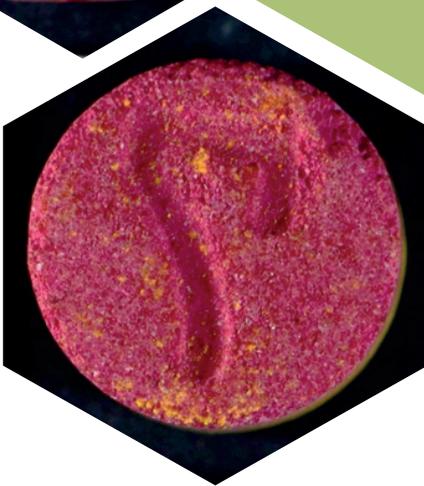
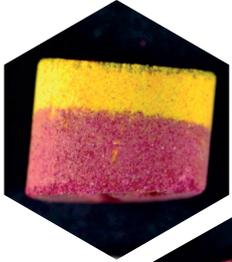




UNODC

United Nations Office on Drugs and Crime

**GLOBAL
SMART
UPDATE**



EN

**Afghanistan's
'tablet K' –
a forensic insight into an
emerging synthetic drug market**

VOLUME 26
January 2022

Abstract

In Afghanistan, clandestine methamphetamine manufacture has emerged, supplementing the opiate economy and contributing to the global expansion of the illicit synthetic drug market. Apart from the manufacture of crystalline methamphetamine, an illicit market for synthetic drug tablets has developed in the country. Based on forensic analysis of over 500 samples in tablet form, this Global SMART Update sheds light on a drug product sold under the street name of 'tablet K' in Afghanistan. Three different types of 'tablet K' were identified based on their content: a methamphetamine type, a type containing methamphetamine as well as opioids and a type containing mainly MDMA. The presence of an illicit drug product in tablet form that contains both methamphetamine and opioids has implications for the understanding of drug use and supply in Afghanistan and beyond.

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About the SMART Update

The Global SMART Updates (GSU) are biannual publications of the UNODC Global Synthetics Monitoring: Analyses, Reporting and Trends (SMART) Programme, implemented by the UNODC Laboratory and Scientific Service. The GSU is published in English, Spanish and Russian.

The Global SMART Programme enhances the capacity of Member States in priority regions to generate, manage, analyse, report and use synthetic drugs information to design effective policy and programme interventions. The main products and services of the Global SMART Programme include capacity building workshops, online drug data collection, national, regional and global assessment reports, and the UNODC Early Warning Advisory (EWA) on NPS. The EWA is a web portal that provides access to information on NPS, including on latest developments, emergence of NPS, global trends, chemical analysis, toxicology, pharmacology and legislative response. (Available at: www.unodc.org/nps).

The information and data contained within the Global SMART Updates are from the Annual Report Questionnaire (ARQ) submitted by Member States to UNODC, the UNODC Early Warning Advisory on NPS, official Government reports, press releases, scientific journals or incidents confirmed by UNODC Field Offices. This report has not been formally edited. The contents of this publication do not necessarily reflect the views or policies of UNODC or contributory organizations and neither do they imply any endorsement.

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Afghanistan's 'tablet K' – a forensic insight into an emerging synthetic drug market

INTRODUCTION

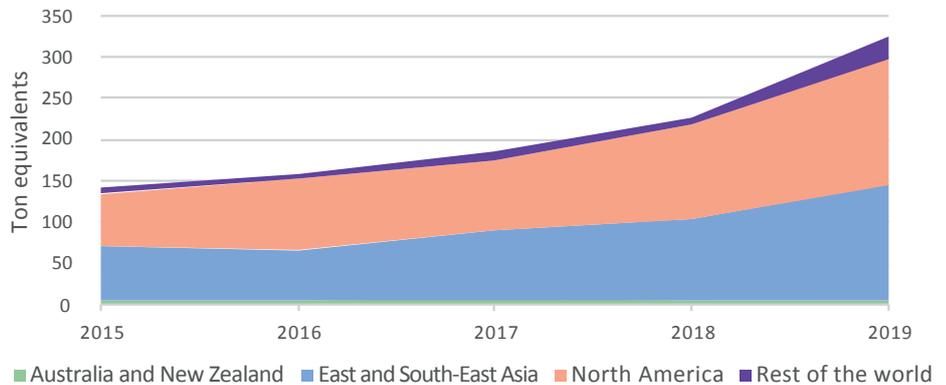
Methamphetamine dominates the amphetamine-type stimulants (ATS) market accounting for 72 per cent of the total quantity of ATS seized, globally. In the period 2015-2019, more than 95 per cent of the clandestine ATS laboratories detected or dismantled worldwide manufactured methamphetamine.¹ Global methamphetamine seizures more than doubled from 141 tons in 2015 to 325 tons in 2019,² which, together with falling retail prices and high purity levels, points to a dynamic and expanding illicit market for the drug.³

North America (mainly the United States and Mexico) and East and South-East Asia remain the two main regional hubs for methamphetamine trafficking. However, in recent years, methamphetamine trafficking has expanded to other regions. Increasing amounts have been seized in the Near and Middle East, South-West Asia, and South Asia, as well as in Western and Central Europe, where methamphetamine manufacture for export has been emerging in recent years.⁴ The expansion of the illicit methamphetamine market, particularly the increased availability of crystalline methamphetamine is associated with higher health risks for users, and has led to more severe negative health implications, growing demand for treatment and more methamphetamine-related deaths in some countries.⁵

Afghanistan and the global methamphetamine market

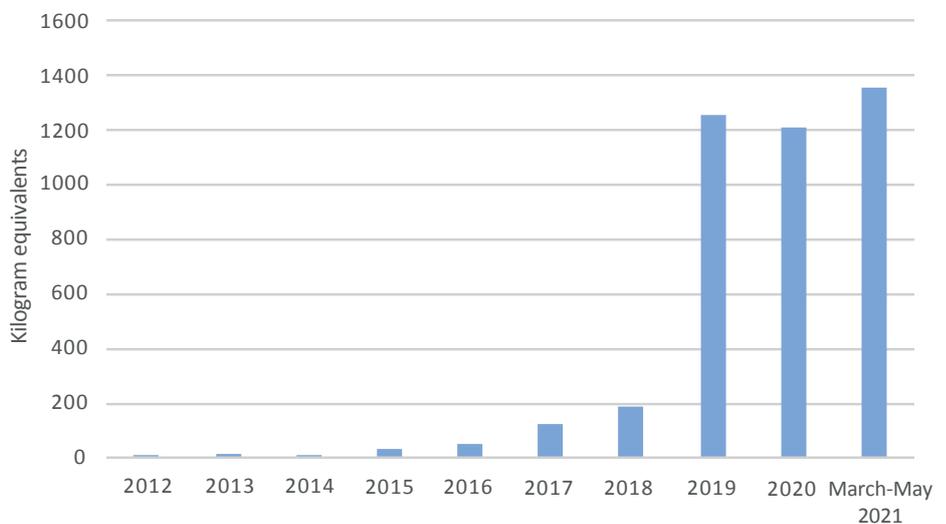
Over the past five years, the evidence of an emerging methamphetamine manufacture in Afghanistan has become more definitive with

FIG. 1: Global quantities of methamphetamine seized by region, 2015-2019



Source: UNODC, responses to the annual report questionnaire.

FIG. 2: Quantities of methamphetamine seized in Afghanistan, 2012-2021



Source: Islamic Republic of Afghanistan, Ministry of Interior Affairs, Counter Narcotics Police of Afghanistan Tactical Operations Centre (TOC) Daily Report (2012-2020) and Islamic Republic of Afghanistan, Counter Narcotics Justices Center (CNJC), Quarter Report (March-May 2021) published (06/07/2021).

clandestine laboratories in the country's western and southern provinces and rising seizure amounts in and around Afghanistan being reported.⁶ Annual seizure amounts of methamphetamine in Afghanistan rose from 0.03 kg in 2012 to more than 1.2 tons in 2019 and 2020.⁷ Over the three-month period from March to May

2021, the amount of 1,358 kg methamphetamine seized surpassed already the total annual amounts of all previous Solar Hijri years.⁸

This development has implications much beyond Afghanistan itself. In 2019, the Islamic Republic of Iran reported that methamphetamine

originating in Afghanistan accounted for almost 90 per cent of all methamphetamine on the Iranian market.⁹ Combined seizures of methamphetamine and opiates in Iran suggest that pre-existing opiate trafficking routes might be exploited for Afghan methamphetamine as well, using a similar modus operandi.¹⁰ Since 2019, methamphetamine originating in Afghanistan has been seized in at least 11 different countries in Asia, Europe, and Oceania,¹¹ targeting high-price markets such as Australia¹² as well as new markets in Africa, which traffickers might consider as having a large growth potential because of their young, growing population and existing stimulant drug use.¹³ Combined heroin-methamphetamine shipments seized along the East African coast and larger methamphetamine shipments originating in South-West Asia seized in South-East Asia and Australia support this assumption.

Some reports suggested that ephedrine, extracted from ephedra plants growing in the mountains of Afghanistan, may have contributed to an expansion

of methamphetamine manufacture by complementing and, at least partially, replacing the manufacture of methamphetamine from ephedrine extracted from pharmaceuticals.^{14,15,16} However, precursor production from ephedra plant material faces ecological (re-growth potential), seasonal (hard winters) and geographic (mountainous terrain) limitations and may not be practicable for large-scale methamphetamine manufacture,¹⁷ at least not if used as the main or only source. Indeed, new evidence presented further below indicates the continuing importance of pharmaceutical ephedrine for the manufacture of methamphetamine in Afghanistan.

Methamphetamine use in Afghanistan

A sometimes overlooked problem is the existing and potentially growing use of methamphetamine within Afghanistan itself. In 2020, 1.3 per cent of Afghan students reported use of methamphetamine during the past year.¹⁸ The concomitant use of

methamphetamine and heroin was documented as early as 2016 but probably existed long before.¹⁹ A similar development might have taken place in other countries in South-West Asia and the Near and Middle East, which, with the exception of Iran, have not reported any significant methamphetamine use.

While the respondents interviewed in treatment settings reported use of methamphetamine in crystalline or powder form known as 'shisha', a drug in tablet form with assumed stimulant properties, called locally 'tablet K', has emerged.

What is 'tablet K'?

Scientific information about the composition of these tablets was not available until the Counter Narcotics Police of Afghanistan (CNPA) laboratory in Kabul, Afghanistan, qualitatively analyzed 536 samples of seized 'tablet K' pills between September 2020 and March 2021. 'Tablet K' resembles "ecstasy" tablets in terms

FIG. 3: Comparison of substances found in 'tablet K' samples with "La casa de papel" logo analyzed in Afghanistan (Sep 2020 – Mar 2021)



A/3: MDMA

B/1: Methamphetamine, heroin, acetylcodeine, lidocaine, diazepam, caffeine

B/4: Methamphetamine, heroin, 6-MAM, acetylcodeine, lidocaine, dextromethorphan, caffeine

C/5: Methamphetamine, heroin, lidocaine, dextromethorphan, sildenafil, caffeine

FIG. 4: Examples of 'tablet K' containing MDMA with different visual aspects, analysed in Afghanistan (Sep 2020 – Mar 2021)



D/4: MDMA

E/3: MDMA

Source: Islamic Republic of Afghanistan, Counter Narcotics Police of Afghanistan (CNPA) laboratory, 2021
Note: "La casa de papel" or "Money Heist" is the title of a Netflix programme. Case A sample reported in September 2020, similar tablet in terms of colour and logo and content reported in February 2021 together with Case B and C samples. Note the misspelling of 'PAPEL' as 'PAREL' on the tablets which do not contain MDMA.

Source: Islamic Republic of Afghanistan, Counter Narcotics Police of Afghanistan (CNPA) laboratory, 2021.

of appearance: they are available in a wide range of colours and shapes and often carry the logos of well-known brands. The analysis was conducted in the framework of a forensic capacity building programme of UNODC²⁰ and provides a unique insight into an emerging market for synthetic drug tablets in Afghanistan.

Tablets have been sold on the domestic drug market under the street name 'tablet K' since at least 2016 and were reported to contain different substances such as methamphetamine or MDMA.²¹ More than 40 kg of 'tablet K' were seized in each of the Solar Hijri years 1397 (March 2018 - March 2019) and 1398 (March 2019 - March 2020), increasing to 80 kg seized during the Solar Hijri year 1399 (March 2020 - 2021).²²

Diversity of 'tablet K' samples

Information on types and origin of 'tablet K' has been scarce and is based mainly on media reports. Some reports mentioned distinct 'tablet K' types²³ and that 'tablet K' products trafficked from Tajikistan to Afghanistan²⁴ were more expensive and different in quality from those typically found in the Eastern provinces closer to the border with Pakistan which were reportedly trafficked from Peshawar, Pakistan, into Afghanistan.²⁵ In addition, reportedly, local production facilities of 'tablet K' were detected in Afghanistan, for instance in Kabul²⁶ and Kunduz.²⁷

Evidence from the laboratory analysis of 'tablet K' samples show attempts to imitate the logos of MDMA tablets by illicit producers who may not be fully familiar with the original logo. A comparison of the visual aspects of 'tablet K' samples depicting the logo of a popular Netflix programme, "La casa de papel", in English "Money Heist", for example, revealed misspellings of "PAPEL" as "PAREL" on the tablets. The samples with the misspelled logo did not contain MDMA but a combination of methamphetamine, opioids and adulterants, while a sample analysed

four months earlier, with the correctly spelled logo, contained MDMA, only, with no adulterants detected. One possible explanation would be an attempt to imitate a popular logo used for "ecstasy" tablets.

In the sample, there was no obvious link between the visual aspects of the tablets and the presence of MDMA. For example, some tablets containing only MDMA had poor visual aspects compared to others that contained a wide range of drugs and adulterants other than MDMA.

Substances used in the production of 'tablet K'

In total, 26 different substances were identified in the laboratory analysis including many pharmaceuticals, e. g. carisoprodol (a muscle relaxant), chlorpheniramine and diphenhydramine (antihistamines), dextromethorphan (a cough suppressant), propranolol (a beta blocker), diazepam (a benzodiazepine), sildenafil (a phosphodiesterase-5 inhibitor), paracetamol (a painkiller and antipyretic), tramadol (an opioid pain killer), chloroquine (an antimalarial medication), and tinidazole (an anti-protozoal/antimicrobial medication).²⁸

Table 1: The ten most frequently detected substances in 'tablet K' samples analysed in Afghanistan (Sep 2020 – Mar 2021)

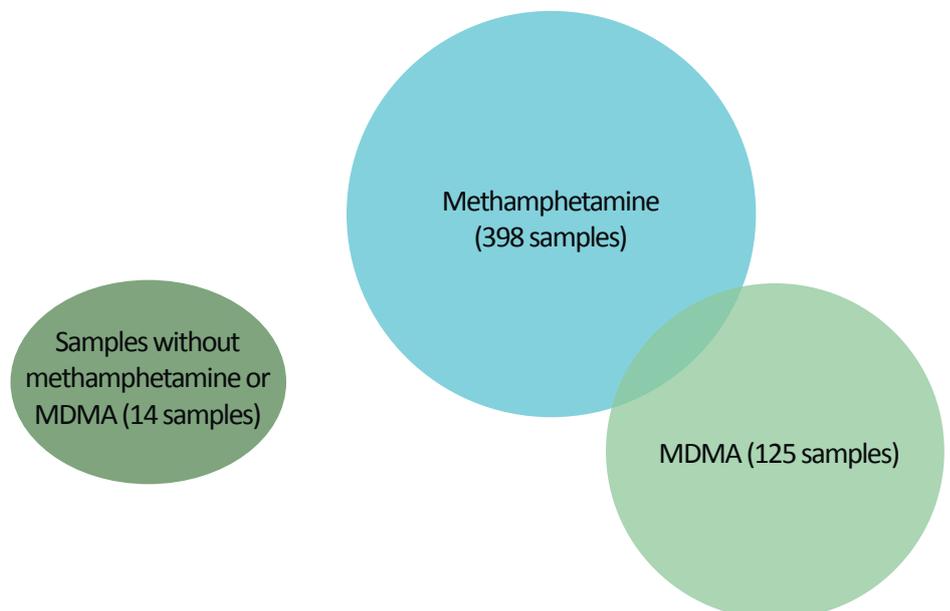
| Substance | Number of samples |
|------------------|-------------------|
| Methamphetamine | 398 |
| Caffeine | 206 |
| MDMA | 125 |
| Chlorpheniramine | 124 |
| Heroin | 111 |
| Dextromethorphan | 75 |
| Tramadol | 70 |
| Lidocaine | 64 |
| Sildenafil | 56 |
| 6-MAM | 49 |

Source: Islamic Republic of Afghanistan, Counter Narcotics Police of Afghanistan (CNPA) laboratory, 2021.

Which types of 'tablet K' are on the market?

Three main drugs under international control were identified in 'tablet K', namely MDMA, methamphetamine and heroin. They were used to group the analysed 'tablet K' samples into three types:

FIG. 5: Types of 'tablet K', by number of samples analysed in Afghanistan (Sep 2020 – Mar 2021)



Source: Islamic Republic of Afghanistan, Counter Narcotics Police of Afghanistan (CNPA) laboratory, 2021. Note: Only 1 sample contained both MDMA and methamphetamine.

- an “ecstasy” type (containing MDMA and no methamphetamine or opioids),
- a methamphetamine type (containing no MDMA or opioids), and
- a type containing methamphetamine plus opioid(s).

‘Tablet K’ samples containing only opioids and no methamphetamine were not present among the over 500 tablets analysed.

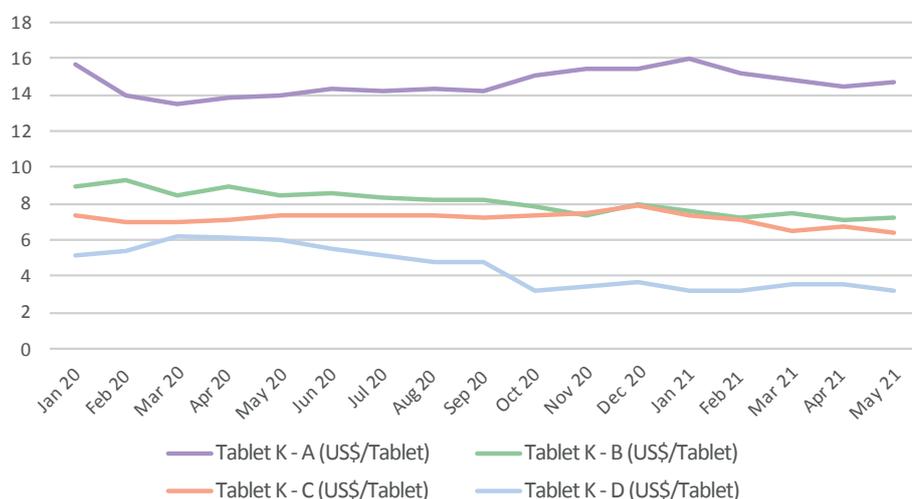
Just under a quarter of all samples (125 or 23 per cent) contained

MDMA and no methamphetamine or heroin. Almost all of these “ecstasy” type ‘tablet Ks’ contained MDMA as the only psychoactive substance. Only one tablet contained MDMA plus methamphetamine. As synthesis of MDMA has not been reported in Afghanistan, it is likely that the MDMA present in these tablets was imported into Afghanistan in powder or tablet form.

The presumably imported, “ecstasy”-type ‘tablet K’ might relate to category A, the highest of four price categories of

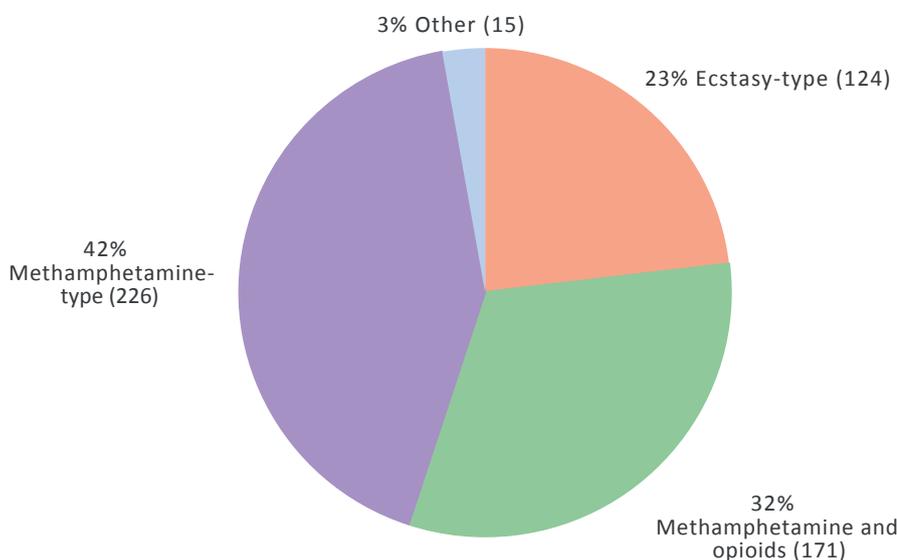
‘tablet K’ categories of the drug price monitoring system in Afghanistan. With US\$ 15 to US\$16 per tablet, prices for category A ‘tablet Ks’ were consistently higher than other price types, with about double the price of type B and C and four times the price of type D.²⁹ It is not unconceivable that “ecstasy” tablets imported from Europe would be sold at category A price levels in Afghanistan as, for example, in 2019, retail prices of “ecstasy” tablets in European Union countries ranged between €5 and €14 per tablet.³⁰

FIG. 6: National average monthly prices of ‘tablet K’ in Afghanistan by price category, Jan 2020 to May 2021 (US\$ per tablet)



Source: Islamic Republic of Afghanistan, Afghanistan Drug Price Monitoring Monthly reports.

FIG. 7: Types of ‘tablet K’ samples analyzed in Afghanistan (Sep 2020 – Mar 2021)



Source: Islamic Republic of Afghanistan, Counter Narcotics Police of Afghanistan (CNPA) laboratory, 2021.

Methamphetamine in ‘tablet K’

Almost three quarters of the samples (398 or 74 per cent) analysed in the laboratory contained methamphetamine, often in combination with caffeine (in 199 or 50 per cent of samples), a common adulterant in illicitly produced tablets with stimulant effect, as well as a range of pharmaceuticals commonly found for example in cold medication, such as antihistamines (in 127 or 32 per cent of samples) and / or dextromethorphan (in 74 or 19 per cent of samples).

Opioids in ‘tablet K’

Opioids are depressants, i.e., they are working in the “opposite” direction compared to drugs with stimulant effect such as amphetamine, methamphetamine and MDMA. Illicitly produced tablets with stimulant effects available in South-East Asia, for example the methamphetamine tablets known as ‘yaba’, and the amphetamine tablets sold as “captagon” in the Near and Middle East, consequently, do not usually contain opioids. In view of this, the identification of opioids in a large number of ‘tablet K’ samples was unexpected. Heroin-related substances were identified in one third (132 or 33 per cent) of samples containing methamphetamine, and tramadol in 67 or 17 per cent of samples. A considerable number of samples contained heroin-related substances as well as tramadol.³¹

Concomitant use of methamphetamine with opioids

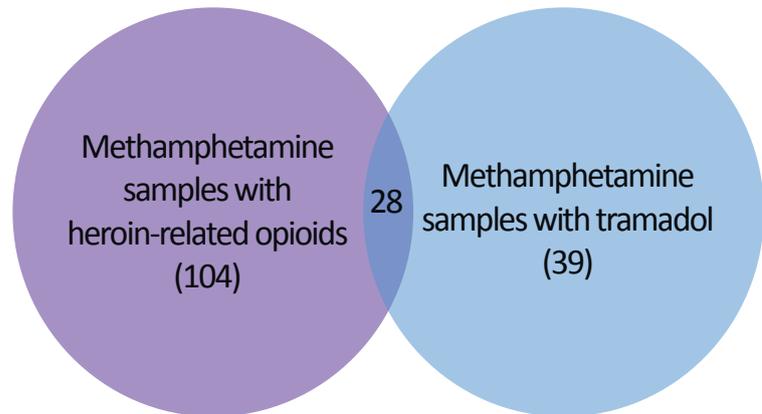
Methamphetamine plus opioids, such as heroin and tramadol, was identified in 171 (32 per cent) 'tablet K' samples. A co-presentation of methamphetamine and opioids was only found in tablets not containing MDMA. In view of the fact that large amounts of opium, morphine and heroin are produced in Afghanistan illicitly from locally grown opium poppy, it seems likely that the heroin was sourced locally. Tramadol, a pharmaceutical opioid available for medical purposes in many countries, was identified in 67 samples. Tramadol is not produced in Afghanistan but available as a pharmaceutical in tablet form. Its co-presence with methamphetamine in a total of 67 'tablet K' samples points to the intentional production of a tablet with both stimulant and opioid effects, possibly to cater for users who seek a drug with a that combination.

Concomitant use of opioids and methamphetamine has been reported from Afghanistan and other countries.³² However, the presence of 'tablet Ks' containing both methamphetamine and opioids indicates not only concomitant use, whereby different drugs may be taken sequentially, but also co-administration. As the different compounds identified in the 'tablet K' samples were not quantified, it cannot be determined if the dose present in the tablets would have been sufficient to produce a noticeable opioid effect in users.

The methamphetamine-only type of 'tablet K'

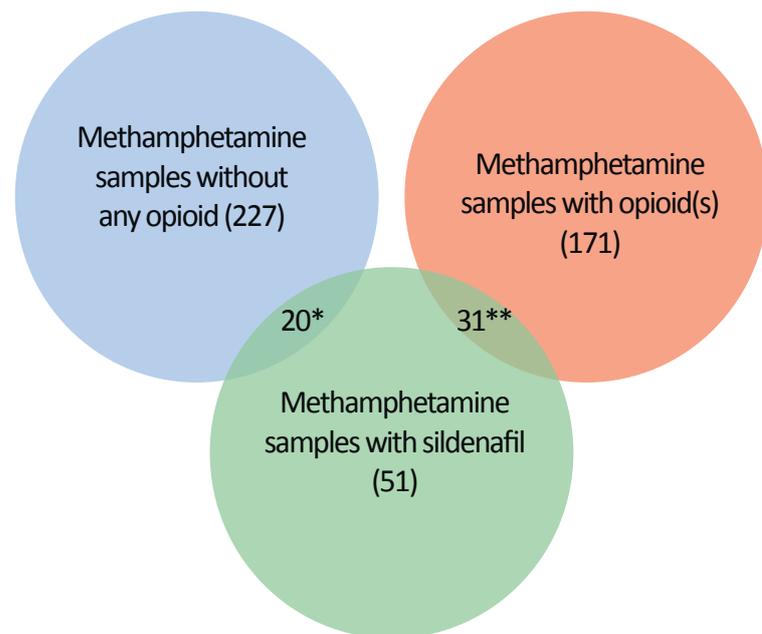
Half of the 'tablet K' samples analysed (266 or 50 per cent) contained methamphetamine as the only psychoactive substance, i.e., no MDMA or opioids. Interestingly, a considerable number of the methamphetamine-only samples (93) did neither contain adulterants such as caffeine nor antihistamines or dextromethorphan. This does not necessarily imply that these tablets contained a high dose of methamphetamine, as fillers and

FIG. 8: 'Tablet K' samples containing opioids analysed in Afghanistan (Sep 2020 – Mar 2021)



Source: Islamic Republic of Afghanistan, Counter Narcotics Police of Afghanistan (CNPA) laboratory, 2021.

FIG. 9: Methamphetamine-type 'tablet K' samples analysed in Afghanistan (Sep 2020 – Mar 2021)



Source: Islamic Republic of Afghanistan, Counter Narcotics Police of Afghanistan (CNPA) laboratory, 2021.

Note: *Methamphetamine samples with sildenafil but no opioid. **Methamphetamine samples with sildenafil plus one or more opioids (including heroin, 6-MAM, acetylcodeine, noscapine, codeine, tramadol).

diluents, which may represent the main ingredient by weight of tablets, were not targeted by the analysis. The absence of caffeine, a substance with stimulant effect, in a comparatively large number of samples constitutes a significant difference to stimulant tablets sold on illicit markets in other regions, which frequently contain caffeine as an adulterant and main ingredient by weight.³³

Sildenafil in 'tablet K' samples

Sildenafil, sold under the brand name Viagra among others, is a pharmaceutical used to treat erectile dysfunction and pulmonary arterial hypertension. It is not a common adulterant of methamphetamine or heroin but has gained prominence as pharmaceutical sold outside of a medical context.³⁴ Sildenafil was found in 51 (10 per cent) of all 'tablet K' samples, both in the methamphetamine-only type (20 samples)

FIG. 10: Tablets containing sildenafil and no methamphetamine and / or opioids, analysed in Afghanistan (Sep 2020 – Mar 2021)



F/1: Sildenafil

F/2: Sildenafil

F/3: Sildenafil

F/4: Sildenafil

Source: Islamic Republic of Afghanistan, Counter Narcotics Police of Afghanistan (CNPA) laboratory, 2021.

FIG. 11: Tablet containing MDMA while resembling a pharmaceutical sildenafil product, analysed in Afghanistan (Sep 2020 – Mar 2021)



D/3: MDMA

Source: Islamic Republic of Afghanistan, Counter Narcotics Police of Afghanistan (CNPA) laboratory, 2021.

and in the methamphetamine plus opioid type (31 samples). Four additional tablet samples contained only sildenafil, and one sample contained MDMA and sildenafil. Sildenafil was identified in only one of the 125 MDMA-type 'tablet K' samples and is clearly not a typical adulterant for this type.

Four tablet samples contained only sildenafil and no methamphetamine, opioids or MDMA. They looked markedly different from the "ecstasy" appearance of other 'tablet K' samples. It is, however, not known if these tablets were intended to be sold as 'tablet K' or under a different name. One sample (case F, sample 1) containing sildenafil seemed to resemble a pharmaceutical product, which, as

a genuine product, contains 100 mg sildenafil and is marketed in India (for example as Caverta or Vigore 100). In the framework of this analysis, it was not possible to confirm whether this specific sample was indeed the genuine pharmaceutical product or falsified. The presence of a tablet (case D, sample 3) that contained MDMA and no sildenafil but looked similar to a tablet containing only sildenafil (case F, sample 1) demonstrates how misleading the visual aspect of these tablets can be and that falsification of pharmaceuticals is likely an additional feature of the illicit synthetic tablet market in Afghanistan.

How widespread is 'tablet K'?

The monthly price monitoring reports of the Government of Afghanistan, which include 'tablet K' prices since October 2019, indicate some degree of persistence on the market across time and availability throughout the country. The availability of 'tablet K' and its use among youth was corroborated by a drug use survey conducted in 2020 among upper-secondary school students, in which 1.8 per cent of respondents reported the use of 'tablet K' in the past year and 2.5 per cent lifetime use, with the prevalence of males being three to four times higher than that of females.³⁵

The self-reported prevalence of 'tablet K' in this survey was higher than of methamphetamine. Although sometimes described as an "urban" drug by experts, prevalence of 'tablet K' use in urban areas did not differ significantly from rural areas in the survey. However, strong regional differences were observed, with prevalence of 'tablet K' use in the Eastern (bordering Pakistan) and Northeastern (bordering Tajikistan) regions being two to three times higher than the average.

Potential precursors for methamphetamine manufacture in Afghanistan

Until recently, the only drugs known to be produced illicitly in Afghanistan were derived from agricultural plants, namely opium poppy (opium, morphine, heroin) and cannabis (cannabis resin). One of the simplest ways of manufacturing methamphetamine is starting from ephedrine or pseudoephedrine (henceforth: ephedrines). The transformation of ephedrines into methamphetamine is essentially a one-step process which can be performed with limited chemical knowledge. This synthesis route has the additional advantage that it directly yields so-called d-methamphetamine, the more potent of the two methamphetamine isomers. Indeed, the available information points to ephedrines as main precursor chemicals of methamphetamine manufacture in Afghanistan,³⁶ which can potentially stem from three main sources:

- Bulk ephedrines from pharmaceutical industry, imported into Afghanistan and diverted, there, or smuggled into the country, circumventing the official licensing system: Likely, during the synthesis, practically the complete amount of ephedrines would be converted into methamphetamine leaving only trace amounts, if any, in the final product. In 2020, Afghanistan reported licit requirements of 350 kg of (pseudo)ephedrine and 400 kg of preparations containing (pseudo)ephedrine to International Narcotics

Control Board (INCB).³⁷ Comparing these amounts with recent methamphetamine seizures of over 1 ton per year it seems unlikely that ephedrine diverted within the country play a major role, whereas ephedrine smuggled into the country would be a plausible option.

- Ephedrine extracted from pharmaceutical products such as cold medication: As cold medications are often combination products containing, for example, antipyretics such as paracetamol, antihistamines, and cough-suppressants (e.g. dextromethorphan), at least trace amounts of these ingredients are likely to be present in the final product.
- Ephedrine extracted from plant material: Ephedrine derives its name from the ephedra plant. Several ephedra species occur naturally in the mountains of Afghanistan, typically as a scrub, and in many other parts of the world.³⁸ Plant material contains a large number of different substances and their traces or traces of their synthesis products would be identifiable in the final product as impurities.

Cold medication as a source of precursors

The available information indicates that all these sources play a role. Of the methamphetamine-type 'tablet K' samples analysed, 46 per cent (185 samples) contained one or more pharmaceuticals also found in cold medication, whose formulation contains ephedrine, and could therefore be used as a precursor source. Indeed, almost all the combinations of pharmaceuticals found in 'tablet K' samples could be linked to preparations licensed for sale in Afghanistan and / or Pakistan. Thus, it is highly likely that ephedrine extracted from cold medication play a role as precursors in the manufacture of methamphetamine in Afghanistan.

Table 2: Combinations of pharmaceuticals identified in methamphetamine-type 'tablet K' samples analysed in Afghanistan (Sep 2020 – Mar 2021)

| | Pharmaceuticals* | Combination occurs in cold medication containing ephedrine** | Number of samples | % of total (n=398) |
|---|---|--|-------------------|--------------------|
| A | Chlorpheniramine | Yes | 76 | 19.1% |
| B | Dextromethorphan | Yes | 47 | 11.8% |
| C | Chlorpheniramine, dextromethorphan | Yes | 25 | 6.3% |
| D | Chlorpheniramine, codeine | Possibly combination of (A) + (J) | 10 | 2.5% |
| E | Paracetamol | Yes | 10 | 2.5% |
| F | Diphenhydramine | Could not be established | 6 | 1.5% |
| G | Paracetamol, codeine, chlorpheniramine | Possibly combination of (H) + (J) | 4 | 1.0% |
| H | Paracetamol, chlorpheniramine | Yes | 4 | 1.0% |
| I | Paracetamol, chlorpheniramine, dextromethorphan | Yes | 1 | 0.3% |
| K | Diphenhydramine, dextromethorphan | Yes | 1 | 0.3% |
| J | Codeine | Could not be established (a preparation containing paracetamol + codeine exists) | 1 | 0.3% |

Source: Islamic Republic of Afghanistan, Counter Narcotics Police of Afghanistan (CNPA) laboratory, 2021. Note: * For this analysis, diphenhydramine, paracetamol, dextromethorphan, chlorpheniramine and codeine were considered. May contain other substances. ** Products licensed by the Drug Regulatory Authority (DRA) Pakistan and / or the Ministry of Public Health Afghanistan (2014) that contain ephedrine and at least one pharmaceutical also identified in 'tablet K' samples. Products licensed in other countries were not considered for this analysis.

Is ephedra plant material a main source of precursors?

Dimethylamphetamine is a likely by-product found in methamphetamine products for which plant-based ephedrine were used.³⁹ It was only identified in 8 samples or 2 per cent of all samples containing methamphetamine. It cannot be excluded that dimethylamphetamine was present in a larger number of samples but in amounts below the level of detection of the analytical method used. However, in the dataset used for this analysis, ephedrine extracted from pharmaceutical preparations and / or bulk

pharmaceutical ephedrine seem to play a more prominent role. The dataset used in this analysis did not reveal evidence of the use of other precursors than ephedrine such as P2P.

CONCLUSIONS

The global synthetic drug market is driven by a diverse set of regional dynamics.⁴⁰ Past examples from Asia, Europe and the Americas indicate that the transition from a predominantly plant-based illicit drug economy to an illicit economy with a strong synthetic drug component can happen within the course of a few years. In South-East Asia, for example, a predominately opium-based drug production transformed into a large methamphetamine economy within less than a decade, supplying one of the largest methamphetamine markets worldwide Asia and Oceania. In North America, organized criminal groups diversified their cocaine, heroin and cannabis-based business model by first adding methamphetamine and more recently fentanyl manufacture. In Europe, an existing synthetic drug manufacture with a focus on amphetamine and MDMA diversified and expanded to also

produce high potency/ purity methamphetamine in larger amounts for export, with the collaboration of Mexican cartels.⁴¹

In view of these developments, Afghanistan may no longer seem such an unlikely place for synthetic drug manufacture and constitute just the latest example of a largely plant-based drug economy embracing synthetic drug manufacture. Drug trafficking routes for opium, heroin and cannabis products already exist, northwards to Central Asia and the Russian Federation, westwards through Iran with an already sizable methamphetamine user population and further towards Europe, and southwards, with access to maritime routes leading to Africa as well as the large and lucrative methamphetamine markets of Asia and Oceania.

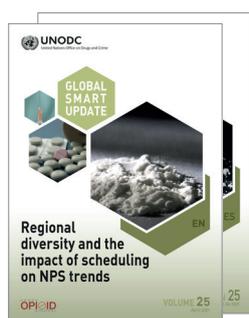
While traffickers may continue to exploit the local ephedra plant as a source of precursors, other sources such as bulk pharmaceutical ephedrines or ephedrines extracted from pharmaceuticals will likely play a more prominent role. Preventing their diversion and smuggling into Afghanistan across the long Afghan border with its complex geography will likely remain a challenging task for any government.

There is a potential for methamphetamine manufacture to remain a feature of the drug problem in Afghanistan and to expand, posing a health threat for the population both in the country and beyond. In view of this, clandestine manufacture of methamphetamine in Afghanistan should receive an equal amount of attention as heroin production.

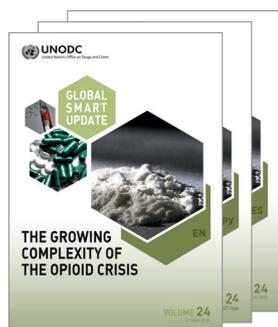
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- 1 UNODC, *World Drug Report 2021* (United Nations publication, Sales No. E.21.XI.8).
- 2 UNODC, responses to the annual report questionnaire.
- 3 UNODC, *Global Synthetic Drugs Assessment 2020* (United Nations publication, Sales No. E.20.XI.9).
- 4 UNODC, responses to the annual report questionnaire.
- 5 UNODC, *Global Synthetic Drugs Assessment 2020* (United Nations publication, Sales No. E.20.XI.9).
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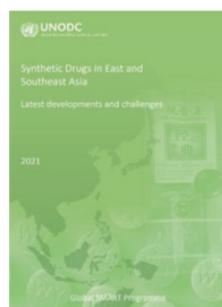
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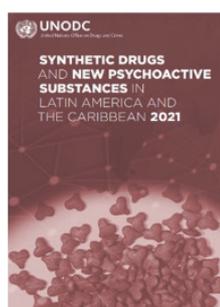
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