from 56 years in Somalia to 79 years in Qatar and the United Arab Emirates (UAE). Many Eastern Mediterranean countries are experiencing protracted emergency situations due to political conflicts, unrest, and war.^{3–5} The result is millions of people who are internally and internationally displaced, as well as economic hardship and psychological trauma, which are all risk factors for substance use and marginalisation.⁶

Problematic drug use and its associated harms were increasing in many countries of the region in the 2010s, but progress in responding to the problem was slow.⁷ Economic and political instabilities in the region affect drug use patterns, services, and reporting. Moreover, some of the countries are among the main drug production sites or transit routes.² However, there are limited data regarding the drug scene in the Eastern Mediterranean region, mainly due to little funding for research and to language barriers, and the available research is not equally distributed across different Eastern Mediterranean countries. Additionally, some countries treat drug use or drug use disorders as a crime,⁸ making collecting accurate data challenging.

In this Review, we aimed to estimate the prevalence of drug use and drug use disorders among the general population, to identify patterns of drug use and the sociodemographic profile of people with drug use disorders, and to examine the presence and extent of treatment services for drug use disorders in the Eastern Mediterranean region at a country, subregional, and regional level from 2010 to 2022.

Methods

Search strategy and selection criteria

This systematic review of data on drug use, drug use disorders, and treatment services in 21 Eastern Mediterranean countries and one territory from 2010 to 2022 used a methodology in accordance with previous global reviews⁹ and followed PRISMA guidelines (appendix p 3).

We searched PubMed, ISI Web of Science, Scopus, Embase, and the Index Medicus for the Eastern Mediterranean region on April 17, 2022, for papers published since Jan 1, 2010. This study is part of a regional assessment of drug and alcohol use: but alcohol-related findings will be presented elsewhere. The search strategy (appendix p 5) consisted of two sets of key terms: names of substances or general terms referring to substance use; and names of Eastern Mediterranean countries, their major cities, and terms referring to the region or subregions. No language restrictions were applied.

Between July, 2020, and April, 2022, we reviewed websites and databases of the relevant UN bodies, including WHO, the UN Office on Drugs and Crime, and The Global Fund to Fight AIDS, Tuberculosis and Malaria, as well as country-specific official government reports and civil society information. We also conducted a country-specific search in Google using keywords related to substance use in English, Farsi, Arabic, and French (appendix p 13), combined with the name of each country, to retrieve reports or news articles by reviewing the first 100 search records.

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For more on the World Bank population data see <https://data.worldbank.org/indicator/SP.POP.TOTL>

For more on the World Bank life expectancy data see <https://data.worldbank.org/indicator/SP.DYN.LE00.IN>

See Online for appendix

We hand-searched the research team's archives, including the references of previous regional situation assessments;^{7,10} systematic reviews on the prevalence of substance use and substance use disorders in Iran;^{11,12} and national reports and large studies conducted in the region between July, 2020, and April 2022. The reference lists of identified documents and previous systematic reviews in the region were also reviewed. Lastly, we contacted programme managers and experts in substance use in the region and the UN bodies to request a specific document or further data from an already retrieved document.

All retrieved records were exported to an Endnote library (version 20). After removing irrelevant records, the research team (YR-A, MMJ, MA, AMA, and SO) reviewed titles and abstracts categorised by country. Next, the full texts of the included documents in the previous stage were reviewed for eligibility by YR-A, MMJ, MA, AMA, and SO, and any disagreements were resolved by AR-M.

Studies from the region were eligible if they presented data on the prevalence of drug use and drug use disorders among the adult and young general population, the sociodemographic profile and pattern of drug use among people with drug use disorders, or the presence and extent of treatment services for drug use disorders (appendix p 14). Prevalence studies among specific populations that are not considered as high risk for drug use in that country (eg, university students and workers) were included as the adult general population. Most of the studies on the adult general population recruited individuals aged 15–64 years, which is the age range the UN Office on Drugs and Crime generally refers to as the general population when providing estimates. Therefore, we estimated data among the adult general population using the same age range. We classified studies conducted on individuals 18 years and younger as being about the young general population.

We excluded studies if the indicator of use was not defined, the study was conducted among populations at high risk as they were not part of the study aims and do not represent the general population (eg, female sex workers, people who are incarcerated, men who have sex with men, heavy vehicle drivers, and patients who are admitted to hospital for psychiatric reasons), or the total sample size was less than 100 (less than 1000 for Iran) and the sample size within sex subgroups was less than 40 (less than 400 for Iran). Since we found many systematic reviews and national and large-scale surveys in Iran, we applied different exclusion criteria.

If available, we relied on country reports, which are typically more accurate and detailed, rather than global or regional reports. We (MA and SO) graded the literature type of all studies on estimates (appendix p 16). If one complete document was unavailable and the data were fragmented and scattered in various sources, several sources were used to bring together all pieces of

information. If multiple literature sources provided contradictory or inconsistent data from a single study, we used the literature with the higher grade on the basis of our grading system. If there were inconsistencies or we suspected calculation or typographical errors, we either recalculated or contacted the authors for clarification.

Data collection and analysis

We collected information about the study year, method, and definition of the target population. Data were extracted for the main indicators of the prevalence of drug use, drug use disorders, and treatment services, and were double-checked by AR-M. For the prevalence of drug use, the extracted indicators comprised the lifetime, past 12-month, past 6-month, past 3-month, past month, past week, and daily use, and the prevalence of positive urine tests. For the prevalence of drug use disorders, the indicators were lifetime and past 12-month drug use disorder, harmful use, and dependence. Owing to the scarcity of data on the prevalence of drug use disorders, we included studies using screening instruments or reporting daily use as a proxy for drug use disorders. We also extracted data on the primary drugs of use and injecting drug use, the proportion of female individuals using drugs, age distribution, age of initiation, and other sociodemographic characteristics of those with drug use disorders. The terminology and definitions used by each study are presented in the appendix (pp 18–139).

The extracted indicators for treatment services were the number of drug-treatment centres, the number of patients being treated, the available treatment options, the number of opioid agonist treatment centres, the number of treatment services for women and young people, and the number of patients on methadone maintenance treatment and buprenorphine maintenance treatment. If no available quantitative data were available, we extracted qualitative findings.

We used the following subregional categorisations to provide estimations, on the basis of similarities in social, cultural, and developmental characteristics in each subgroup and drug use patterns according to our knowledge from past reviews.^{7,10} North Africa comprised Egypt, Morocco, Libya, and Tunisia. East Africa comprised Djibouti, Somalia, Sudan, and Yemen. West Asia comprised Iraq, Jordan, Lebanon, Palestine, and Syria. The Gulf countries comprised Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the UAE. South Asia comprised Afghanistan, Iran, and Pakistan.

We aimed to estimate the prevalence of the past 12-month drug use at country, subregional, and regional levels among the adult and young general populations. We developed a grading system for the quality of evidence and generalisability of the findings (appendix p 16). For each country, we selected the latest, most representative study for the prevalence of use of each drug type for the adult and young population. For countries with no estimate for the past 12-month prevalence, we used a correction

coefficient to estimate it from studies that provided prevalence of lifetime or past month or current use. This coefficient is the average proportion of lifetime use divided by the past 12-month use across all studies in the region that provided both estimates for a specific drug. The same was done for converting the prevalence of past month and current use to past 12-month use (appendix p 17).

We estimated the prevalence and 95% CI of drug use for the subregions and the region, using country-level

estimates weighted by their population size. Details on the selection criteria and the estimation methods are described in the appendix (p 17). We did not generate estimations for tramadol and khat use in the subregions and the entire region as their use was specific to some countries.

We did not further adjust data on drug use disorders since high heterogeneity in indicators, instruments, and settings existed among the studies. Regarding the sociodemographic characteristics and the individual's age

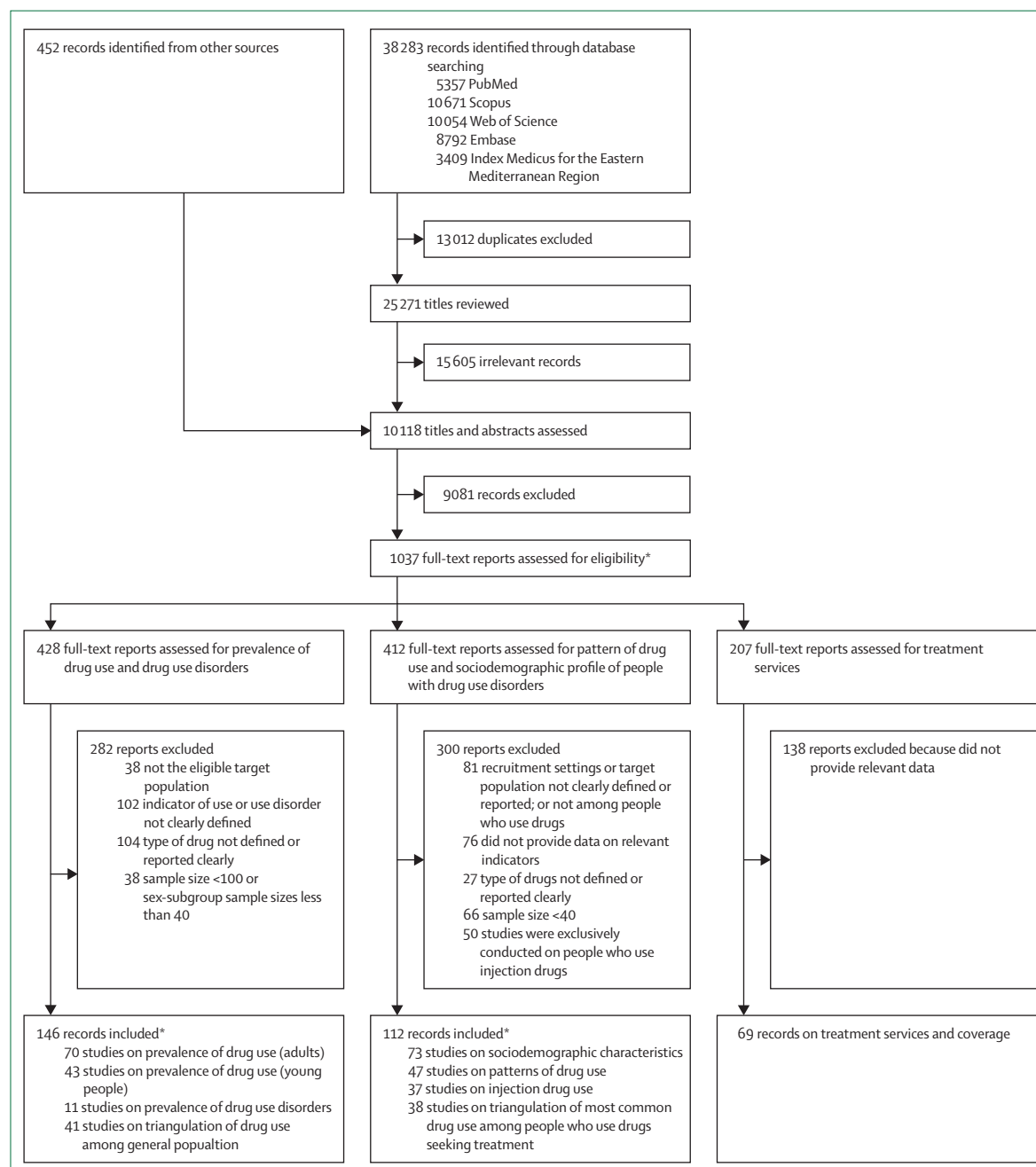


Figure: Study selection process

*Some studies were in multiple categories.

at drug use initiation, we pooled the estimates for studies recruiting people who use drugs from drug-treatment centres. Owing to high heterogeneity, studies conducted in other settings were not included in the analysis and are only presented in the appendix (p 104). As few countries had specific studies reporting the primary drug of use among individuals treated for drug use disorders, we triangulated other qualitative findings to provide a complete overview of the most common drug of use among people seeking treatment who use drugs. All statistical analyses were performed with R software (version 4.0.3). Pooling of the estimates was done using the random-effects model (metaprop and metamean commands). To stabilise the variances, Freeman–Tukey double arcsine transformation was used.

Results

We found 25 271 records through the online databases after removal of duplicates (figure) and 452 documents from other sources. After reviewing titles and abstracts, followed by full-text review, 146 records were included on the prevalence of drug use and drug use disorders, 112 records on the pattern of drug use and the sociodemographic profile of people with drug use disorders, and 69 records regarding treatment services.

We found 70 studies on the prevalence of drug use among the adult general population and 43 studies among the young general population (appendix pp 18, 46). No quantitative study was found in Libya, Oman, Qatar, Somalia, Syria, and the UAE. Cannabis is the drug most used by the adult general population in most countries (appendix pp 58, 65). Opioids are the most used drugs in Afghanistan, Iran, and Qatar. In Egypt, tramadol use is as prevalent as cannabis use. Khat is the most used substance in Djibouti, Somalia, and Yemen. In Iraq, Libya, and Syria, cannabis and prescription drugs such as benzodiazepines are common.

The estimated 12-month prevalence of drug use and the number of people using drugs were derived for six drug categories and any illicit drug (tables 1, 2). Separate estimates were derived for tramadol and khat, which are not illegal in some Eastern Mediterranean countries, whereas the other drug types are illegal in all countries in the region (table 3). Selected studies for synthesising the prevalence of the past 12-month use with the grading results of the literature and evidence, and the correction coefficients, are presented in the appendix (p 66). Overall, 50% of the selected studies were rated as grade A.

For any illicit drug, survey results were available for ten countries for the adult population, and we extrapolated data for four additional countries. In the entire region, the prevalence of any illicit drug use was estimated as 6.7% (95% CI 5.4–8.9) for the overall adult population, 10.9% (8.9–13.4) in males, and 2.5% (1.9–4.3) in females (table 2). The estimation in male and female adults was highest in Afghanistan. The lowest estimates were from Iraq for males and females. Survey results

were available for eight countries for the young population, and we extrapolated data for eight additional countries. For the Eastern Mediterranean region data were unavailable for the entire young population and for females. Among the male young population of the Eastern Mediterranean region, the prevalence was estimated as 4.9% (95% CI 4.3–5.9). The estimates in males were highest in Morocco and lowest in Iraq, and in females they were highest in Egypt and lowest in Palestine.

For cannabis use (tables 1, 2), the prevalence was estimated as 4.3% (95% CI 3.1–6.2) in the total adult population in the region. The estimates were highest in Morocco among males and in Lebanon among females, and the lowest estimates among males and females were from Iraq. Prevalence data were unavailable for the entire young population and for young females in the region. Among the male young population, the prevalence was estimated as 4.9% (95% CI 4.3–5.9). The highest estimates were from Morocco among males and females. The lowest estimates for the male young population were from Iran, and for females from Iran and Tunisia.

For opioid use, the prevalence was estimated as 2.2% (95% CI 1.9–2.6) in the total adult population of the region. The highest estimates were from Afghanistan and the lowest from Iraq in males and females. Although among the young population the overall estimate was unavailable, the lowest estimates for the young population were from Tunisia and the highest were from Egypt, among males and females. In Egypt, some studies categorised tramadol as an opioid, whereas others did not. Owing to the high prevalence of tramadol use in Egypt, the discrepancy in its inclusion created a large heterogeneity in the estimates of opioid use among studies. For heroin use among the adult population, the highest estimates were reported from Egypt for males and females. The lowest estimates were from Pakistan in males and from Iran in females. Among the young population, the lowest estimates for heroin use were reported from Iran among males and females. The highest prevalence estimates were from Palestine for males and from Egypt for females.

For the use of amphetamine-type stimulants, the estimate was 0.4% (95% CI 0.3–0.7) in the total adult population of the region. The highest prevalence estimates for males and females were from Lebanon. The lowest prevalence estimates were from Pakistan for males and from Iraq for females. Data for the entire young population and young females were unavailable, but among young males in the region as a whole, the estimate was 2.1% (95% CI 1.7–2.7). The highest estimates were from Kuwait in males and from Iraq in females. The lowest estimates were reported from Morocco in males and females.

For inhalant use, the prevalence was estimated as 0.3% (95% CI 0.2–0.6) in the total adult population for the region. The highest estimates among males and females

Adult population	Any illicit drug use		Cannabis		Opioids		Heroin		Amphetamine-type stimulants		Inhalants		Cocaine	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
North Africa														
Egypt	13.5% (7.9-20.4)*	1.0% (0.0-5.6)*	13.5% (7.9-20.4)†	1.0% (0.0-5.6)†	1.3% (0.7-2.2)†	0.1% (0.0-0.5)†	0.7% (0.3-1.4)†	0.0% (0.0-0.3)	0.9% (0.4-1.7)†	0.3% (0.1-0.8)†	0.6% (0.2-1.3)†	0.3% (0.1-0.8)†	0.4% (0.1-1.0)†	0.0% (0.0-0.3)†
Morocco	19.0% (16.7-21.4)†	1.0% (0.1-2.5)†	19.0% (16.7-21.4)†	1.0% (0.1-2.5)†	1.3% (0.7-2.2)†	0.1% (0.0-0.5)†	0.7% (0.3-1.4)†	0.0% (0.0-0.3)	0.9% (0.4-1.7)†	0.3% (0.1-0.8)†	0.6% (0.2-1.3)†	0.3% (0.1-0.8)†	0.4% (0.1-1.0)†	0.0% (0.0-0.3)†
Libya	14.2% (3.0-8.8)†	0.7% (0.1-2.5)†	15.0% (3.0-8.8)†	1.0% (0.1-2.5)†	1.3% (0.7-2.2)†	0.1% (0.0-0.5)†	0.7% (0.3-1.4)†	0.0% (0.0-0.3)	0.9% (0.4-1.7)†	0.3% (0.1-0.8)†	0.6% (0.2-1.3)†	0.3% (0.1-0.8)†	0.4% (0.1-1.0)†	0.0% (0.0-0.3)†
Tunisia	5.4% (3.0-8.8)†	0.7% (0.1-2.5)†	15.0% (3.0-8.8)†	1.0% (0.1-2.5)†	1.3% (0.7-2.2)†	0.1% (0.0-0.5)†	0.7% (0.3-1.4)†	0.0% (0.0-0.3)	0.9% (0.4-1.7)†	0.3% (0.1-0.8)†	0.6% (0.2-1.3)†	0.3% (0.1-0.8)†	0.4% (0.1-1.0)†	0.0% (0.0-0.3)†
East Africa														
Djibouti	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Somalia	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sudan	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Yemen	..	..	..	..	..	..	..	..	..	..	..	..	..	..
West Asia														
Iraq	0.4% (0.2-0.8)	0% (0.0-0.4)	0.2% (0.1-0.5)†	0% (0.0-0.4)	0.1% (0.0-0.3)†	0% (0.0-0.4)	..	..	0.06% (0.0-0.3)†	0% (0.0-0.4)	0.1% (0.0-0.3)†	0% (0.0-0.4)	..	..
Jordan	2.0% (1.6-2.5)†	1.0% (0.7-1.4)†	1.6% (1.2-2.0)†	1.0% (0.7-1.4)†	0.6% (0.4-0.8)†	0.2% (0.1-0.3)†	..	..	1.4% (1.0-1.8)†	0.5% (0.3-0.7)†	1.0% (0.7-1.3)†	0.7% (0.5-0.9)†	..	..
Lebanon	8.9% (7.1-11.0)*	5.7% (4.4-7.3)†	8.9% (7.1-11.0)*	5.7% (4.4-7.3)†	3.1% (2.1-4.5)†	1.0% (0.5-1.8)†	..	..	7.9% (6.2-9.9)†	2.7% (1.8-3.9)†	5.7% (4.3-7.4)†	4.3% (3.2-5.7)†	2.3% (1.4-3.5)†	1.3% (0.7-2.2)†
Palestine	3.7% (2.2-5.8)†	1.0% (0.4-2.2)†	1.6% (0.8-2.4)†	1.0% (0.4-2.2)†	0.6% (0.2-1.0)†	0.2% (0.0-0.4)†	..	..	1.4% (0.8-2.0)†	0.5% (0.2-0.8)†	1.0% (0.6-1.4)†	0.7% (0.4-1.0)†	..	..
Syria	2.0% (1.6-2.5)†	1.0% (0.7-1.4)†	1.6% (1.2-2.0)†	1.0% (0.7-1.4)†	0.6% (0.4-0.8)†	0.2% (0.1-0.3)†	..	..	1.4% (1.0-1.8)†	0.5% (0.3-0.7)†	1.0% (0.7-1.3)†	0.7% (0.5-0.9)†	..	..
Gulf countries														
Bahrain	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Kuwait	8.0% (6.7-9.5)	..	7.3% (6.1-8.7)	..	..	..	1.0% (0.6-1.7)	..	5.2% (4.2-6.4)	..	..	..	1.7% (1.2-2.5)	..
Oman	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Qatar	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Saudi Arabia	..	..	..	..	..	..	..	..	..	..	..	..	..	..
United Arab Emirates	..	..	..	..	..	..	..	..	..	..	..	..	..	..
South Asia														
Afghanistan	26.8% (25.1-28.5)†	13.6% (12.5-14.7)†	10.2% (9.1-11.4)†	3.0% (2.5-3.6)†	17.2% (15.8-18.7)†	8.4% (7.5-9.3)†	1.4% (1.1-1.9)	0.05% (0.0-0.1)	1.3% (0.9-1.8)†	0.1% (0.0-0.3)†	0.2% (0.1-0.3)†	0.1% (0.0-0.3)†	0.03% (0.0-0.1)	0% (0.0-0.1)
Iran	10.2% (9.9-10.6)	1.5% (1.1-1.9)*	3.0% (1.1-5.7)	0.1% (0.0-0.2)	6.3% (5.9-6.7)	1.5% (1.3-1.7)	1.1% (0.6-2.1)	0.1% (0.0-0.2)	0.5% (0.4-0.6)	0.1% (0.0-0.2)	0.4% (0.2-0.6)	0.4% (0.3-0.6)	0.08% (0.0-0.2)	0% (0.0-0.05)
Pakistan	9.0% (7.4-10.6)	2.9% (2.5-3.7)	6.7% (5.9-7.6)	0.2% (0.1-0.2)	1.6% (1.4-1.7)	1.4% (1.2-1.6)	1.5% (1.1-1.9)	0.03% (0.0-0.3)	0.03% (0.01-0.06)	0.002% (0.00-0.1)	0.06% (0.03-0.1)	0.01% (0.00-0.04)	0.01% (0.00-0.02)	0% (0.00-0.1)

(Table 1 continues on next page)

	Any illicit drug use		Cannabis		Opioids		Heroin		Amphetamine-type stimulants		Inhalants		Cocaine	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
	(Continued from previous page)													
Young population														
North Africa														
Egypt	5.2% (4.6-5.9)*	1.9% (1.6-2.3)*	5.2% (4.6-5.9)	0.7% (0.5-0.9)	1.9% (1.5-2.3)	1.0% (0.8-1.3)	1.4% (1.1-1.8)	0.2% (0.1-0.3)	2.5% (2.1-3.0)	1.0% (0.8-1.3)	3.6% (3.1-4.2)	1.9% (1.6-2.3)	1.6% (1.3-2.0)	0.2% (0.1-0.3)
Morocco	13.0% (11.4-14.8)	1.2% (0.7-1.9)	12.0% (10.4-13.7)	1.2% (0.8-1.8)	1.8% (1.4-2.3)	0.9% (0.5-1.3)	1.3% (0.8-2.0)	0.1% (0.0-0.3)	0.3% (0.1-0.7)	0% (0.0-0.3)	2.8% (2.0-3.7)	0.1% (0.0-0.4)	1.2% (0.7-1.9)	0.4% (0.2-0.8)
Libya	4.3% (3.3-5.3)*	1.7% (1.2-2.2)*	6.9% (5.3-8.5)*	0.8% (0.4-1.2)	1.8% (1.4-2.2)	0.9% (0.5-1.3)	1.4% (1.0-1.8)	0.2% (0.1-0.3)	1.9% (1.5-2.4)	0.7% (0.4-0.9)	3.4% (2.4-3.7)	1.4% (0.4-1.0)	1.4% (0.4-0.9)	0.2% (0.0-0.1)
Tunisia	6.1% (5.3-7.0)*	0.7% (0.4-1.0)*	6.1% (5.3-7.0)	0.4% (0.2-0.6)	0.2% (0.0-0.4)	0.1% (0.0-0.2)	1.4% (0.0-2.0)	0.2% (0.0-0.4)	1.9% (1.5-2.4)	0.2% (0.0-0.4)	3.0% (2.4-3.7)	0.7% (0.4-1.0)	0.6% (0.4-0.9)	0% (0.0-0.1)
East Africa														
Djibouti	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Somalia	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Sudan	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Yemen	..	..	..	..	..	..	..	..	..	..	..	..	..	..
West Asia														
Iraq	2.1%* (1.3-2.9)*	1.8%* (1.3-2.3)*	2.1% (1.3-2.9)	0.7% (0.4-1.0)	..	..	..	..	2.1% (1.3-2.9)	1.8% (1.3-2.3)	..	..	..	..
Jordan	2.3% (1.3-3.3)*	1.0% (0.5-1.5)*	2.3% (1.3-3.3)	0.7% (0.4-1.0)	..	..	..	..	2.1% (1.3-2.9)	1.7% (1.3-2.3)	..	..	..	..
Lebanon	3.8% (3.2-4.8)*	0.9% (0.5-1.1)*	3.8% (3.2-4.8)	0.9% (0.5-1.1)	..	..	..	..	1.8% (1.3-2.4)	0.6% (0.4-0.9)	..	..	..	..
Palestine	2.3% (1.3-3.6)	0.6% (0.1-1.1)	1.8% (1.0-3.0)	0.7% (0.1-1.3)	1.6% (0.9-2.7)	..	1.7% (0.9-2.8)	..	2.0% (1.2-3.2)	1.7% (0.4-0.9)	..	..	1.5% (0.8-2.6)†	..
Syria	2.3% (1.3-3.3)*	1.0% (0.5-1.5)*	2.3% (1.3-3.3)	0.7% (0.4-1.0)	..	..	..	..	2.1% (1.3-2.9)	1.7% (0.4-0.9)	..	..	..	..
Gulf countries														
Bahrain	3.2% (2.5-3.9)*	..	3.2% (2.5-3.9)	..	..	..	..	..	3.2% (2.5-3.9)	..	2.9% (2.4-3.4)	..	..	..
Kuwait	3.2% (2.5-3.9)*	..	3.2% (2.5-3.9)	..	..	..	..	..	3.8% (2.9-4.9)†	0.5% (0.2-1.0)†	2.9% (2.4-3.4)	..	0% (0.0-0.3)	0% (0.0-0.4)
Oman	3.2% (2.5-3.9)*	..	3.2% (2.5-3.9)	..	..	..	..	..	3.2% (2.5-3.9)	..	2.9% (2.4-3.4)	..	..	..
Qatar	3.2% (2.5-3.9)*	..	3.2% (2.5-3.9)	..	..	..	..	..	3.2% (2.5-3.9)	..	2.9% (2.4-3.4)	..	..	..
Saudi Arabia	3.2% (2.5-3.9)*	..	3.2% (2.5-3.9)	..	..	..	..	..	3.1% (1.6-5.3)†	..	2.9% (1.5-5.0)†	..	..	..
United Arab Emirates	3.2% (2.5-3.9)*	..	3.2% (2.5-3.9)	..	..	..	..	..	3.2% (2.5-3.9)	..	2.9% (2.4-3.4)	..	..	..
South Asia														
Afghanistan	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Iran	3.7% (2.5-5.3)	1.1% (0.5-2.1)	1.1% (1.0-1.2)	0.4% (0.3-0.5)	1.0% (0.9-1.1)	0.3% (0.3-0.3)	0.1% (0.0-0.1)	0.06% (0.0-0.08)	0.4% (0.4-0.5)	0.3% (0.3-0.3)	0.3% (0.0-0.9)	0.9% (0.3-1.7)	0% (0.0-0.5)	0% (0.0-0.4)
Pakistan	..	..	..	..	..	..	..	..	..	..	..	..	..	..

Data are % (95% CI). *The figure was substituted by the highest estimate of another drug as the data for any illicit drug use were not available or the available figure was lower than another estimate for this subgroup (appendix pp 66, 81). †Corrected. ‡Pooled. §There were no data at the country level and the pooled estimate for the subgroup has been imputed.

Table 1: The estimated prevalence of past 12-month drug use among the adult and young general population in the countries of the East Mediterranean region

	Any illicit drug		Cannabis		Opioids		Heroin		Amphetamine-type stimulants		Inhalants		Cocaine	
	Total prevalence	Number with past 12-month drug use	Total prevalence	Number with past 12-month drug use	Total prevalence	Number with past 12-month drug use	Total prevalence	Number with past 12-month drug use	Total prevalence	Number with past 12-month drug use	Total prevalence	Number with past 12-month drug use	Total prevalence	Number with past 12-month drug use
Adult population														
North Africa	8.0% (5.2-13.2)*	7 802 000	8.0% (5.2-13.2)	7 802 000	0.7% (0.4-1.4)	6 820 000	0.4% (0.2-0.9)	390 000	0.6% (0.3-1.3)	585 000	0.5% (0.2-1.1)	487 000	0.2% (0.05-0.7)	195 000
Male	15.0% (10.3-20.7)	7 338 000	15.0% (10.3-20.7)	7 338 000	1.3% (0.7-2.2)	6 350 000	0.7% (0.3-1.4)	341 000	0.9% (0.4-1.7)	439 000	0.6% (0.2-1.3)	293 000	0.4% (0.1-1.0)	195 000
Female	1.0% (0.0-5.2)	469 000	1.0% (0.0-5.6)	486 000	0.1% (0.0-0.5)	48 000	0.0% (0.0-0.3)	..	0.3% (0.1-0.8)	146 000	0.3% (0.1-0.8)	146 000	0.0% (0.0-0.3)	..
East Africa†	6.7%	3 311 000	4.3%	2 125 000	2.2%	1 087 000	..	..	0.4%	197 000	0.3%	148 000	..	..
Male†	10.9%	2 686 000	7.9%	1 947 000	3.0%	739 000	..	..	0.6%	147 000	0.4%	98 000	..	..
Female†	2.5%	619 000	0.6%	148 000	1.3%	322 000	..	..	0.2%	49 000	0.2%	49 000	..	..
West Asia	1.5% (1.1-2.2)	701 000	1.3% (1.0-1.7)	619 000	0.4% (0.2-0.8)	182 000	..	..	0.9% (0.7-1.6)	433 000	0.9% (0.6-1.4)	417 000	..	..
Male	2.0% (1.4-2.8)	475 000	1.6% (1.3-2.2)	394 000	0.6% (0.3-1.0)	143 000	..	..	1.4% (1.0-1.9)	326 000	1.0% (0.7-1.5)	246 000	..	..
Female	1.0% (0.7-1.6)	226 000	1.0% (0.7-1.1)	225 000	0.2% (0.1-0.6)	39 000	..	..	0.5% (0.3-1.0)	106 000	0.7% (0.5-1.2)	170 000	..	..
Gulf Countries†	6.7%	2 908 000	4.3%	1 866 000	2.2%	955 000	..	..	0.4%	173 000	0.3%	130 000	..	..
Male†	10.9%	3 077 000	7.9%	2 230 000	3.0%	847 000	..	..	0.6%	169 000	0.4%	113 000	..	..
Female†	2.5%	379 000	0.6%	91 000	1.3%	197 000	..	..	0.2%	30 000	0.2%	30 000	..	..
South Asia	7.4% (6.5-8.4)	15 532 000	3.3% (2.6-4.0)	6 930 000	3.3% (3.0-3.6)	6 912 000	0.7% (0.5-1.1)	1 527 000	0.2% (0.1-0.3)	343 000	0.1% (0.07-0.2)	192 000	0.02% (0.01-0.06)	33 000
Male	11.1% (9.9-12.4)	11 876 000	6.1% (4.9-7.5)	6 471 000	4.4% (4.2-4.8)	4 741 000	1.4% (1.0-2.0)	1 474 000	0.3% (0.2-0.4)	303 000	0.2% (0.08-0.2)	213 000	0.03% (0.01-0.07)	33 000
Female	3.6% (3.1-4.3)	3 655 000	0.4% (0.3-0.5)	459 000	2.1% (1.8-2.4)	2 171 000	0.05% (0.01-0.1)	52 000	0.04% (0.02-0.1)	39 000	0.1% (0.05-0.1)	102 000	0% (0.0-0.05)	..
East Mediterranean Region	6.7% (5.4-8.9)	29 975 000	4.3% (3.1-6.2)	19 237 000	2.2% (1.9-2.6)	9 842 000	..	..	0.4% (0.3-0.7)	1 789 000	0.3% (0.2-0.6)	1 342 000	..	..
Male	10.9% (8.9-13.4)	25 449 000	7.9% (5.9-10.4)	18 413 000	3.0% (2.7-3.6)	7 090 000	..	..	0.6% (0.4-1.0)	1 418 000	0.4% (0.2-0.7)	966 000	..	..
Female	2.5% (1.9-4.3)	5 425 000	0.6% (0.3-2.0)	1 392 000	1.3% (1.1-1.6)	2 764 000	..	..	0.2% (0.1-0.4)	375 000	0.2% (0.1-0.4)	508 000	..	..

(Table 2 continues on next page)

	Any illicit drug		Cannabis		Opioids		Heroin		Amphetamine-type stimulants		Inhalants		Cocaine	
	Total prevalence	Number with past 12-month drug use	Total prevalence	Number with past 12-month drug use	Total prevalence	Number with past 12-month drug use	Total prevalence	Number with past 12-month drug use	Total prevalence	Number with past 12-month drug use	Total prevalence	Number with past 12-month drug use	Total prevalence	Number with past 12-month drug use
(Continued from previous page)														
Young population														
North Africa	4.3% (3.8-5.1)	801 000	4.0% (3.3-4.5)	724 000	1.4% (1.1-1.7)	250 000	0.8% (0.6-1.0)	146 000	1.3% (1.1-1.7)	248 000	2.4% (2.0-2.9)	445 000	0.9% (0.6-1.2)	158 000
Male	6.9% (6.3-8.1)*	652 000*	6.9% (6.0-7.8)	652 000	1.8% (1.4-2.1)	167 000	1.4% (1.0-1.7)	130 000	1.9% (1.6-2.4)	184 000	3.4% (2.8-4.0)	320 000	1.4% (1.1-1.9)	137 000
Female	1.7% (1.3-2.1)	148 000	0.8% (0.6-1.1)	71 000	0.9% (0.7-1.2)	83 000	0.2% (0.1-0.3)	15 000	0.7% (0.6-1.0)	63 000	1.4% (1.1-1.8)	125 000	0.2% (0.1-0.4)	21 000
East Africa	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Male†	4.9%	353 000	4.9%	353 000	..	..	..	..	2.1%	154 000	..	..	..	..
Female	..	..	..	..	..	..	..	..	..	..	..	..	..	..
West Asia	2.0% (1.8-2.1)	190 000	1.5% (1.4-1.6)	169 000	..	..	..	..	1.9% (1.8-2.0)	209 000	..	..	..	..
Male	2.3% (2.1-2.5)	132 000	2.3% (2.1-2.5)	129 000	..	..	..	..	2.1% (1.9-2.2)	118 000	..	..	..	..
Female	1.6% (1.5-1.7)	57 000	0.7% (0.7-0.7)	39 000	..	..	..	..	1.7% (1.6-1.7)	90 000	..	..	..	..
Gulf Countries	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Male	3.2% (1.7-5.4)*	78 000*	3.2% (1.7-5.4)	78 000	..	..	..	..	3.2% (1.7-5.3)	77 000	2.9% (1.5-5.0)	70 000	..	..
Female	..	..	..	..	..	..	..	..	..	..	..	..	..	..
South Asia	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Male†	4.9%	1 160 000	4.9%	1 160 000	..	..	..	..	2.1%	508 000	..	..	..	..
Female	..	..	..	..	..	..	..	..	..	..	..	..	..	..
East-Mediterranean Region	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Male	4.9% (4.3-5.9)	2 380 000	4.9% (4.3-5.9)	2 380 000	..	..	..	..	2.1% (1.7-2.7)	1 042 000	..	..	..	..
Female	..	..	..	..	..	..	..	..	..	..	..	..	..	..

Data are % (95% CI). *The figure was substituted by the highest estimate of another drug as the available data for any illicit drug were lower than some estimates for this subgroup. †There were no data at the subregion level and the pooled estimate for the region has been imputed.

Table 2: The prevalence of past 12-month drug use among the adult and young general population and size estimation in the East Mediterranean subregions and region

were from Lebanon. The lowest estimates in male adults were from Pakistan and among females from Iraq. For the young population, among males and females, Egypt had the highest reports and the lowest reports were seen in Iran among males and in Morocco among females.

For cocaine use, prevalence estimates were unavailable for the whole population but in adult males were highest in Lebanon and lowest in Pakistan. Among females, the estimates were highest in Lebanon and close to zero in Iran and Pakistan. Among the young population, the prevalence estimates for males and females were close to zero in Iran and Kuwait. The highest estimates among males were in Egypt and among females were in Morocco.

Data on tramadol use were available for the adult population of Egypt, Iran, Iraq, and Palestine (only the Gaza region) and for the young population of Egypt, Iran, and Palestine (table 3). The highest use estimate among adult males was from Egypt and among females was from Iran. The lowest estimates in adult males and females were reported from Iraq. Among males and females in the young population, the estimates were lowest in Iran and highest in Egypt. Studies used various indicators for khat use. Data on the adult population were available from Djibouti, Saudi Arabia, and Yemen, and suggested that at least one-third of adult males in the studied areas use khat and the data among females was more heterogeneous (table 3).

The data on the prevalence of drug use disorders were scarce and heterogeneous (appendix p 98). Nine countries had data on the prevalence of drug use disorders or similar estimates (ie, positive screening or daily use) for at least one drug among the adult general population (table 4). Two countries had data for the young general population.

73 studies from 15 countries provided information on demographic characteristics of people who use drugs (appendix p 104). 63 studies from 13 countries recruited people seeking treatment who use drugs and the pooled estimates of sociodemographic characteristics from these studies are presented in the appendix (p 124). The other studies recruited people who use drugs from heterogeneous settings (eg, drop-in centres, prisons, communities, hot spots, or a mix of these settings) and the findings could not be pooled. In 19 (30%) of 63 studies, the total sample comprised only males. In the studies recruiting both males and females, the pooled proportion of females among people seeking treatment who use drugs was 7.5% (95% CI 5.3–9.9). The overall mean age of people seeking treatment who use drugs in the region was 34.2 years (95% CI 32.3–36.0). The pooled proportion of people seeking treatment who use drugs who were currently married was 48.0% (95% CI 41.3–54.7), and 12.1% (7.8–17.3) were illiterate, 38.2% (31.0–45.7) were currently unemployed, and 33.9% (19.0–50.5) had ever been incarcerated. 32 studies from 11 countries provided information on the age of drug initiation from various settings (appendix p 110). Overall, the mean age of first

	Indicator	Prevalence % (95% CI)	
		Male	Female
Tramadol use			
Adult general population			
Egypt	Past 12 months	16.9% (0.0–55.7)*†	0.4% (0.0–1.4)*†
Iran	Past 12 months	4.9% (4.1–5.9)	0.8% (0.2–1.8)
Iraq	Past 12 months	0.1% (0.01–0.3)*	0.01% (0.00–0.4)*
Palestine‡	Past 12 months	57.2% (51.8–62.7)*	29.6% (22.4–37.8)*
Young general population			
Egypt	Past 12 months	2.6% (2.2–3.1)	0.6% (0.4–0.8)
Iran	Past 12 months	0.7% (0.2–1.5)	0.1% (0.0–0.7)
Palestine	Past 12 months	2.0% (1.2–3.2)*	..
Khat use			
Adult general population			
Djibouti	Past 12 months	43.7% (41.1–46.3)	13.6% (11.8–15.5)
Saudi Arabia§	Current and past month	39.5% (35.1–44.0)†	4.4% (1.6–11.3)†
Yemen	Current	49.9% (42.7–57.1)†	1.3% (0.5–2.6)
Young general population			
Saudi Arabia§	Past month	33.1%	4.3%

*Correction applied. †Pooled (appendix pp 66, 81). ‡Data confined to the Gaza region. §All data for Saudi Arabia come from the Jazan area.

Table 3: The estimated prevalence of tramadol and khat use in the countries of the East Mediterranean region

	Countries with studies on dependence or use disorders	Range of prevalence estimates (%)	Countries with studies on screening instruments or daily use	Range of prevalence estimates (%)
Any drug	Iran and Saudi Arabia	2.1–2.7	Iran and Palestine	1.3–1.6
Cannabis	Egypt, Iran, and Iraq	0.1–1.0	Egypt, Iran, Lebanon, Pakistan, and Tunisia	0.4–19.3
Opioids	Iran and Iraq	0.1–1.8	Iran and Lebanon	0.1–15.6
Amphetamine-type stimulants	Egypt and Iran	0.4–0.5	Egypt, Iran, and Lebanon	0.2–1.3
Inhalant	Egypt and Iran	0.03–0.07	Egypt and Lebanon	0.3
Cocaine	Iran	0.1	Lebanon	0.4
Tramadol	Egypt and Iraq	0.1–1.2	Egypt and Iran	1.8–3.5
Khat	Yemen	27.4	Yemen	23.3

Table 4: The prevalence of drug use disorders among the adult general population in the countries of the East Mediterranean region

drug use among people seeking treatment who use drugs was 21.3 years (95% CI 18.9–23.7; appendix p 124).

37 studies from 13 countries reported the prevalence of injection drug use among people who use drugs in various settings and target populations using different indicators (appendix p 114). 21 studies from nine countries reported current or the past 12-month injection drug use among people seeking treatment who use drugs, with an overall prevalence estimate of 15.5% (95% CI 7.8–25.1), ranging from 3.0% (1.8–4.5) in Iraq to 67.0% (61.5–72.3) in Oman (appendix p 124).

47 studies from 15 countries provided data on the type of drugs used by people who use drugs (appendix p 126). Mostly, studies were done in drug-treatment centres

among those seeking treatment for drug use disorders. Many of these studies reported the lifetime or current prevalence of using different drugs. 28 studies from ten countries provided data on the primary drug of use in people who use drugs and are seeking treatment. In Afghanistan, the primary drug class was opiates (primarily opium) followed by cannabis; in Egypt it was tramadol followed by heroin; in Iran, opiates (primarily opium) followed by stimulants; in Iraq, prescription medicines followed by amphetamine-type stimulants; in Jordan, synthetic cannabinoids followed by tramadol; in Lebanon and Pakistan, opiates followed by cannabis; in Saudi Arabia, cannabis, amphetamines, and opiates;

in Sudan, cannabis; and in Tunisia, buprenorphine followed by cannabis.

We included other quantitative and qualitative findings from 25 reports on the pattern of drug use among people seeking treatment who use drugs from the ten countries with no specific quantitative study on the primary drug of use. The triangulated results for the most common drug of use among people who use drugs who are seeking treatment in 20 countries are presented in the appendix (pp 58, 65). There was no information from Palestine and Yemen.

Treatment facilities for drug use disorders exist in 20 countries in the region (table 5). No specialised

	Characteristics of drug treatment centres			Availability of opioid agonist treatment			
	Number of centres and capacity	Type of services	Affiliation	Data year	Medication	Number of centres	Number of clients having treatment
North Africa							
Egypt	22 centres, mainly in large cities, with 116 000 patients per year	Inpatient and outpatient detoxification, residential rehabilitation, therapeutic community, compulsory treatment, cognitive behavioural treatment, narcotics anonymous, and 12-step approach	Different sectors, some free of charge	..	None	..	..
Morocco	15 outpatient centres in nine cities, with more than 27 000 admissions per year	Inpatient, outpatient, methadone maintenance treatment, and rehabilitation	Public and private, free-of-charge services exist	2019	Methadone maintenance treatment	Seven sites	2030
Libya	Several centres*	Outpatient and rehabilitation	Private sector and criminal service	..	None	..	..
Tunisia	Several centres*	Inpatient detoxification and rehabilitation	Public and non-governmental organisation	..	None	..	..
East Africa							
Djibouti	No specific centre	..	..	..	..	..	..
Somalia	No specific centre	..	..	..	..	..	..
Sudan	One centre in Khartoum	..	Public	..	..	..	..
Yemen	One centre	..	Public	..	None	..	..
West Asia							
Iraq	Five centres in four cities, a residential centre, and about 2000 admissions per year	..	..	..	None	..	..
Jordan	Three centres in Amman, a compulsory residential treatment centre, and about 2000 admissions per year	Inpatient detoxification, outpatient, residential for males and females, and compulsory treatment	Mainly public sector and free of charge	..	Planned for opioid agonist treatment	..	..
Lebanon	More than 18 treatment centres, mostly in and around Beirut and a few in prisons	Inpatient and outpatient detoxification and residential rehabilitation and buprenorphine maintenance treatment	Several sectors, free-of-charge services exist	2018	Buprenorphine maintenance treatment; in a few prisons buprenorphine maintenance treatment is continued if started in the community; planned for methadone maintenance treatment	Several centres, with number not available	>1700 cumulative at the end of 2016
Palestine	Several centres*	Inpatient, outpatient, opioid agonist treatment, and rehabilitation	Non-governmental organisations and public	2020	Methadone maintenance treatment and buprenorphine maintenance treatment	One centre in West Bank	230
Syria	Several centres*	..	Public, free of charge	..	None	..	..

(Table 5 continues on next page)

	Characteristics of drug treatment centres			Availability of opioid agonist treatment			
	Number of centres and capacity	Type of services	Affiliation	Data year	Medication	Number of centres	Number of clients having treatment
(Continued from previous page)							
Gulf countries							
Bahrain	One inpatient specialised drug-treatment centre for males at a psychiatric hospital in Manama	Mainly inpatient services for detoxification and rehabilitation	..	..	None	..	..
Kuwait	One centre	Buprenorphine maintenance treatment and rehabilitation	Public sector	2019	Buprenorphine maintenance treatment	One centre	>130
Oman	Several centres,* with about 300 admissions per year	Inpatient and outpatient detoxification and rehabilitation and compulsory treatment	Public and private	..	Planned for methadone maintenance treatment	..	..
Qatar	One centre	Inpatient, outpatient, and residential rehabilitation services	..	..	None	..	..
Saudi Arabia	Seven centres	Inpatient detoxification and rehabilitation and therapeutic community	Public	..	None	..	..
United Arab Emirates	Several centres*	Inpatient and outpatient, buprenorphine maintenance treatment, rehabilitation, and HIV testing	Public	2018	Buprenorphine maintenance treatment	One centre	150
South Asia							
Afghanistan	123 centres: 13 only for females, eight only for children, mainly in cities, 32 170 patients per year	Inpatient and outpatient care, methadone maintenance treatment, outreach, harm reduction, community-based services, and shelter	Mostly non-governmental organisations, providing free services supported by several donors	2020	Methadone maintenance treatment	Six in communities and four in prisons	2094
Iran	More than 8000 centres, serving 700 000 patients newly entered per year (total of 1 400 000 in treatment) in large and small cities and towns and prisons; including two centres for females and two centres for children	Outpatient opioid agonist treatment, inpatient detoxification, midterm residential drug-free programme, psychosocial interventions, narcotics anonymous and self-help groups, and compulsory treatment centres	Different sectors, but most private sector, a range of fees	2018	Methadone maintenance treatment, buprenorphine maintenance treatment, and tincture of opium	7345 centres (including 120 in prisons)	779 000 having methadone maintenance treatment, 120 000 having buprenorphine maintenance treatment and 93 000 opium tincture
Pakistan	96 centres, 30 000 patients per year	Inpatient detoxification and counselling, rehabilitation, and vocational training	Several sectors, free-of-charge services exist	..	Planned for buprenorphine maintenance treatment	..	..
References are provided in the appendix (p 140). *Number not available.							
Table 5: Characteristics of drug treatment centres and availability of opioid agonist treatment in the countries of the East Mediterranean region							

treatment centres for drug use disorders appear to exist in Djibouti or Somalia. Although some countries have only a few centres, Afghanistan, Egypt, Iran, Morocco, Lebanon, and Pakistan have centres in different parts of the country. The majority of inpatient and residential centres in the region admit only men. Only Iran and Afghanistan have specific centres for women and children. Opioid agonist treatment services exist in seven countries. A mixture of rehabilitation and detoxification treatment centres exists in the north African subregion. Egypt has the most extensive centres, and Morocco is the only country with methadone maintenance treatment centres. In the countries of east Africa, there are no or few treatment centres. In west Asia, mainly rehabilitation and detoxification treatment centres are available. Lebanon has the most centres in the subregion, with several buprenorphine maintenance treatment centres. The other country with

opioid agonist treatment is Palestine, with one centre offering methadone maintenance treatment and buprenorphine maintenance treatment services. The Gulf countries each have one or more specialised centres. The pattern of available treatments is similar to the north African subregion. Only Kuwait and the UAE have buprenorphine maintenance treatment services. The south Asia subregion has the most extensive treatment services in the region. The treatment approaches and settings are mixed, while services in Pakistan are mostly residential; in Iran, opioid agonist treatment (ie, methadone and buprenorphine) is the most used treatment, followed by midterm residential drug-free services. The most extensive treatment programme exists in Iran, with more than 8000 outpatient and residential facilities. Afghanistan offers inpatient, outpatient, and methadone maintenance treatment services.

Treatment coverage for drug use disorders is low in the region. As the number of people with drug use disorders was not found, we only presented the coverage reported as a percentage by the studies. In Pakistan, only 7–13% of those with drug use disorders reported receiving treatment during the previous year, with long waiting lists.¹³ In Iran, despite there being numerous opioid agonist treatment centres, only 31% of people with opioid use disorder received opioid agonist treatment.¹⁴ In an Iranian national survey in 2011, almost half of people with drug use disorders reported an unmet need for treatment in the past year.¹⁵ The number of people who received treatment for drug use disorders reported to the UN Office on Drugs and Crime is presented in the appendix (p 144), and an overview of drug production in the region is also in the appendix (p 146).

Discussion

To our knowledge, this is the first systematic review of the prevalence of drug use and drug use disorders in the Eastern Mediterranean Region. We estimated that 6.7% of the adult population (ie, those aged 15–64 years) in the region used any illicit drug in the past year, corresponding to approximately 30 million people. The prevalence was 10.9% among males and 2.5% among females. Globally, the estimated percentage of adults aged 15–64 years who used illicit drugs in the past year is 5.5%.² The higher prevalences in the Eastern Mediterranean region are primarily due to the high cannabis use in the north African subregion (8.0%) and opioid use (mostly opium) in the south Asia subregion (3.3%).

Cannabis is the most used drug in 14 countries in the region. We estimated that around 4.3% of the adult population (ie, 19 million people) in the region used cannabis in the past year, with the highest estimates from the north African subregion. The extensive production of cannabis in some parts of the region increases availability. Although the prevalence of cannabis use is similar to the global estimate (4.0%),² it is still lower than in European countries,¹⁶ North America,^{17,18} and Australia.¹⁹

Several specific patterns of drug use are observable in the region. These patterns within the subregions correspond with the major drug production sites and drug transit pathways and are also affected by the countries' social, cultural, and religious characteristics, as well as their drug policies. We estimated that 2.2% of adults in the region used opioids in the past year (ie, 9.8 million people). Opioids are prevalent in Afghanistan, Iran, and Qatar. In Iran and Afghanistan, opioids, mainly opium, were historically used and even socially accepted in some parts. In 2019, Afghanistan (the largest opium-producing country), Iran, and Pakistan together accounted for 97% of opium seized globally, 97% of morphine, and 31% of heroin.²

High rates of tramadol use are reported in Egypt, Iran, and Palestine (Gaza region), specifically among young people (ie, those aged 18 years and younger). Tramadol's low price, the perception of it being a harmless prescribed medicine, and the ease of carrying it around have probably contributed to its popularity.²⁰ Prescription drugs, such as benzodiazepines, are prevalent in Iraq, Syria, and Libya, presumably due to the high availability of prescription drugs through pharmacies and on the black market and the popularity of these drugs to alleviate the stress associated with war in these areas.^{21–23}

Past 12-month use of amphetamine-type stimulants in the Eastern Mediterranean region was 0.4% (ie, 1.8 million people), with the highest estimates from the Gulf countries and west Asia. Whereas fenetylline was the primary stimulant used in west Asia and the Gulf countries, methamphetamine was mainly used in the south Asia subregion. Several reports indicate fenetylline use among militants directly involved in the conflicts due to the need for long periods of alertness and to counter the fatigue or the emotional drain associated with such involvement.^{24–27} Khat, a stimulant, is widely used in the east Africa subregion, where it is legal and not associated with social stigma. Khat is cultivated in Somalia and Yemen, and it is also imported from Ethiopia and Kenya in large amounts.^{28–30}

We estimated that almost 4.9% of the young male population in the Eastern Mediterranean region used cannabis in the past year. However, there is some evidence of increasing use of cannabis in the region, in male and female young people.^{11,31} 2.1% of young males in the region reported using amphetamine-type stimulants in the past 12 months. The kinds of common amphetamine-type stimulants used differ in each country, such as methylphenidate in Iran³² or fenetylline in Saudi Arabia. The prevalence of opioid use among young people ranged from 0.2% to 1.5%. However, the type of opioids assessed in the studies varied. Morphine was more common in Palestine, opium in Iran, and buprenorphine in Tunisia.

Some studies in the region only included young males. Since insufficient countries provided data on drug use among young females, we could not estimate the prevalence of use of any drugs among this subgroup.

We found limited data on the prevalence of drug use disorders in the region's general population, making any further data synthesis for the region impossible. Studies conducted among those seeking treatment for drug use disorders are fairly reflective of the overall characteristics of people with drug use disorders. Typically, a person in treatment in the region is male, around age 30 years, and married. Almost one-third of those in treatment were unemployed and had a history of incarceration. Although male gender and the age range were consistent throughout the region, some characteristics, such as literacy and marital status, varied across countries, possibly reflecting differences in the demographics of the different countries.

Opioids are the primary drug used among people seeking treatment who use drugs in 12 countries. Although cannabis is the most widely used drug in the region, cannabis and cannabinoids are the primary drugs among people seeking treatment who use drugs in only four countries. The most commonly reported primary drugs are amphetamine-type stimulants in Saudi Arabia, tramadol in Egypt, buprenorphine in Tunisia, and prescription drugs in Iraq. The pattern of primary drug of use among people who use drugs in treatment is probably influenced by the main drug used in the general population, the dependence potential of the drugs, and the available treatment services.

Treatment services are available in most of the region's countries, although the number of treatment centres is low in many countries. Even in Iran and Pakistan, with extensive treatment services, the treatment coverage is low. In 2019, just one in eight people with drug use disorders globally received professional help, despite the cost-effectiveness of treating drug use disorders.² Many Eastern Mediterranean region countries rely on hospital beds for detoxification and treatment, which would result in a high cost of treatment, fewer people entering treatment, and a high rate of relapse after discharge. Stigma and discrimination against those who use drugs further limit accessibility to treatment. In the region, one-third of the countries have opioid agonist treatment services. The nature and extent of opioid use and barriers to the provision of this treatment are different among the region's countries. For example, countries without opioid agonist treatment have reported zero-tolerance policies for opioids and strong resistance to introducing substitution treatments, especially by the law enforcement sector, motivated by concerns about diversion of the opioid agonists to the black market.⁷ In other countries, such as Lebanon and Morocco, there is a need to increase the number of centres providing treatment and to invest in training qualified professionals and staff.^{33–36}

There have been severe social and political instabilities in some of the region's countries during the past decade. In times of conflict, drug use might increase as a way of coping with fear, stress, and feelings of hopelessness and helplessness, and drug supply would alter as well. Drug production and trafficking have become a substantial source of financing for the parties in armed conflicts. However, few data are available regarding drug use and production from countries involved in such situations.

We faced several limitations in this Review. First, our search for grey literature might have missed some documents. Second, some of the region's countries produced scarce data or only low-grade evidence and literature, requiring extrapolation. Therefore, these estimates should be interpreted with caution. Third, in some countries with low literacy rates, only a small proportion of young people attend schools or universities. Therefore, studies conducted in schools and universities do not necessarily represent the young general population.

Fourth, definitions for drug categories varied across studies. We used the most inclusive definition available and present the exact definition used by each study in the appendix (pp 18–139). Fifth, the included cross-sectional studies cannot detect changes, such as social and political instabilities that might affect drug use patterns. Lastly, the included studies were conducted before the COVID-19 pandemic, which might have altered the drug scene.

Conclusion

This Review assessed the prevalence of drug use in the Eastern Mediterranean region, finding that the prevalence of any illicit drug use was higher than global estimates. Although cannabis is the most common drug used in most countries of the region, other subregional patterns exist. Opium is most common in the south Asian subregion, prescription drugs in the west Asian subregion, and khat in the east African subregion. There was inadequate information on the prevalence and pattern of drug use disorders and treatment coverage. Further research is needed, particularly among women and young people. Most of the data from the region come from Afghanistan, Egypt, Iran, Lebanon, Pakistan, and Tunisia. Evidence-based and cost-effective treatment services need to be developed and expanded.

Contributors

The scope and concept of the Review was conceived by AR-M. Screening, review, and data extraction were done by YR-A, MMJ, MA, AMA, and SO. The screening process and verification of the extracted data were overseen by AR-M. The approach to selection and pooling of all data was developed and agreed on by AR-M, JG, YR-A, and AMA. Data analysis and estimate generation were done by YR-A. Maps were generated by AMA. The first iteration of the manuscript was drafted by YR-A and AR-M. All authors made substantial contributions to the critical review, editing, and revision of the manuscript. All authors approved the final version of the manuscript.

Declaration of interests

We declare no competing interests.

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Editorial note: The Lancet Group takes a neutral position with respect to territorial claims in published maps and institutional affiliations.

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