Global Opioid Situation: A perspective from the United Arab Emirates

Hesham Farouk Elarabi
Consultant- National Rehabilitation Centre – Abu Dhabi, UAE
World Health Organization Collaborative Center
Hesham.alarabi@nrc.gov.ae
Disclosures

- No relevant disclosures or conflict of interest to be made.

- This presentation does not discuss any off-label use.
Content

- Burden of Opioid Use Disorder (Epidemiology/Impact)
- Policy Interventions
- Solutions (innovative/creative)
- Successes/Failures
Learning objectives

- Describe the current situation related to Opioid Use Disorder (OUD) in the United Arab Emirates (UAE)
- Critical analysis of the challenges observed with opioid use disorder in the UAE
- Critical appraisal of the UAE based responses to challenges with OUD.
Context

➢ UAE is geographically located close to production zones.

➢ Transit and destination country.

➢ Rapidly changing landscape of substance use coupled with lack of comprehensive surveillance system.

➢ Primary opioid use represents 27% to 40% of total substance use.

➢ Opioid use is a criminal offense subjected to an imprisonment sentence of up-to 4 years **yet** no criminal proceedings are enacted when individuals seek treatment voluntarily or on their first offense.
MAIN DRUGS 2006 (or latest year)

Note: Data generally account for primary drug use; therefore polydrug use may increase totals beyond 100%.
Sources: UNODC, Annual Reports Questionnaire Data/DELT and National Government Reports.
SITUATIONAL ANALYSIS: REGIONAL REVIEW OF THE SUBSTANCE USE ATLAS 2015

Middle East & North Africa (MENA) Countries
Major Drug Trafficking Routes

Source: UNODC, responses to the annual report questionnaire, and individual drug seizure database.

* A darker shade indicates a larger amount of heroin being seized with the country as source/transit/destination. The size of the route is based on the total amount seized on that route, according to the information on trafficking routes provided by Member States in the annual report questionnaire, individual drug seizures and other official documents, over the 2014–2018 period. The routes are determined on the basis of reported country of departure/transit and destination in these sources. As such, they need to be considered as broadly indicative of existing trafficking routes while several secondary routes may not be reflected. Route arrows represent the direction of trafficking: origins of the arrows indicate either the area of consumption or the one of next destination of trafficking. Therefore, the trafficking origin does not reflect the country in which the substance was produced. The main countries mentioned as transit or destination were identified on the basis of both the number of times they were identified by other Member States as departure/transit or destination of seizures, and the annual average amount that these seizures represent during the 2014–2018 period. For more details on the criteria used, please see the Methodology section of the present report.

The boundaries and names shown on this map do not imply official endorsement or acceptance by the United Nations. The dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties.
National Rehabilitation Center

- Established in 2002 as a specialized addiction treatment and care, and prevention facility
- In 2010, was mandated as an addiction response center (*treatment and care, rehabilitation, research and innovation, prevention and early intervention, human capacity building, policy and legislative development and advocacy, surveillance*)
Challenges

- Limited service capacity and spectrum of care
- Limited access to medication assisted treatment *(provided by only one service in the country)*
- Limited availability of medication assisted treatment (<10%) due to:
  - increasing reports of diversion,
  - non adherence (abuse),
  - polysubstance use (73.7% use 2 or more non opioid substances)
- Stigma
Epidemiology

15,000 to 28,000 people with OUD
*In the aged 15–64, are estimated to have used opioid over the previous year*

0.16% to 0.28%
Of the population

27% to 40% of total substance use population is primary opioid use

526%
Increase from 1990 to 2010

0.23%
of total mortality
# Patient profile (1/2)

<table>
<thead>
<tr>
<th></th>
<th>Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>29.0 (8.16)</td>
</tr>
<tr>
<td>Age of first drug use</td>
<td>17.74 (4.13)</td>
</tr>
<tr>
<td>Duration of illness</td>
<td>11.4 (7.60)</td>
</tr>
<tr>
<td>Family history of substance use</td>
<td>14.9%</td>
</tr>
<tr>
<td>Heroin/ Morphine Injecting Drug Use</td>
<td>47.5%</td>
</tr>
<tr>
<td>Heroin/ Morphine Non Injecting Drug Use</td>
<td>30.5%</td>
</tr>
<tr>
<td>Hepatitis B /Hepatitis C</td>
<td>12%</td>
</tr>
<tr>
<td>Prescription opioids (Tramadol)</td>
<td>22.0%</td>
</tr>
<tr>
<td>Polysubstance use (Use of two or more non-opioid substances in addiction to the primary opioid use)</td>
<td><strong>73.7%</strong> (Pregabalin:72.1%, Benzodiazepine 40.5% Tetrahydrocannabinol 37.5% Carisprodol 20.8%, Captegon 19.2% Trihexphenidyl/Procyclidine 22.1%, Alcohol 15.8%)</td>
</tr>
<tr>
<td>Non fatal opioid use in total</td>
<td>24.8%</td>
</tr>
<tr>
<td>Proportional risk hazard of nonfatal opioid use due to polysubstance use</td>
<td><strong>Odds Ratio 3.83</strong>, 95% CI 1.25 to 11.71</td>
</tr>
<tr>
<td>Proportional risk hazard of nonfatal opioid use due to Carisprodol</td>
<td><strong>Odds Ratio 5.31</strong>, 95% CI 1.92 to 14.65</td>
</tr>
</tbody>
</table>
## Patient profile (2/2)

<table>
<thead>
<tr>
<th>Disorder</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression</td>
<td></td>
</tr>
<tr>
<td>Mild</td>
<td>17</td>
</tr>
<tr>
<td>Moderate</td>
<td>26.4</td>
</tr>
<tr>
<td>Moderate - Severe</td>
<td>22.0</td>
</tr>
<tr>
<td>Severe</td>
<td>29</td>
</tr>
<tr>
<td>Anxiety</td>
<td></td>
</tr>
<tr>
<td>Mild</td>
<td>23</td>
</tr>
<tr>
<td>Moderate</td>
<td>29</td>
</tr>
<tr>
<td>Severe</td>
<td>23.6</td>
</tr>
<tr>
<td>Mixed Anxiety Depression</td>
<td>60.5</td>
</tr>
<tr>
<td>Poor Quality of sleep</td>
<td>75</td>
</tr>
</tbody>
</table>
Disease burden using economic methods

- Drug use disorders represent 0.71% of total DALYS
- A population based economic assessment estimated the substance use disease burden of **5.4 Billion or 1.4%** of the gross domestic product.

<table>
<thead>
<tr>
<th></th>
<th>Cost in USD</th>
<th>% of the cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Productivity loss</td>
<td>4.79 billions dollars</td>
<td>88%</td>
</tr>
<tr>
<td>Criminal justice system</td>
<td>0.65 billion dollars</td>
<td>12%</td>
</tr>
<tr>
<td>system cost excluding</td>
<td></td>
<td></td>
</tr>
<tr>
<td>prosecution</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health care costs</td>
<td>0.023 billion dollars</td>
<td>0.4%</td>
</tr>
</tbody>
</table>

*Did not account for private costs like cost of illicit drug purchase*
Disease burden using psychometric methods

- In 2015, economic assessment using psychometrics at patient level, estimated the median annual cost of OUD in USD at 146,783.4 (114,752 – 234,318)
- Severely impaired according to social function impairment assessment
- Median history of imprisonment episode 1.0 (0.0 - 3.0)

<table>
<thead>
<tr>
<th></th>
<th>Annual cost in USD</th>
<th>% of total cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Productivity loss</td>
<td>34,656 (28,055 – 25,992)</td>
<td>23.6%</td>
</tr>
<tr>
<td>Criminal justice system cost</td>
<td>29,740 (0.00 – 6126)</td>
<td>20.2%</td>
</tr>
<tr>
<td>excluding prosecution*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cost of illicit drug purchase</td>
<td>82,139.5 (36,715–82,139.5)</td>
<td>56.2%</td>
</tr>
</tbody>
</table>

Used one year as duration of imprisonment; Did not account for downstream health care costs
Disease burden according to methodology

Psychometric methods

- Productivity loss: 23.60%
- Criminal justice system cost excluding prosecution: 20.20%
- Cost of illicit drug purchase: 56.20%

Economic methods

- Productivity loss: 0.40%
- Criminal justice system cost excluding prosecution: 12.00%
- Cost of illicit drug purchase: 87.60%
Responses

- Legislative and policy amendments
- Harm reduction policy
- Evidence based medicine
Legislative and policy amendments

- Reduction of imprisonment sentencing from 4 years to 2 years for illicit substance use.
- Facilitate voluntary treatment by expanding description of voluntary patients to those coerced to treatment upon request of 1st or 2nd degree family member.
- Inception of Drug Courts legislative bill (Post sentencing).
- Include opioid use as cause of death in post-mortem test are positive for opioids.
- Propose ‘Good Samaritan’ laws.
- Propose coverage in basic health insurance.
Harm reduction policy

- Distribution of naloxone emergency kits to first responders.
- Prescribing naloxone autoinjector for individuals with history of carisoprodol use.
- Close monitor for patients with polysubstance use on Medication Assisted Treatment using Buprenorphine.
- Generate surveillance reports on hot-spots for early intervention and prevention programs.
Pattern of use for prescription opioids by region

Abu Dhabi: 23%
Dubai and Northern Emirates: 77%
Innovative Interventions: expanding accessibility treatment

- Demonstrate cost-benefit of treatment.
- Demonstrate economic harm of opioid use.
- Demonstrate effectiveness of novel interventions focusing on monitoring adherence and abstinence + contingency management using unsupervised doses as incentive.
Effectiveness of incentivised adherence and abstinence monitoring in buprenorphine maintenance: a pragmatic, randomised controlled trial

Hesham Farouk Elarabi¹,², Mansour Shawky¹,³, Nael Mustafa¹, Doaa Radwan¹,⁴, Abuelgasim Elarasheed¹, Ahmed Yousif Ali¹, Mona Osman⁵, Ahmed Kashmar¹, Helal Al Kathiri¹, Tarek Gawad¹,⁶, Ayman Kodera¹, Mohammed Al Jneibi¹, Abdu Adem⁷, Amanda J. Lee⁸ & John Marsden²

National Rehabilitation Centre, Abu Dhabi, United Arab Emirates,¹ Addictions Department, Division of Academic Psychiatry, Institute of Psychiatry, Psychology and Neuroscience, King’s College London, UK² Department of Neuropsychiatry, Faculty of Medicine, Assuit University, Egypt³ Faculty of Medicine, Institute of Psychiatry, Ain Shams University, Egypt⁴ World Health Organization, Eastern Mediterranean Regional Office, Cairo, Egypt⁵ Faculty of Medicine, Cairo University, Egypt⁶ Department of Pharmacology and Therapeutics, College of Medicine and Health Sciences, Khalifa University, P.O.Box 127788, Abu Dhabi, United Arab, Emirates⁷ and Medical Statistics Team, University of Aberdeen, UK⁸

Therapeutic Drug Monitoring in Buprenorphine/Naloxone Treatment for Opioid Use Disorder: Clinical Feasibility and Optimizing Assay Precision

Authors
Hesham Farouk Elarabi¹,², Nael Hasan¹, John Marsden², Doaa Radwan¹,³, Abdu Adem⁴, Samya Almamari¹, Abuelgasim Elrasheed¹

Innovative Interventions: optimizing outcomes of treatment

- Evidence show that family engagement in treatment increases the chances of retention by 3-fold.
- Multiple barriers for family engagement including stigma, logistics, family stress and strain.
- Develop a family centered program addressing family needs and patient management.
- Family programs are being developed and delivered using digitized platforms and technology.
The impact of family engagement in opioid assisted treatment: Results from a randomised controlled trial

Hamad Al Ghafri¹, Nael Hasan¹, Hesham Farouk Elarabi¹,² ID, Doa Radwan¹,³, Mansour Shawky¹,⁴, Samya Al Mamari¹, Tarek Abdelgawad¹,⁵, Abuelgasim El Rashid¹,⁶, Ayman Kodera¹, Helal Al Kathiri¹, Amanda J Lee⁷ and Shamil Wanigaratne¹

Abstract

Background: Family interventions in substance use disorders (SUD) treatment is limited despite the evidence for benefits. Providing family interventions is hampered by patient resistance, social stigma, logistics and factors related to the capacity of the treatment programmes.

Aims: The purpose of the study was to examine the association between family engagement in treatment, and opioid use defined by percentage negative opioid screen and rate retention in treatment defined by completion of study period.

Methods: Data from a 16-week outpatient randomised controlled trial (RCT) of 141 adults with opioid use disorder (OUD) receiving Opioid Assisted Treatment (OAT) using buprenorphine/naloxone film (BUP/NX-F) was, used to examine the association between family engagement in and opioid use and rate of retention in treatment. Multiple logistic regression was, applied to examine the independent prediction of family engagement on opioid use and rate retention in treatment.

Results: Family engagement was significantly associated with retention in treatment (Spearman’s rho 0.25, p < 0.01) and was subsequently found to increase the likelihood of retention in treatment by approximately 3-fold (adjusted odds ratio (OR) 2.95, 95% CI 1.31–6.65).

Conclusion: Family engagement in treatment is an independent predictor of retention in treatment but not opioid use in adults receiving OAT. It is, recommended that SUD treatment programmes integrate family related interventions in mainstream treatment. Delivering a personalised multicomponent family programme using digitised virtual communications that has been increasingly utilised during the Covid-19 pandemic is highly suggested.
# Successes and Failures

<table>
<thead>
<tr>
<th>Successes</th>
<th>Failures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambulatory Care</td>
<td>Extended residential program</td>
</tr>
<tr>
<td>Maintenance Medication</td>
<td>Short term Medication Assisted Treatment / Abstinence based approach</td>
</tr>
<tr>
<td>Assisted Treatment / Recovery oriented systems of care</td>
<td></td>
</tr>
<tr>
<td>Real-time prescription control ?!</td>
<td>Real-time prescription control ?!</td>
</tr>
<tr>
<td></td>
<td>Supply reduction targeting users!</td>
</tr>
</tbody>
</table>
Moving Forward

- Re DEFINED treatment outcomes
- Developing a proto-type of a Point of Care Buprenorphine quantitation.
- Pre and post release prison programs.
- Examine social and individual stigma
References


THANK YOU