

Causes & Harms of Substance Abuse

29 Oct 2013

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Program Run-down

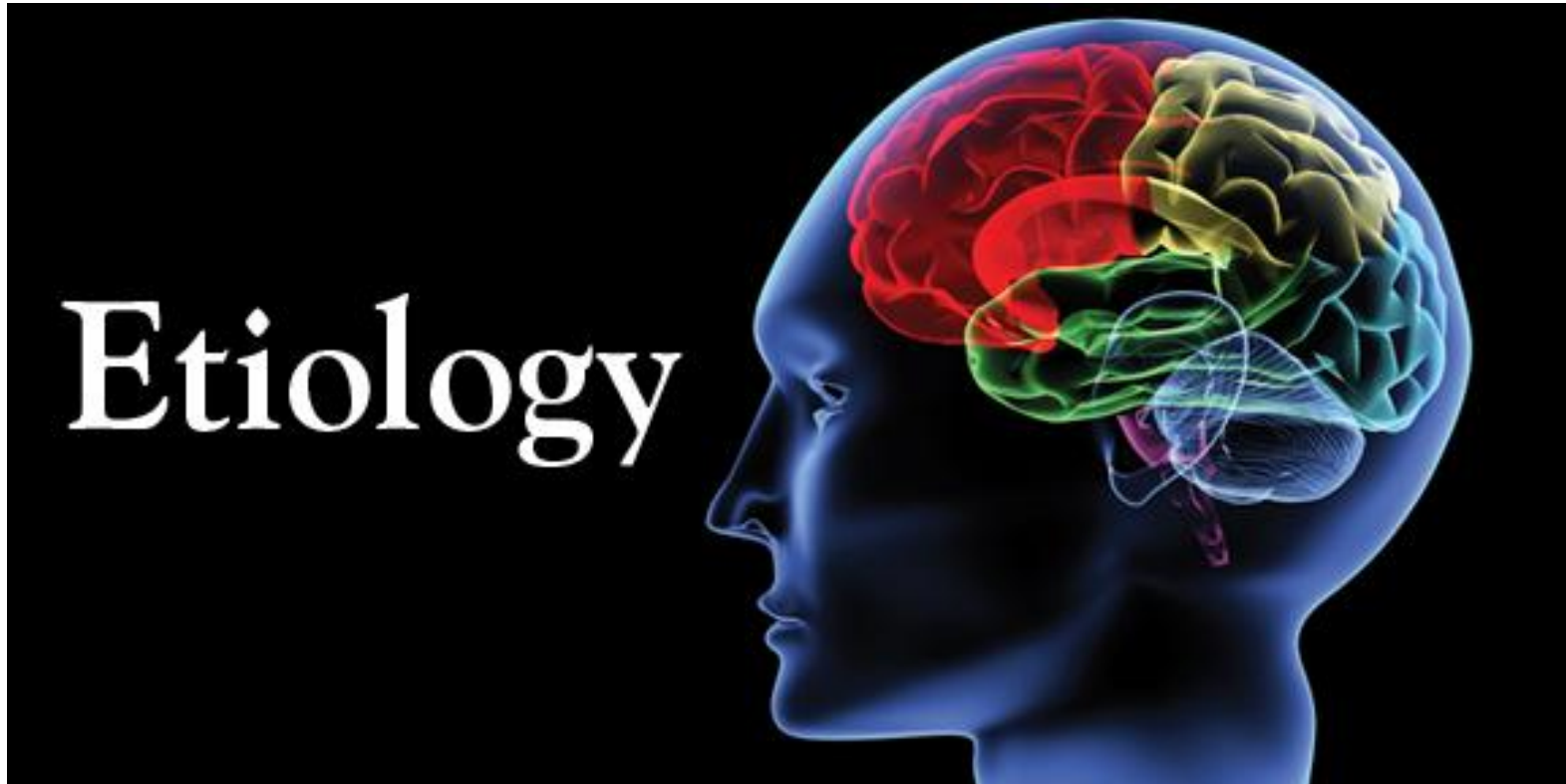
Time	Topic
9:30 – 9:45	Causes of substance abuse
9:45 -11:00	Harms of substance abuse
11:00-11:15	Break
11:15 – 11:30	Prevalence of dual diagnosis
11:30 – 12:20	Assessment in the community
12:20 – 12:30	Q&A

Causes (Etiology) of Substance Abuse

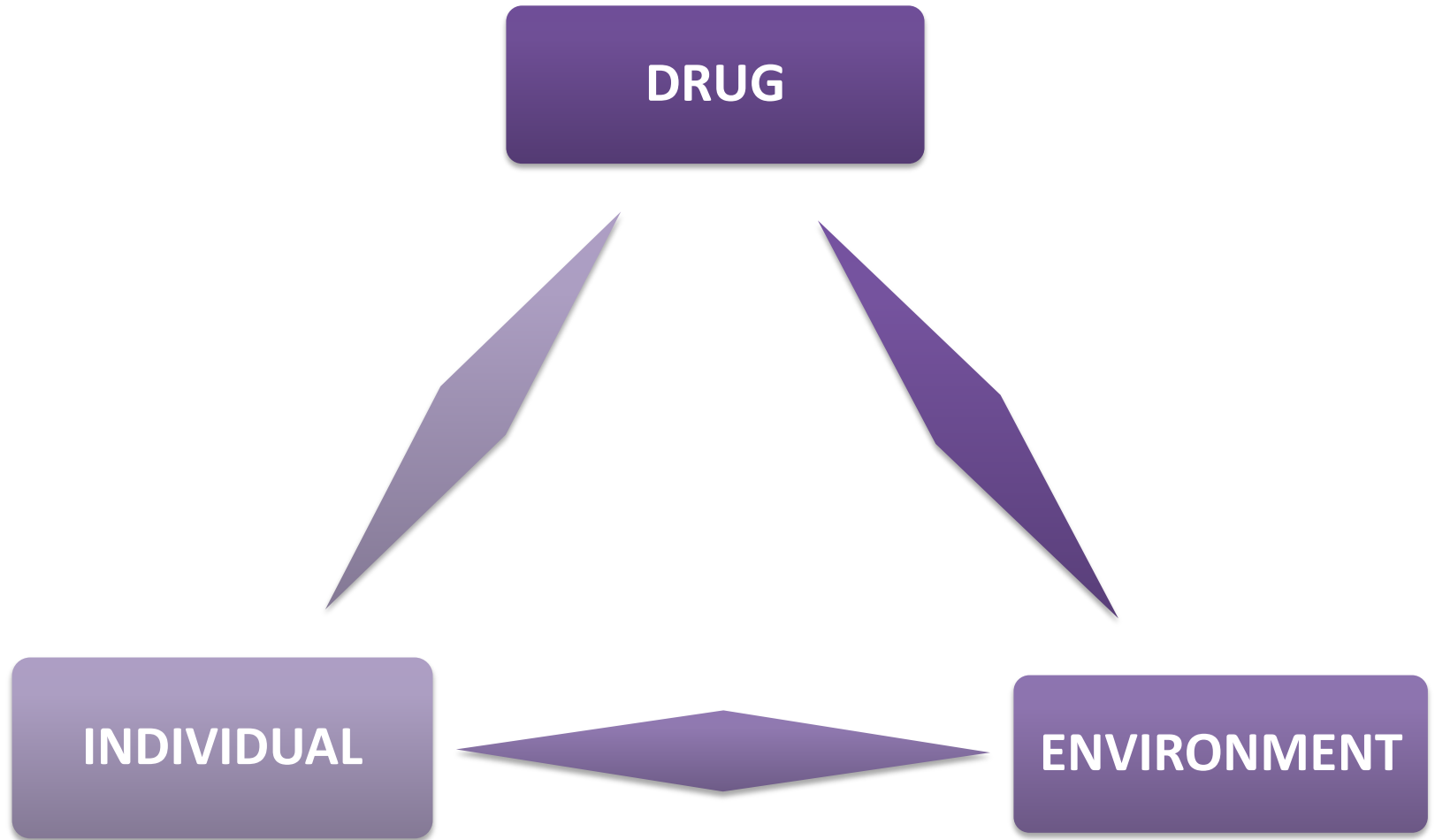
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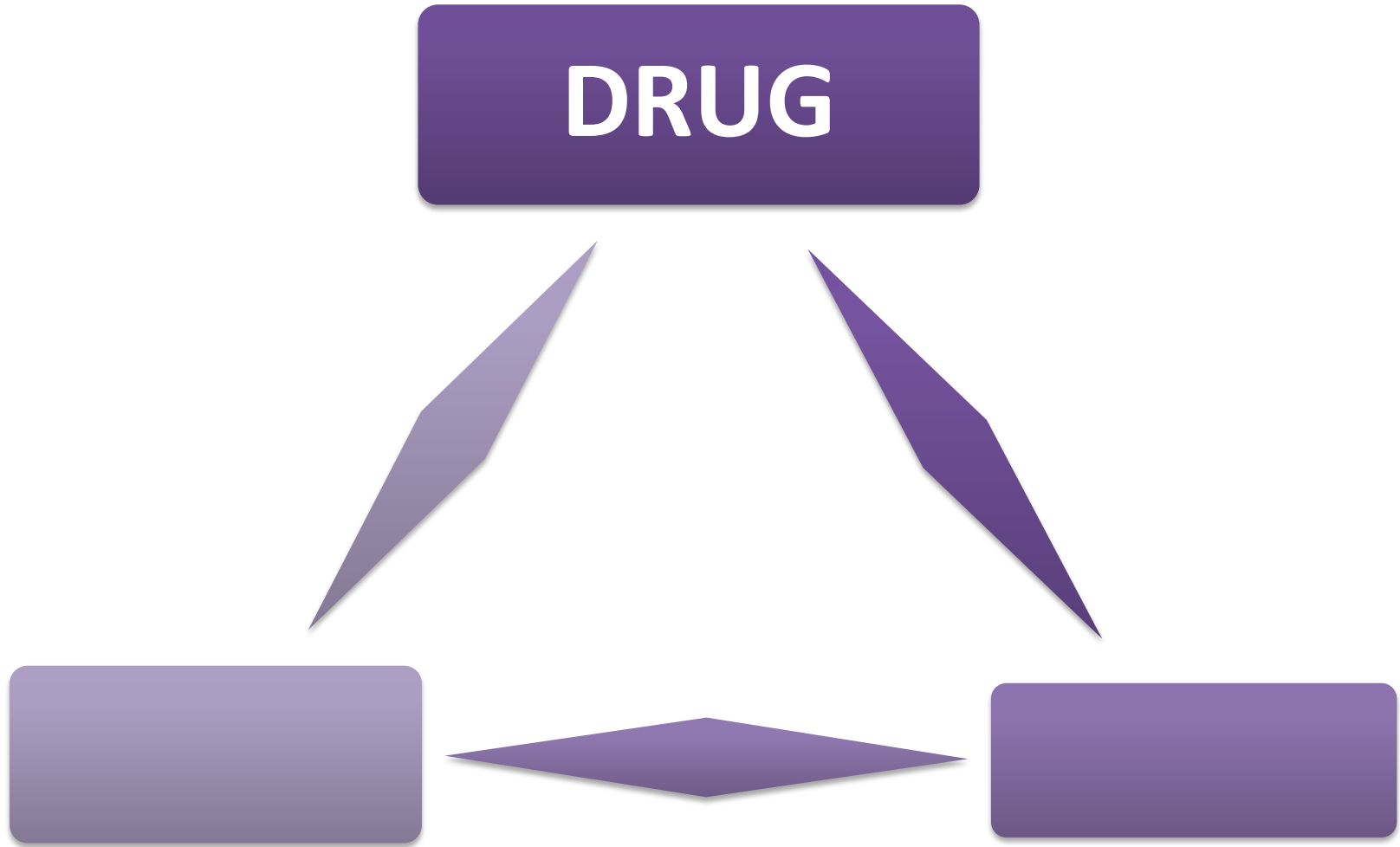


Etiology of substance abuse



Etiology of substance abuse

- Consequence of **interaction** between the drug, the individual and the environment
- None of the component factors alone is sufficient to cause drug dependence
- Their relative importance varies in different circumstances



DRUG

- Pleasurable effects
 - Euphoria
 - Relaxation
 - Increased energy
 - Detachment from reality
 - Perceptual changes

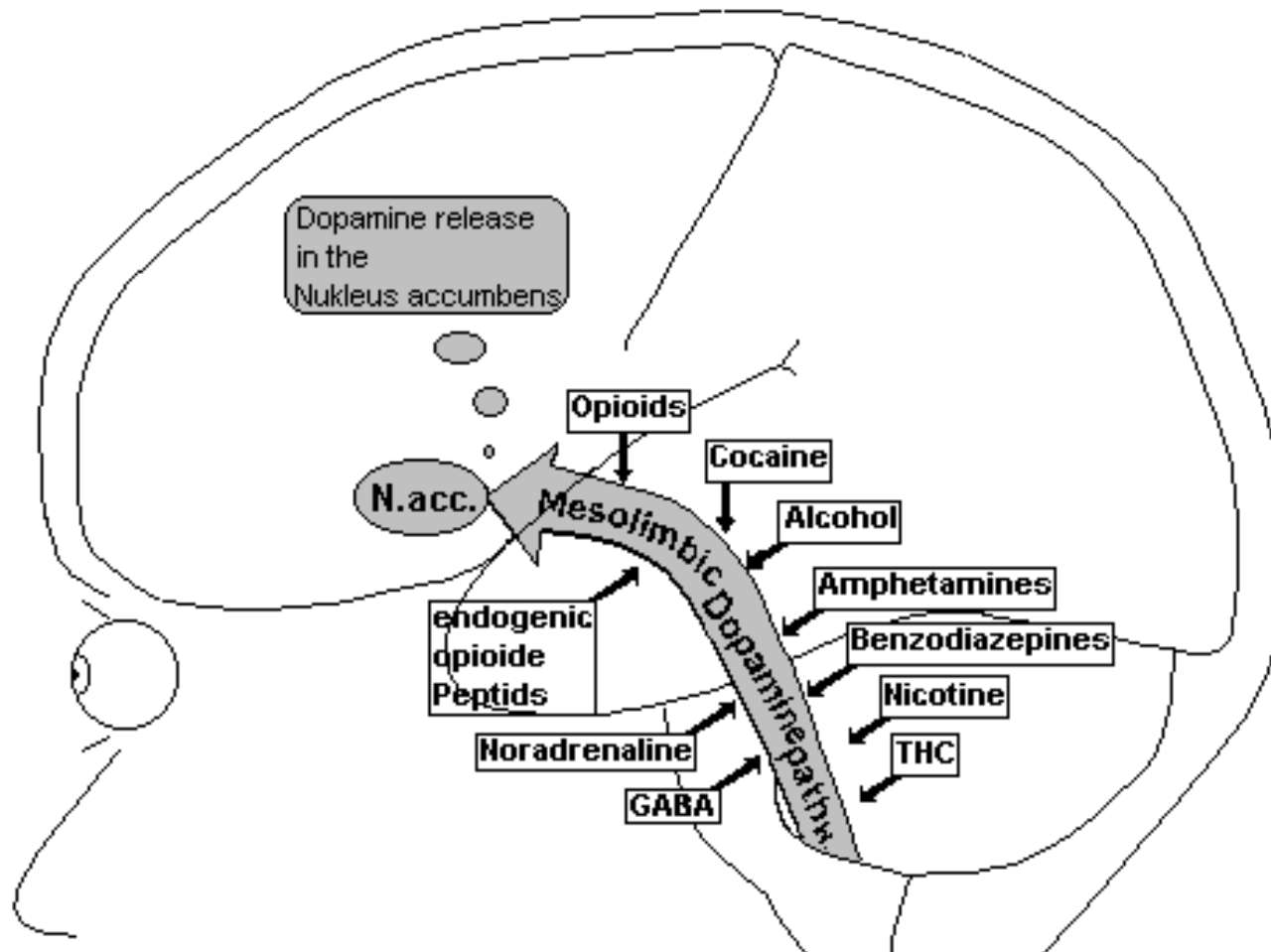
DRUG

- Dependence
 - Physical
 - Withdrawal symptoms – intense physical disturbances
 - Psychological
 - Craving – a strong desire to take drugs
 - “The drug is calling me”

DRUG

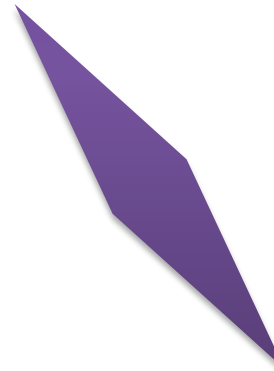
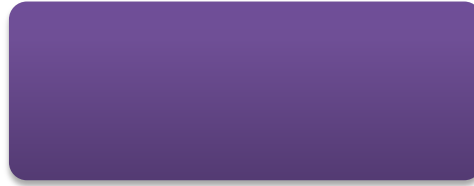
- Rewarding or reinforcing property
 - Best demonstrated by animal model
 - Repeated self-administration of several, but not all drugs
 - Centrally activating endogenous reward circuits
 - Essential to survival (e.g. water, food, warmth)
 - Dopamine

Rewarding system

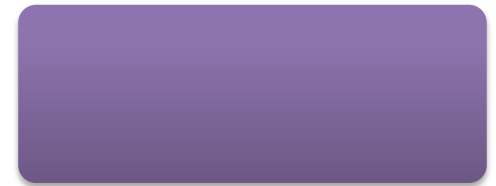


DRUG

- Purity and route of administration
 - High purity → greater potency
 - Intravenous injection form → ‘rush’
 - Convenient administration with same IV effect e.g. inhalation of crack to replace IV injection of cocaine hydrochloride



INDIVIDUAL



INDIVIDUAL

- Genetics
 - Mainly on alcohol, less data on illicit drugs
 - Alcohol dehydrogenase
 - Metabolize alcohol in liver
 - Some individuals are born with an inactive form
 - easy accumulation after alcohol consumption
 - easier and more intense toxic reaction
 - discourage further consumption

INDIVIDUAL

- Adverse upbringing
 - Emotional deprivation
 - Physical / sexual abuse
 - Poor parental role model
 - Lack of supervision

INDIVIDUAL

- Family
 - Loss of a parent
 - Frequent parental conflict
 - Lack of appropriate affection and guidance
 - Parental misbehavior
 - Family history of substance abuse / criminality

INDIVIDUAL

- Lack of traditional value
 - Rebelliousness
 - Resistance to social structures
 - Disregard of social expectations
 - Willingness to participate in deviant activities (e.g. truancy & sexual promiscuity)

INDIVIDUAL

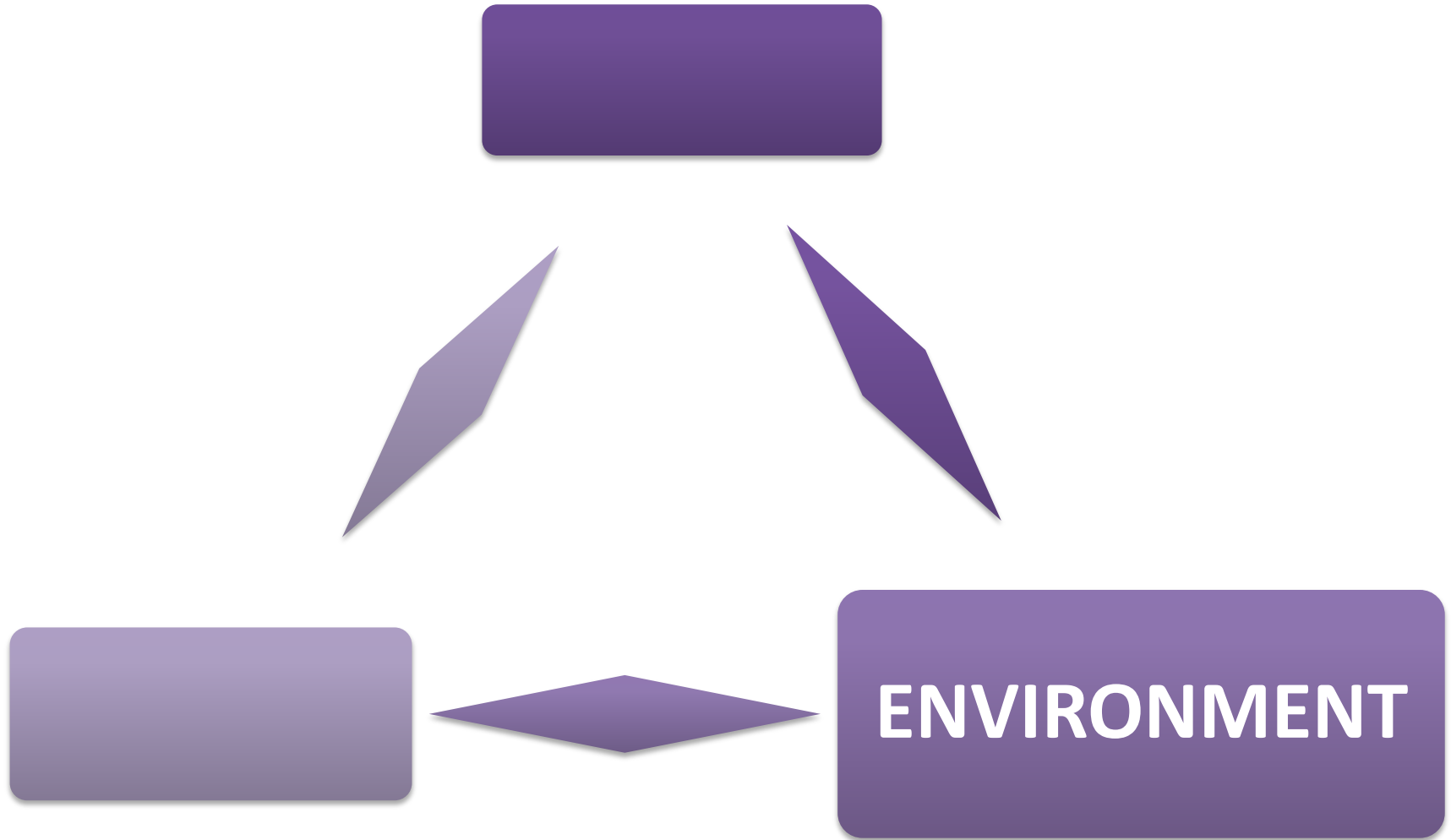
- Personality traits
 - Personality disorder is associated with a higher rate of substance abuse
 - Causal relationship cannot be deducted
 - Impulsive, risk taking and rebellious
 - Borderline personality disorder
 - Dissocial personality disorder

INDIVIDUAL

- Curiosity
 - Novelty seeking
 - Desire for new, pleasurable, thrilling and even dangerous experiences

INDIVIDUAL

- Self-medication
 - Drugs of abuse produce a relief from physical / psychological suffering
 - Physical
 - Chronic pain
 - Psychological
 - Depression / Anxiety disorder
 - Post-traumatic stress disorder (PTSD)



ENVIRONMENT

- General attitude to drugs and drug taking
 - Legal or not
 - Example
 - Alcohol / Tobacco is legal in almost all countries around the world
 - Legalization of cannabis use in Holland
 - Become incorporated into daily life
 - Widely advertised
 - Consumption is perceived as “normal” and “ordinary”

ENVIRONMENT

- ‘Legal’ use of ‘illicit’ drugs
 - Many psychoactive drugs are now manufactured for the treatment of mental illness e.g. hypnotics (Zopiclone, Zolpidem)
 - Easier for people to admit to symptoms of mental stress and gain the drugs
 - Opiate for pain control e.g. morphine or methadone for cancer patient → prolonged use and become dependent

ENVIRONMENT

- Availability
 - Readily available in market
 - Low cost
 - Easily transport or smuggle

ENVIRONMENT

- Deprived environment
 - Poverty
 - Low employment rate
 - High crime rate

ENVIRONMENT

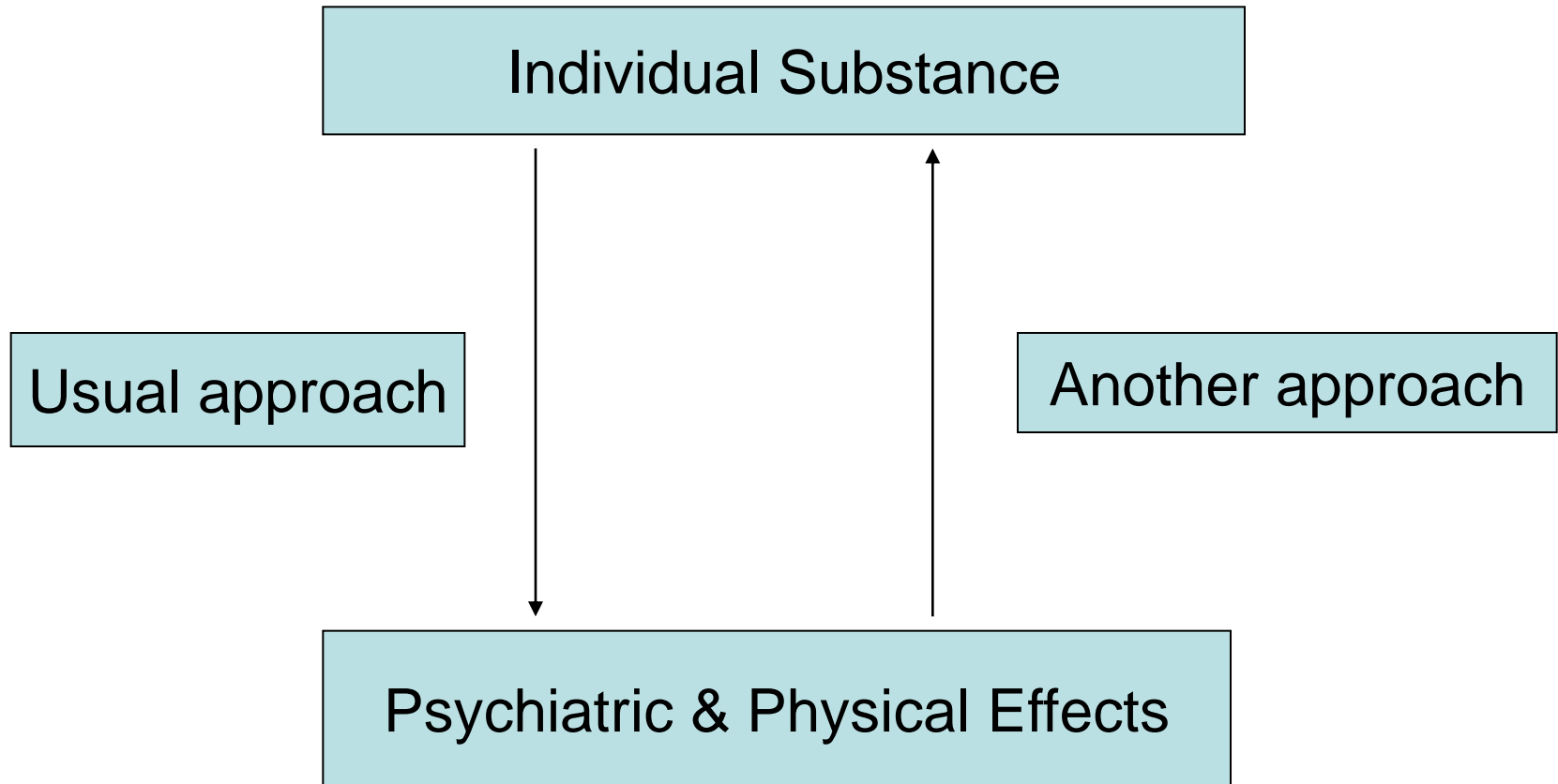
- Peer influence
 - Important determinant among the young group
 - Participation in drug taking allows entry to a group
 - Reinforces the identity of the group
 - Becomes a ritualistic behaviour

Harms of Substance Abuse

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Psychiatric Features

Relationship between SA & Psychopathology (精神病理)

6 possible correlations

1. substance intoxication → psychopathology
2. substance withdrawal → psychopathology
3. long term complications of SA
→ psychopathology e.g. flashback
4. psychopathology → SA
5. co-exist by chance
6. both caused by common third factor e.g.
personality disorder

TABLE 1: Important Psychiatric Features of Some Commonly Abused Drugs

MS \ DRUG	Alcohol		Opiate		Sedatives		Stimulant		Cannabis	Hallucinogens	Inhalants	MDMA	Ketamine
	I	W	I	W	I	W	I	W	I	I	I	I	I
Restless	✓ (L)	✓		✓	✓	✓	✓		✓	✓		✓	
Tremulous		✓		✓		✓	✓					✓	
Stereotyped behaviour							✓					✓	
Withdrawn	✓ (H)				✓			✓					✓
Talkative	✓ (L)						✓		✓				
↓ Speech	✓ (H)				✓			✓					✓
Labile mood	✓				✓		✓			✓		✓	
Elated	✓ (L)		✓				✓		✓		✓	✓	✓
Depressed	✓ (H)				✓		✓	✓					
Anxiety		✓					✓	✓	✓	✓		✓	✓
Delusion		✓					✓	✓	✓	✓		✓	✓
Hallucination	✓	✓					✓	✓	✓	✓	✓	✓	✓
Delirium	✓	✓			✓		✓	✓			✓		✓
Impaired memory	✓	✓			✓		✓		✓		✓	✓	✓
Bad trip							✓		✓	✓		✓	✓
Flash backs									✓	✓		✓	✓

(L) = Low dose
(H) = High dose

I = Intoxication
W = Withdrawal

(I) Delirium (譫妄/神智不清)

- Fluctuating disturbance of consciousness with reduced ability to sustain attention and global disturbance of cognition such as disorientation, memory deficit and perceptual distortions
- Disorientation: fail to tell the correct time, place or person

(I) Delirium

Substance	State	Special features
Alcohol	Intoxication	Alcohol smell
	Withdrawal	Tremor
Sedatives	Intoxication	History
	Withdrawal	Sudden convulsion
Stimulants	Intoxication	Psychotic sx
Inhalants	Intoxication	Inhalant smell



8-3-2013

(II) Acute Psychosis (精神錯亂)

- Psychosis: loss of contact with reality that occurs in a clear consciousness
- Hallucination (幻覺): a perception without an object (auditory, visual, tactile, olfactory, gustatory)
- Delusion (妄想): unshakable belief without evidence and is out keeping with the person's social & cultural background (persecution, reference, grandiose, control)
- Disorganized speech (胡言亂語): irrelevant, incoherent, neologism (invented new word)
- Disorganized behaviour (舉止失常): usually under influence of hallucination & delusion

(II) Acute Psychosis

Substance	State	Special features
Hallucinogens	Intoxication	Quick resolution
Ice	Intoxication	Repetitive mov't
Cocaine	Intoxication	Touch by insect
Cough mixture	Intoxication	Dental caries
Cannabis	Intoxication	Red eyes
MDMA	Intoxication	Repetitive mov't
Ketamine	Intoxication	K-hole
Sedatives	Withdrawal	Delirium
Alcohol	Withdrawal	Delirium

吸冰生幻覺 捉女友落街

街坊17樓救佳人 工人控企圖謀殺

【本報訊】染有毒癮的裝修工人，吸食冰毒後，行為怪異，聽到有聲音對他說女友出賣他，於是將女友扯出屋外，拖起從十八樓走廊拋出欄杆。九死一生之際，女友抓緊欄杆懸於半空，其間仍遭男友不斷用腳亂踩亂踢，最終幸得十七樓街坊勇救，逃出鬼門關。涉案的男子昨日在法院被控企圖謀殺罪。



強逼男女友從十八樓捉落街的區詠詩英倫報。

狠 心將女友扯下的被告劉國偉，二十七歲，他否認於九九一年一月十九日，在沙田禾輦邨順和樓十八樓走廊外，企圖謀殺現年十八歲的區詠詩。

女友力勸戒毒不果

主控官開案詞指出，被告跟事主於九七年六月認識後發展為愛侶並賦同居。同年十二月區知悉被告有吸食「冰」的習慣，力勸對方戒除不果。

案發前一日，兩人同返禾輦邨區詠詩的娘家，其間被告透露感到頭痛及失眠，表現緊張及用拳頭打牆，返抵家中後，被告依然表現怪異，甚至用刀指嚇女友兼語無倫次。

事發當日下午二時，事主及其幼妹均在禾輦邨家中，被告抵達後表示欲嘔吐，事主遂替他掃背，反被他責罵。事主的幼妹其後離開，二人在單位內看電視。

「信唔信捉你落街」

主控官稱，被告開始出現異常行爲，多次要求事主離開，事主未有理會，被告隨即起腳踢她臉部及扯着她頭髮到單位外，揚言「信唔信

我捉你落街」，並從後頸頸，抬起事主的身體從十八樓走廊拋出欄杆。

千鈞一髮之際事主抓緊欄杆，但一直向下滑，直至手肘觸及十八樓地面。主控官指被告沒有意圖拯救事主，甚至用腳踢其手部，並多次踩事主手部，藉以令事主跌下。懸於半空的事主最後由十七樓的街坊發現救回一命。

腳踢女友抓欄杆手

目擊案發的林班軍裝警員梁仲德昨供稱，當時準備出外，看見懸於半空的事主已被救下，當他四被被告於梯間相遇時，被告立即走回十八樓危坐欄杆揚言跳樓，梁遂跟四名街坊合力將他制服，救護員抵達後，須用繩網綁被告送院。

被告以院作尿液測試後證實於案發前曾吸食「冰」，十日後的小雅精神中心報告指他心理不正常。被告向醫生透露聽到有聲音對他說女友出賣他，感到憤怒及受刺激，遂將女友捉落街。醫生報告的結論是被告有意圖殺死事主。

案件編號：HC99
13A/99



●疑服食「冰」毒後驚性的男子，闖入地盤脫光衣服用水沖身。

9/18
43

失常漢剝光沖身被制服 疑服「冰」毒皮膚紅腫闖地盤

【本報訊】一名男子疑服食「冰」毒後，神志不清產生幻覺，昨晨衝入油蔴地填海區一個建築地盤，脫光衣服用消防喉沖身，看更報警將他制服送院治療，由於他曾

報案，指途經上址地盤時被高處墮下的腐性液體灼傷，警方接報派員到場調查，將名男子制服。由於他雙眼、胸及手部均出現紅腫情況，救護員恐他確實被腐蝕性液

(III) Prolonged Psychosis

- Duration is longer than expected (>1 month) after apparent stop of drug abuse
- Clinical experience showed that Ice-induced psychosis is usually persistent longer
- Think about the following possibilities:
 1. secretive use of illicit drugs
 2. independent psychosis
 3. flashbacks

(III) Prolonged Psychosis

- Evidence to support independent psychosis
 1. persisting psychosis >1 month after abstinence (especially in hospital or prison)
 2. the onset of psychosis precedes drug abuse
 3. strong family history of psychosis

身懷青山醫院覆診卡 無業漢劫的士傷司機



身懷青山醫院覆診卡的無業漢，涉嫌在上水新豐路假扮乘客騎劫的士，其間以利刀刺傷司機頸部，及後在警員拔槍警告下被捕。

(資料圖片)

【明報專訊】身懷青山醫院覆診卡的無業漢，涉嫌於本周一假扮乘客，在上水新豐路騎劫一輛的士，在多名警員包圍下，突然發難，以利刀刺傷司機身體多處，令司機血流如注。無業漢昨在粉嶺裁判法院被控傷人，被告暫毋須答辯，案件押後至1月25日再提堂，以索取精神科報告，其間被告還押於小欖。

控傷人罪 還押小欖

控方指，被告英德聰（33歲）

於本年1月9日登上一輛新界的士假扮乘客，着司機黃明偉（52歲）駛往上水火車站，但抵達目的地後不肯下車，未幾拳毆司機並亮刀指嚇，要求繼續行駛。司機駛至新豐路66號外時，打開車窗向巡邏警員求救。

在多名警員包圍下，被告涉突然發難，以刀刺傷司機，警員見狀拔槍警告，被告把刀拋出車外，隨即被拘捕。受害的士司機頭、頸、肩及雙手中刀血流如注。

【案件編號：FLCC84/06】

(IV) Depersonalization (人格解體) & Derealization (現實解體)

- Depersonalization: change in the awareness of self such that individual feels *as if* he is unreal. Described himself as feeling like a puppet, ghost or not himself. Feel detached and uninvolved with life.
- Derealization: change in the awareness of external world such that individual feels *as if* it is unreal. Described environment as flat, dim, smaller, distant, dream-like, still, nothing to do with him.
- Hallucinogen, Ketamine or Cannabis intoxication

(V) Dissociative effect (意識分離)

- A defect of mental integration in which one or more groups of mental processes (e.g. pain sensation) become separated off from normal consciousness
- Ketamine intoxication → sense of profound detachment from everyday life → physical immobility, time & spatial distortions → out-of-body (soul separated from body) or near-death experience

Video of Dissociative Effect of Ketamine

(VI) Labile mood (情緒波動)

- Rapid changes of emotion
- Usually occurs during drug intoxication (alcohol, sedatives, stimulant, hallucinogen & MDMA)

(VII) Elated Mood (Euphoria) (情緒高漲)

- Excessive unreasonable cheerfulness associated with a general sense of wellbeing, overactivity and disinhibited behaviour.
- Alcohol/ opiate/ stimulant/ cannabis/ inhalant/ MDMA/ ketamine intoxication

(VIII) Depressed mood

- Alcohol: $\frac{1}{2}$ female & $\frac{1}{3}$ male chronic drinker develop depressive symptoms in their life. $\frac{1}{4}$ would attempt suicide
- Cocaine withdrawal after binge: 'crash' (severe) for hours to days (loss of interest, lethargy, excessive sleep & food) → prolonged phase of depression with strong craving (last for weeks & months)
- Ice withdrawal
- Opiate abuse: psychological reaction to drug & related troubles
- Opiate withdrawal: temporary features
- Sedative abuse: chronic use may cause depression
- Sedative withdrawal: may occur during abrupt withdrawal

(IX) Anxiety & Panic attack

(焦慮與驚恐)

- Generalized anxiety: generalized & persistent free-floating (not restricted to particular situation or object) anxiety
- Panic attack: sudden unpredictable discrete period of intense anxiety with fear of dying, losing control, or going mad and it reached a peak within 10 minutes

(IX) Anxiety & Panic attack

- Alcohol intoxication: can induce anxiety after initial effect of tension reduction
- Alcohol withdrawal: prominent anxiety
- Sedatives withdrawal
- Stimulant intoxication
- MDMA intoxication
- Ketamine intoxication

(X) Flashbacks (回閃)

- Recurrence of all or part of the original drug intoxication some time after stop of drug
- May occur months or even years after stop
- Usually a recurrence of a bad trip which associated with distress, anxiety & depression. Similar to a panic attack
- Pharmacological basis is unknown
- Hallucinogens, Cannabis, MDMA, Ketamine

(XI) Personality Problems

- Substance abusers may have features of PD that can be attributed to drug-related effects (SA → P change)
- Independent PD predisposed to SA at relatively early ages and adversely affect outcome (PD → SA)
- Independent PD should have onset before early adulthood and persistent despite abstinence
- Features of borderline PD: unstable & intense interpersonal relationships; fear of being abandoned; unstable self-image; feeling of emptiness; impulsivity; recurrent self-harm; unstable mood; transient psychotic symptoms
- Features of antisocial PD: disregard for & violation of the rights of others; lack of remorse; impulsivity; irritability & aggressiveness

(XII) Cognitive Impairment (認知功能受損)

- Alcohol: neurotoxic leading to brain damage, range from subjective poor memory to severe dementia
- Sedatives: impairment of memory & attention
- Ketamine: impairment of executive function, memory, attention & learning
- Cocaine: deficit in attention, memory, decision making & problem solving
- Organic solvents: damage to brain & cerebella

Brain damages in ketamine addicts as revealed by magnetic resonance imaging

- [Chunmei Wang](#)^{1†}, Dong Zheng^{2†}, Jie Xu³, Waiping Lam¹ and [D. T. Yew](#)^{1,4*}
- **1Brain Research Center, Institute of Chinese Medicine, The Chinese University of Hong Kong, Hong Kong SAR, China**
- **21 human ketamine addicts were employed in the study**
- **Ages between 19 and 48 years old, with only two above 31 (one of 38 and another of 48)**
- **All had no previous medical history of brain trauma or neurological diseases**
- **Dosage was from 0.2 to 3 g a day but majority dosage was 1 g a day**
- **19 of these patients took ketamine daily, while only two took it twice or three times a week**
- **Durations ranged from 0.5 to 12 years.**

Years of abuse	Cerebellum or cerebella	Holes/degenerative patches in white matter	Cortex	Limbic system (Uncus or entorhinal)	Internal capsule	Capsule striatum	Diencephalon	Brainstem	Atrophy of cortex (frontal/partial/occipital)	Severity of brain damage#
0.5	-	+	+ ^Δ	-	-	-	-	-	+	Light
1	+	+	-	-	+	-	-	-	-	Light
2	+	+	-	-	+	-	-	-	+	Moderate
3	+	+	+ ^{ΔΔ}	-	+	-	-	-	+	Moderate
4	+	+	+	-	+	-	+	+*	+	Severe
5	+	+	+	+	+	-	+	+	+	Severe
6	+	+	+	+	+	+	+	+	+	Severe
7	+	+	+	+	+	+	+	+**	+	Severe
10	+	+	+	+	+	+	+	+	+	Severe
12	+	+	+	+	+	+	+	+	+	Severe

+, stands for the positive lesion; -, stands for the negative lesion; ^ΔThis is a patient on three types of abusive drug including ketamine and who had early lesions; ^{ΔΔ}This is a patient that had 3g per day of ketamine; *Lesion firstly appeared in pons by 4 years of addiction. **Lesion in the midbrain appeared by 7 years of addiction; # Light damage means two or less regions affected in the brain, moderate indicates three to four brain regions affected, and severe means five or more brain regions affected.

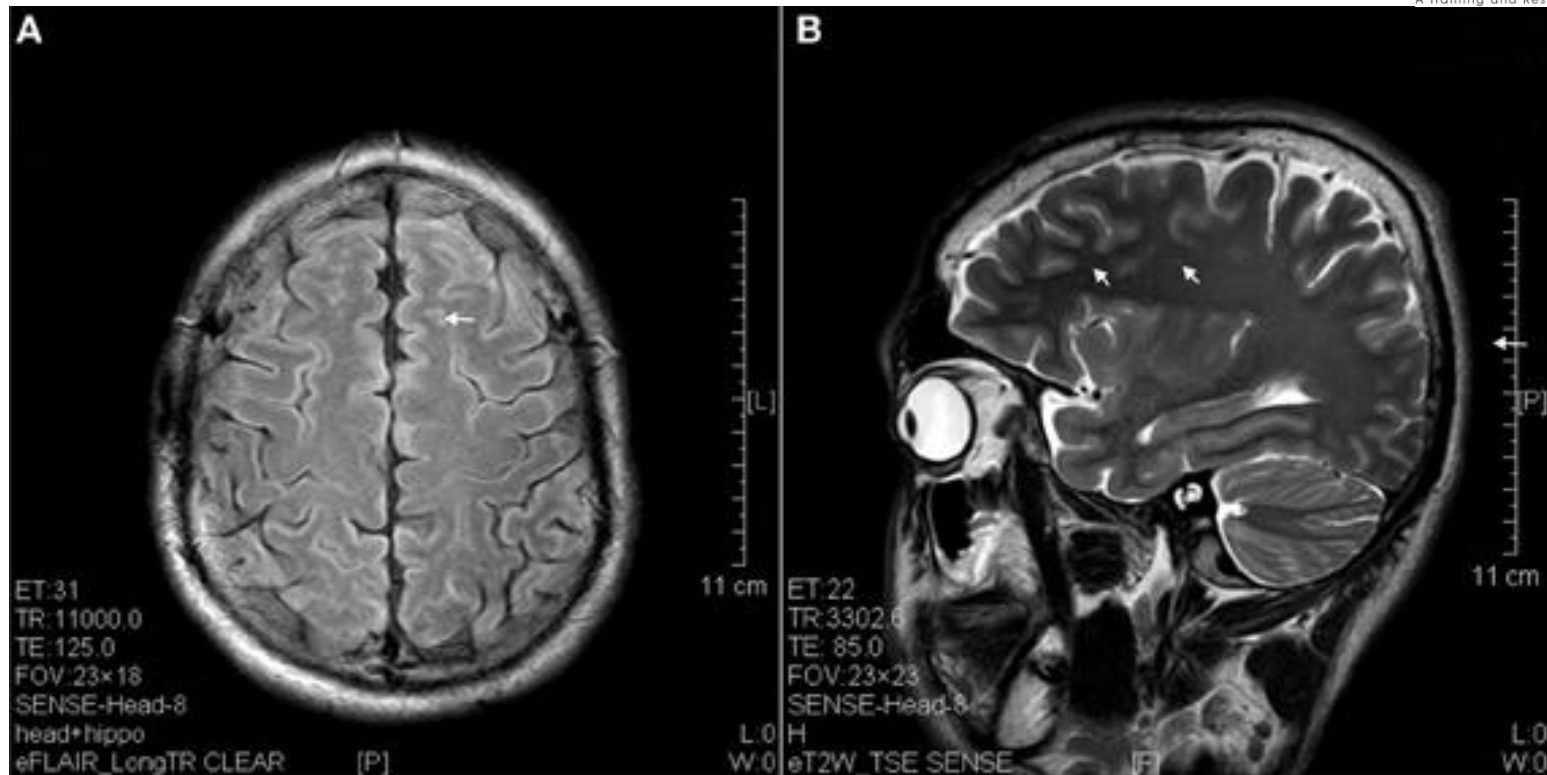


Figure 1. Hyperintense spots (arrow) in superficial white matter and internal capsule of ketamine addicts. (A) FLAIR imaging of a 1 year ketamine addict. (B) T2 imaging of a 3 years ketamine addict.

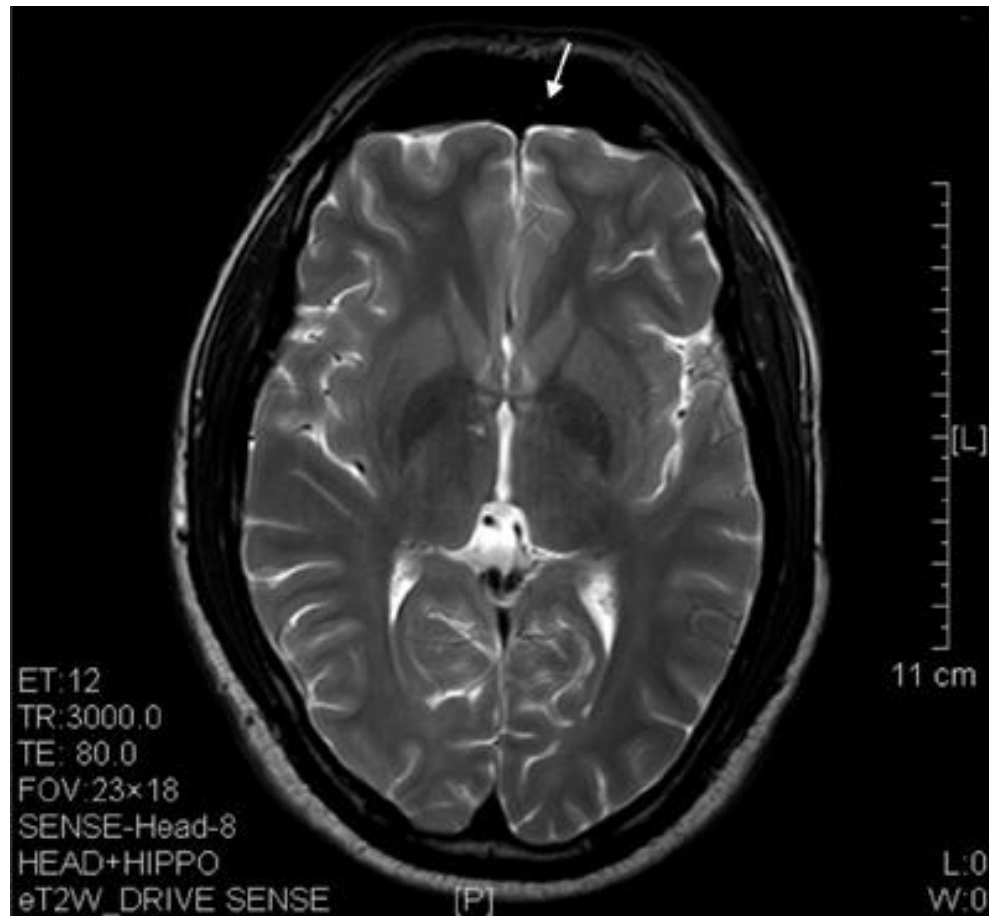


Figure 8. T2 image showed significant prefrontal atrophy (arrow) in a horizontal brain section of a ketamine addict who had high dose of ketamine (3 g per day) for only 3 years.

(XIII) Sleep problems

- Insomnia
 - stimulant intoxication
 - opiate or sedatives withdrawal
- Hypersomnia or drowsiness
 - stimulant withdrawal
 - opiate or sedative intoxication

(XIV) Self-harm & Suicidal attempt

- Drug overdose: half of all illicit drug users report at least one nonfatal overdose during their lifetime
- Reasons of accidental DO: change purity of drug; reduction in tolerance after period of abstinence; mixing drugs; leakage of poorly wrapped drugs ingested by trafficker
- Reasons of other self-harm or suicidal attempt: drug intoxication, psychotic state, depression, personality problems, social problems

歧途上覺悟 不敵自卑心 戒毒成功少女跳樓亡



警員在翠屏邨女子讀樓現場死者伏屍的簾篷進行調查。



【本報訊】毒海沉淪可以自拔，性工作不如意卻無法支解自卑心理關口，一名曾誤入歧途卻已覺悟的少女，疑自感無用，昨日凌晨選擇不歸路，被發現在觀塘住所跳樓喪生，警方調查後相信事件無可疑。

死者羅美玲（圖），二十一歲，與任職清潔的父親羅×勝六十九歲，母親張×六十歲，及一兄同住翠屏邨翠樓樓一單位，另有兩姊一妹已婚遷出。

據其家人表示，羅女十八歲中學畢業後任職信芳工作，因談交拍友，自行搬出與朋友同住，惟兩年來一直芳踪杳然，至今年四月，接獲大潭懲教所來電，告知死者已戒毒成功，若家人前往接回，方知道羅女曾染上毒癮。

羅女返家亦性情大變，文靜兼聽話，並向家人保證決心革面，重新做人，不但積極尋找工作，亦甚少出夜街，更在觀塘區尋獲一份包裝工作，月入三千餘元，家人覺得浪女終可回頭。

生活迫人 曾經割脈

家人宣稱，羅女上班數日卻顯得鬱鬱寡歡，表示工作辛苦，收入低難以支撐生活，今年五月中曾因此而在哪內的休憩公園內，用汽水蓋割脈企圖自殺，幸被及時發現報警送院治理。

家人續稱，自此一直關心羅女的情況，雖然家境困難，但仍經常補貼金錢讓她應付生活開支，疑因此令羅女更覺自己無用，致令她做出傻事。

吸冰漢邊慘叫 邊揮剪自宮

下體棄後梯返家

送院豎拇指



【明報專訊】一名有吸食冰毒習慣的男子，昨晨疑精神錯亂，突然離開樂富邨寓所，在後樓梯以10吋長剪刀自宮，將下體剪斷一分為二。有街坊曾聽見走廊傳來恐怖慘叫聲，卻未加理會，直至事主若無其事返回家中，其父看見兒子下身血流如注，始揭發報警，該男子由救護車送院期間更高舉拇指。有專家指出，冰毒是很強的興奮劑，可令人產生妄想，抵受痛楚。

揮剪自宮的失常男子，由救護車送抵醫院時傷口仍不斷滲血，並向記者高舉右手拇指示意。

22 June
2011

(XV) Aggressive behaviour

- Hallucinogen, stimulant, sedative, cough medicines & MDMA intoxication
- When abusers are in delirious or psychotic state
- Personality problems

服軟性毒品失常誤殺胞兄

青年判無限期入精神病院

【本報訊】大好青年長期服用軟性毒品導致精神錯亂，得知胞兄有意將他送往青山病院，一怒之下揮刀狂斬胞兄至死。失常青年昨在高等法院認罪，被判無限期進入精神病院。法官判案時告誡公眾正視軟性毒品的禍害。

的禍害。

被告廿四歲，二十九歲，被控於今年三月六日在將軍澳景林邨寓所內，誤殺三十二歲胞兄甘傑豪。

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法官願正視禍害

大法官楊英耀形容此案為悲劇，被告原本是個大好青年，惟因長期濫服軟性毒品，致神經失常，甚至誤殺胞兄。大澳市民必須正視軟性毒品對人構成

傷者送院後證實不治。

大法官續稱，被告患有嚴重精神分裂症，曾三度入住青山醫院，事發前須定期接受精神病治療。被告犯下此案必須進入精神病院，直至醫生認為病情有良好進展才有機會出院。

弟同有癖好須治療

據負責調查本案的督察表示，被告在事發前曾服用咳嗽水。另被告之胞弟亦因濫服軟性毒品而精神失常，目前須接受治療。

被告與胞兄、胞弟及父親同住，今年三月五日晚八時許，被告與兄回家，期間被告懷疑其兄致電

醫院結果指出，死者身上有十五處刀傷，以頸及頭頸刀傷最多及最致命，最深的傷痕約六厘米。同日警方在北角新威園附近拘捕被告，被告警訊下承認殺人。又稱胞兄及父親多年來令他活在痛苦中。屯門物質濫用診療所主任醫生梁榮斌指出，現時年輕人傾向同時濫用多種軟性藥物，以尋求刺激及快感。他指出，濫用精神科藥物可引至服用者產生暴力傾向及出現衝動的情緒。再加上同時濫用含有興奮劑的咳嗽水，便會令服者的情緒出現失控現象，衝動能力減低，反應加快，並隨時作出傷害自己及別人的行為。

案件編號：HK01948

青山醫院而發怒。兩兄弟對峙，最後被告往廚房取出利刀狂斬胞兄，然後離開寓所。往找已離家的母親。翌晨，被告之父放工回家，發現長子伏於血泊中，於是報警。

Physical Features

TABLE 2: Important Physical Features of Some Commonly Abused Drugs

S & S \ DRUG	Alcohol		Opiate		Sedatives		Stimulant		Cannabis	Hallucinogens	Inhalants	MDMA	Ketamine
	I	W	I	W	I	W	I	W	I	I	I	I	I
Tachycardia	✓	✓		✓	✓	✓	✓		✓ (L)	✓	✓ (L)	✓	✓
Hypertension	✓	✓					✓	✓	✓ (L)	✓		✓	✓
Hypotension			✓		✓				✓ (H)				
Hyperthermia		✓		✓			✓	✓		✓		✓	✓
Hypothermia	✓			✓					✓ (H)				
Dilated pupils		✓		✓			✓		✓ (L)	✓		✓	
Pin point pupils			✓						✓ (H)				
Red eyes									✓		✓		
Nystagmus				✓					✓		✓		✓
Hyperreflexia		✓		✓			✓	✓		✓		✓	
Hyporeflexia											✓		
Ataxia	✓	✓		✓			✓	✓			✓	✓	✓
Convulsion		✓	✓				✓	✓			✓	✓	✓

(L) = Low dose

I = Intoxication

(H) = High dose

W = Withdrawal

(I) Skin problems

- Injection features: needle mark & track
- Injection complications: cellulitis, blisters, ulcer, abscess, venous or arterial thrombosis, focal haemorrhage, skin popping scar
- Inhalant facial rash
- Ice acnes
- Gooseflesh: opiate withdrawal, LSD or MDMA intoxication

(II) Nose

- Nasal bleeding or stuffy nose: cocaine or ketamine sniffing
- Runny nose: opiate withdrawal
- Nasal septum perforation: cocaine sniffing, ketamine sniffing
- Risk of blood-borne transmission of infection such as HIV if instrument is shared

3青年長期吸服 鼻軟骨穿洞 索K可致塌鼻樑

【明報專訊】醫管局香港中毒諮詢中心近期首次接獲3宗因吸服K仔而引致的鼻軟骨穿洞個案，全部患者是濫用氫胺酮6年以上的高度濫藥者，他們的鼻軟骨穿洞個案，須轉介至耳鼻喉科接受治療，如果病情惡化，或會致鼻樑塌陷。早前醫學界已發現，長期索K者的膀胱會永久受損，出現尿頻情況。

混入玻璃粉 刮傷鼻黏膜

3名鼻軟骨穿洞的個案分為兩男一女，年齡介乎21至32歲，他們吸服K仔6年以上，同屬濫藥量最高的人，目前已轉介至威爾斯醫院耳鼻喉科接受治療。中毒諮詢中心發現，K仔質素參差，很多時被混入玻璃粉，容易在吸入時刮傷鼻黏膜，令毒品更易被吸收入血。

修補手術成功機會低

中大耳鼻喉頭頸外科助理教授陳慶生解釋，鼻黏膜負責提供養分至軟骨，如鼻黏膜功能被破壞，無法再供養分至軟骨，軟骨可能會壞死，一旦出現細菌感染，很易會穿洞。如患者的鼻軟骨已穿洞，會有經

常流鼻血、呼吸會出現笛子聲等徵狀，嚴重情況甚至鼻樑塌陷，影響外觀，即使可透過手術重建人工鼻樑，或填補穿洞，但仍無法修復受損的鼻黏膜，手術成功機會很低。由於K仔在香港興起約10年，醫生估計類似個案日後會陸續出現。

長期吸毒傷害 無法復元

全民健康動力主席勞永樂醫生表示，吸毒會令血管收縮，減少血液循環，令受損害的鼻樑無法復元而加速壞死。除此之外，吸毒對身體亦有多方面影響，身體組織如腎臟、腦、心臟會因吸毒而受損，並影響智力；精神系統藥物又會導致吸毒人士出現幻覺、記憶衰退等問題，而吸毒同時會影響食慾，減少身體吸收養分，間接



圖中為其中一名病人因吸服K仔致鼻樑出現一個洞，嚴重的話甚至可令鼻樑下陷，影響外觀。（醫管局中毒諮詢中心提供）

造成其他影響。

勞永樂指出，服用任何毒品包括K仔氫胺酮，都有可能會上癮，呼籲青少年切勿因一時貪玩以身試毒，後悔一生。吸毒者如及早戒毒，可避免身體機進一步受損，或可避免出現永久傷害，有較大機會自動康復。

(III) Mouth & Breath

- Dental caries and loss of teeth: cough mixture
- Breath: alcohol, inhalant

(IV) Hand tremor

- Fine tremor
 - stimulant or hallucinogen intoxication
 - opiate withdrawal

- Coarse tremor
 - sedatives or alcohol withdrawal

(V) Eye problems

- Runny eye: opiate withdrawal
- Constricted pupil: opiate or high dose of cannabis
- Dilated pupil: stimulant or hallucinogen abuse, opiate withdrawal
- Red eye: conjunctival hyperemia of cannabis, conjunctival infection (結膜炎) / haemorrhage
- Alteration of color vision: cannabis → yellow vision, barbiturates → yellow or green vision
- Exophthalmos (突眼)& retraction of upper eyelid: cocaine
- Endophthalmitis (眼內炎): Candida (fungal) infection is most common in IV drug abuse
- Diplopia (double vision): cannabis, sedatives, ketamine

(V) Cardiovascular problems (心臟血管)

- Tachycardia: alcohol I/W, opiate W, sedatives I/W, stimulant I, cannabis I
- Hypertension: alcohol I/W, sedatives W, stimulant I, cannabis I (low dose), hallucinogen I
- Hypotension: opiate I, sedatives I, cannabis I (high dose)
- Endocarditis (心內膜炎): 1-2 cases per 1000 IV abusers per year

(V) Cardiovascular problems

- Myocardial infarction (心肌梗塞): cocaine & cannabis increase this risk
- Arrhythmia (心律不齊): cocaine or MDMA
- Cardiomyopathy (心肌病): amphetamine or alcohol
- Thrombophlebitis (血栓靜脈炎): IV drug abuse
- Angiitis (血管炎): inflammation of small arteries and resultant thrombosis → pancreatitis, nephritis, ophthalmitis etc

(VI) Lung problems

- Decreased respiration: opiate/ sedatives/ alcohol/ ketamine intoxication,
- Aspiration pneumonia (吸入性肺炎): vomiting follows depression of consciousness
- Pneumonia, pulmonary infarct or granuloma (肉芽瘤): long-term IV
- Pulmonary hypertension: long-term IV, amphetamine
- Pulmonary edema (肺水腫): long-term IV, amphetamine, cocaine
- Pneumothorax (氣胸): breathing difficulty & chest pain. Injection into the internal jugular or subclavicular vein

(VII) Liver & Biliary problems

- Acute hepatitis: IV abusers have high risk of HBV & HCV. MDMA may cause toxic hepatitis
- Liver damage: reported in abuser of organic solvents
- Dilated common bile ducts and elevated liver enzyme (ALP): several cases of ketamine abuse presented with recurrent epigastric pain have been reported to have such findings in HK

(VIII) Central Nervous System problems

- CNS aspergillosis (曲霉病): cause meningitis and ventriculitis. In one study, aspergillus spores contaminated illicit drug in 26 of 100 samples
- Tetanus (破傷風): potent neurotoxin causing rigidity of muscles
- Intracranial haemorrhage (顱內出血): cocaine & Ice
- Cerebral (大腦)& cerebellar (小腦) damage /atrophy: repeated head injury or direct effect of substance (organic solvent or alcohol)
- Cerebral hypoxia (大腦缺氣): drug overdose → respiratory depression

(IX) Kidney (Renal) problems

- IV drug abusers prone to renal problems because direct invasion of infectious agents or deposition of immune reactants in kidney tissue
- Ketamine: cystitis, contracted bladder (down to 20ml) hydronephrosis. Symptoms: frequency, urgency, dysuria, urge incontinence, haematuria
- MDMA: can cause rhabdomyolysis (橫紋肌溶解) and acute renal failure
- Overdose of opiate/sedative: prolonged compression of muscle → rhabdomyolysis → acute renal failure

(X) Temperature

- Hyperthermia (高温)
 - alcohol/opiate/ sedatives withdrawal
 - stimulant /hallucinogen/ MDMA/
ketamine intoxication
- Hypothermia (低温)
 - alcohol/ sedative/ cannabis (high dose)
intoxication

(XI) Convulsion

- Alcohol withdrawal
- Sedative withdrawal
- Opiate intoxication
- Stimulant intoxication
- Inhalant intoxication
- MDMA intoxication
- Ketamine intoxication

(XII) HIV

- USA & UK: over 60% of heterosexual people acquired HIV is related to injection drug use (IDU)
- London: 1/8 male & 1/100 female IDU had HIV (DOH,97)
- HK: 2004 figures showed 5% women & 9% of men with HIV are related to IDU (overall 8%). From 1984-2004, IDU only accounted for 3.4% of all 2512 cases

(XIII) Sudden death

- Myocardial infarction or arrhythmia: cocaine/ amphetamine /MDMA /inhalant
- Intracranial haemorrhage: cocaine/ amphetamine/ MDMA
- Drug overdose
- Asphyxia (窒息) during inhalant abuse

Prevalence of Dual Diagnosis

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Consultant Psychiatrist
Alcohol & Drug Dependence Unit
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Prevalence of Different Disorders

Disorder	Lifetime prevalence in USA (ECA study, Reiger, 90)	Lifetime prevalence in H K (Shatin survey, Chen, 93)
Schizophrenia	1.4%	0.12% (M), 0.13% (F)
Affective Disorder	8.3%	2.5% (M), 5.4% (F)
Alcohol abuse/dependence	13.5%	9% (M), 0.6% (F)
Drug abuse/dependence	6.1%	0.3% (M), 0.16% (F)

Epidemiology of Co-morbidity (USA)

Result of ECA study from 20291 persons in US community & institutional population:

Comorbid Psychiatric disorders with addiction: lifetime prevalence and (odds ratio)

	lifetime prevalence	affective disorder	anxiety disorder	schizophrenia	antisocial PD	any psychiatric disorder
Alcohol addiction	13.5%	13.4% (1.9)	19.4% (1.5)	3.8%(3.3)	14.3%(21)	36.6%(2.3)
Drug addiction	6.1%	26.4%(4.7)	28.3%(2.5)	6.8%(6.2)	17.8%(23.4)	53.1%(4.5)

Epidemiology of Co-morbidity (USA)

Comorbid addiction with psychiatric disorders: lifetime prevalence and (odds ratio)

	lifetime prevalence	alcohol	drug	any substance
unipolar depression	5.9%	16.5%(1.5)	18.0%(1.8)	27.0%(1.9)
affective disorder	8.3%	21.8%(1.9)	19.4%(4.7)	32.0%(2.6)
anxiety disorder	14.6%	17.9%(1.5)	11.9%(2.5)	23.7%(1.7)
schizophrenia	1.5%	33.7%(3.3)	27.5%(6.2)	47.0%(4.6)
antisocial PD	2.6%	73.6%(21.0)	42.0%(23.4)	83.6%(29.6)
any psychiatric disorder	22.5%	22.3%(2.3)	14.7%(4.5)	28.9%(2.7)

Epidemiology of Co-morbidity (UK)

	Drug services	Alcohol services
Schizophrenia	3%	3%
Bipolar Affective Disorder	1%	5%
Non-specific psychosis	5%	11%
Personality Disorder	37%	53%
Affective and anxiety disorders	68%	81%
Severe depression	27%	34%
Mild depression	40%	47%
Severe anxiety	19%	32%

Epidemiology of Co-morbidity (HK)

No systematic epidemiological data available in Hong Kong.

Data from our ADDU:

	Alcohol (180 cases)	Drug Abuse (431 cases)
Any psychiatric disorder	37.2%	44.1%
Depression	8.3%	5.8%
Any affective disorder	12.2%	7.6%
Drug-induced psychosis	13.9%	18.6%
Independent psychosis	2.2%	4.4%

Problems of Epidemiology

- Most studies are retrospective & cross-sectional analysis which yields higher, inflated rates of co-morbidity
- Actual rate of independent psychiatric disorder is unclear
- Longitudinal studies show most of psychiatric syndromes in association with substance use are resolved after period of abstinence e.g. rate of depression after alcohol detoxification may be reduced to only 5 %

Implications

- Both psychiatric disorders and substance (alcohol or drug) abuse / dependence are common disorders
- Co-morbidity of two conditions are rather common
- This complicates the diagnostic evaluation and management

Assessment & Treatment of Dual Diagnosis

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Assessment

- Important Elements
- Basic Areas of Assessment
- Specific Areas of Assessment

Important Elements of Assessment

- Model of substance abuse: 'bad' or 'ill'. It's a chronic relapsing disorder
- Attitudes of assessor: non-judgmental, empathetic (try to understand patient's problems from his perspective), patient, always be hopeful
- Build up therapeutic alliance: important to let patient feel you are really caring to him

Basic Areas of Assessment

- Alcohol & Drug Abuse
- Psycho-social Problems
- Psychiatric Condition
- Physical Condition

Alcohol & Drug Abuse

- Active substances: abused in past one year
- Primary substance: onset, effect sought, when become regular or dependent, route of administration (ROA), peak of abuse, complications, history of detoxification and longest period of abstinence, reasons of relapses, abuse pattern in past one year
- Secondary (Other active substances): abuse pattern in past one year (frequency, ROA, amount, money spent)
- Past substances

Psycho-social Problems

- Housing
- Finance
- Employment
- Relationship
- Legal (? PO / SO)
- Child care (? C or P, ? FCPSU)

Psychiatric Condition

- Diagnosis (? drug-induced or independent)
- History of Violence & Suicide
- Current Psychopathology
- Impacts
- Insight
- Social support
- Services received esp community psy service
- Current Drug Treatment
- Compliance

Physical Condition

- Sign of intoxication
- Sign of withdrawal
- Nutritional state
- Sign of IV or IM injection
- Sign of infection
- Other physical signs related to the substance abused

Specific Areas of Assessment

- Emergent physical condition
- Emergent psychiatric condition
- Risk to others
- Risk to self
- Level of motivation
- Patient's own plan of management
- Agreed concrete plan of management

Emergent Physical Condition

- Very poor general physical condition
- Severe self neglect
- Impaired consciousness
- High fever with infected wound
- Sign of recent drug overdose e.g. empty bottle around

Emergent Psychiatric Condition

- Acutely psychotic with disturbing behaviour
- Severely depressed with psychomotor retardation
- Aggressive
- Suicidal

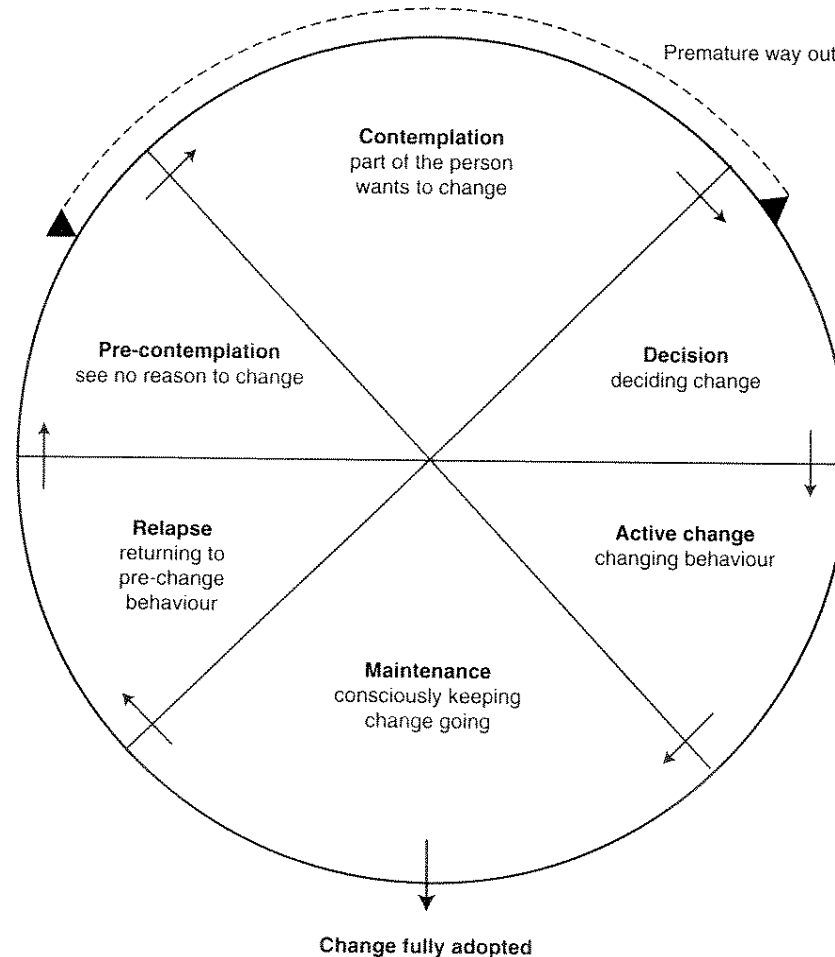
Risk to Others

- Idea or plan of harming others under psychotic influence
- Risk to dependent children or elderly due to his psychiatric condition or drug abuse problems
- Continue drug abuse during pregnancy

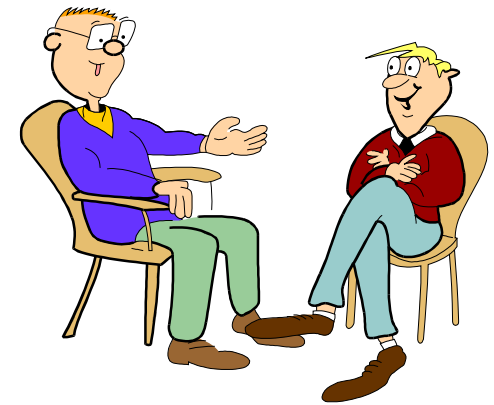
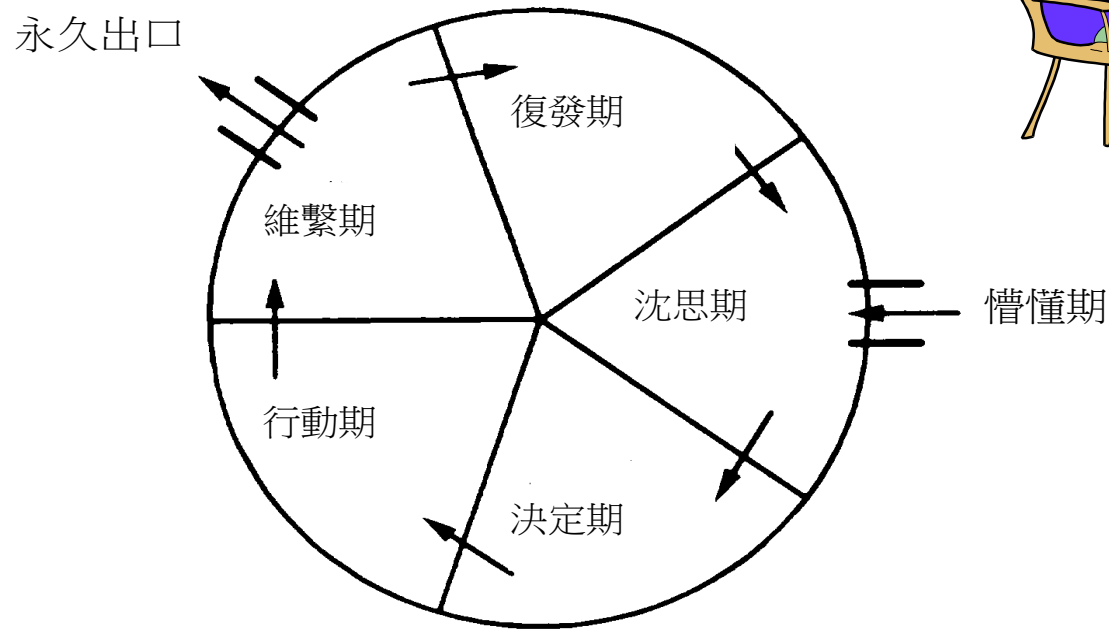
Risk to Self

- Suicidal idea or attempt
- Accidental overdose
- Sharing of needles
- Unsafe sex
- Continue drug abuse despite severe physical complications e.g. continue IV despite having endocarditis
- Gross self neglect

Level of Motivation: Cycle of Change



Cycle of Change



Patient's Own Plan of Mx

- His own plan in terms of each problems
- Substance abuse: ?need to change ?total abstinence or decrease amount
- Psycho-social: ? foster care ? marital counselling
- Psychiatric: ? willing to take psychiatric drugs ? factors affect his compliance
- Physical: ? accept referrals ? factors affect his compliance

Agreed Concrete Plan of Mx

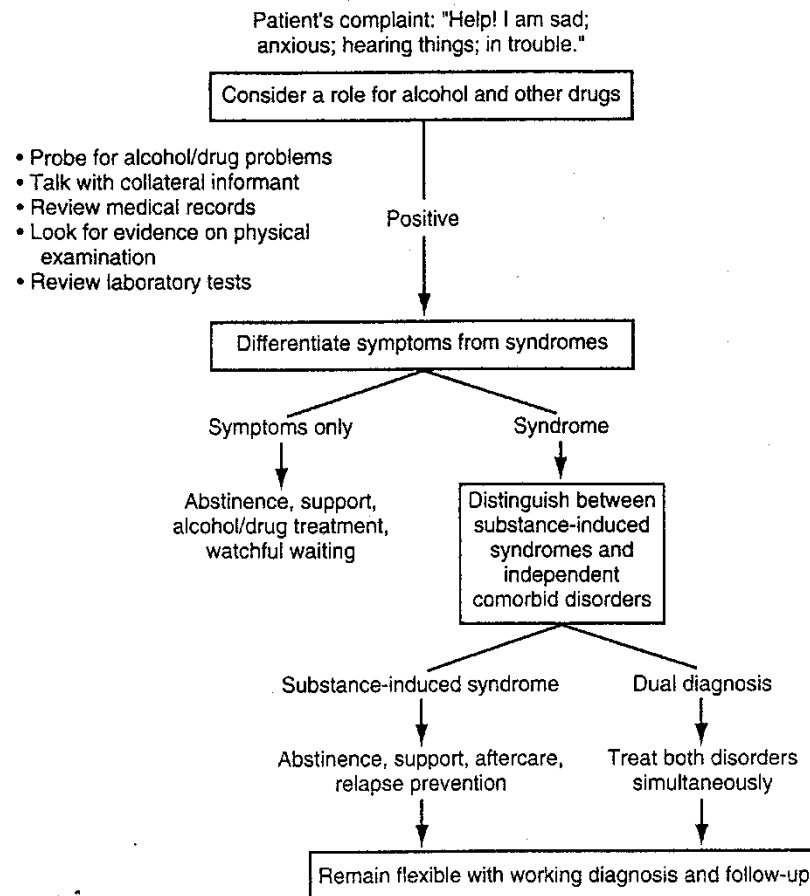
- Liaise with parent treatment team for any agreed concrete plan with clients. Your advice should be consistent with that.
- Be specific for any advice e.g. ‘reduce 6 cans of beer to 5 cans within 2 weeks’ or ‘stop heroin and maintain on methadone before next FU’ instead of ‘reduce drinking or drug abuse’

Management

- General Approach
- Concept of Management
- Specific Management Issues
- Multidisciplinary Approach

General Clinical Approach to Dual Diagnosis

Initial assessment of patients presenting with psychiatric and possible substance use problems.



Concept of Management

- Harm Reduction
- Shared Care
- Service Delivery Model of Dual Diagnosis

Harm Reduction

- Total abstinence can be the final goal but not the only goal of treatment
- Reduce physical risk such as HIV, hepatitis B and C, & other blood borne infections by stop injection and sharing injecting paraphernalia
- Improve overall personal/family/social function
- Reduce criminal activity to finance drug misuse
- Reduce risk of prescribed drugs being diverted to illegal drug market
- Reduce drug abuse in amount & frequency
- Replacement therapy (methadone for heroin)
- Reduce chance of full-blown relapse from lapse

Share Care Model (1)

- A model that can be applied to any close cooperative work between agencies, which directly improves the treatment of the individual drug abuser
- Many drug abusers present with complex needs → demands collaboration between
 - GP
 - general psychiatrist
 - specialist drug abuse treatment services
 - obstetricians and gynaecologists
 - social services voluntary sector (e.g. CCPSA, staff of residential rehabilitation)
 - criminal justice system (e.g. PO, aftercare worker of CSD)

Share Care Model (2)

- Format of collaboration: consultation liaison, advice, brief assessment, joint clinics, community based services, case conference
- It is important for every doctor or worker:
 - to know different role of each partners
 - to be aware of local services for drug abuse treatment
 - to develop the skills & knowledge
 - to keep abreast of latest development in treatment and rehabilitation

Service Delivery Models for Dual Diagnosis

- Sequential services
- Parallel services
- Integrated services

Sequential Approach

- Patient first receives treatment for one of the disorders; after it is under control, individual is referred for treatment for the other disorder
- Disadvantages:
 - Untreated disorder worsens the disorder being treated, making it impossible to stabilize one disorder without attending to the other
 - Lack of agreement as to which disorder should be treated first
 - Unclear or impossible to know when one disorder will be successfully treated, as both disorders may need long-term or life-long treatment. The second treatment may never commence

Parallel Approach

- Both disorders treated simultaneously by different staff members working in different programs or agencies
- Disadvantages:
 - Treatment providers fail to communicate with each other
 - Burden of integration falls on client
 - Funding and eligibility barriers to participating in both treatments simultaneously exist
 - Different treatment providers have incompatible treatment philosophy
 - Client “slips between the cracks” and receive no service, due to failure of either treatment provider to accept final responsibility for client

Integrated Approach

- Treatment for both disorders provided in the same place, at the same time, by the same treatment team
- The practitioners are knowledgeable about both disorders as well as about the complications resulting from co-occurring disorders

Outcome of Evidence-Based Practice

- Integrated approach found to be superior to nonintegrated approach
- Studies have demonstrated positive outcomes (*Drake et al 2002*):
 - Reduced substance abuse
 - Reduction of psychiatric symptoms
 - Increased housing stability
 - Reduced hospitalization
 - Fewer arrests
 - Improved functional status
 - Improved quality of life
- Superior to either the sequential or parallel service models

Barriers to integrated treatment

<u>Addiction system</u>		<u>Mental Health System</u>
Peer counselling model	vs	Medical / Professional Model
Spiritual recovery	vs	Scientific treatment
Self-help	vs	Medication
Confrontation and expectation	vs	Individualized support and flexibility
Detachment / empowerment	vs	Case management / care
Episodic treatment	vs	Continuity of responsibility
Psychopathology is secondary to addiction	vs	Substance use is secondary to psychopathology

Specific Management Issues for Dual Diagnosis

- Cycle of Change & Motivational Interviewing (MI)
- Refusal Skill Training - role play
- Relapse Prevention Counselling (RP)
- Principles of Pharmacotherapy
- Specific drugs used for SA & A

Motivation

- Not 'all or none' but in different stages
- Whether client is motivated to stop or change their pattern of drug use or to make changes in their life?
- What short term, intermediate and long term goals the patient seeks?
- While there is resistance to change drug misuse itself, there may be motivation to make changes in other parts of life, e.g. personal relationships, employment, accommodation.

Motivational Interviewing: 5 General Principles (DEARS)

- **Develop Discrepancy** (between ultimate goal and present behaviour)
- **Express Empathy** (client-centred; acceptance facilitates change)
- **Avoid Argumentation** (new perspectives are invited but not imposed)
- **Roll with Resistance** (resolve ambivalence, yes.....but)
- **Support Self-Efficacy** (enhance intrinsic motivation; client is responsible for choosing and carrying out personal change)

Refusal Skills: Role Play

- Avoid or minimize contact or meeting SA peers: change environment, change mobile phone number, delete those contact numbers
- When SA peers is met, leave the scene immediately
- When SA peers visit him, don't open the door
- When drug is offered, says loudly with firm attitude that "NO, I have quitted!" and then leave
- Other specific situations and specific techniques

Relapse Prevention

- It is a cognitive-behavioural therapy (CBT) that combines behavioural skill-training procedures with cognitive intervention techniques to assist individuals in maintaining desired behavioural changes.
- Aims are to:
 - identify high-risk situation & teach patients new coping responses
 - identify and manage early warning signs of relapse
 - intervention for lapse by modifying maladaptive beliefs & expectancies
 - change personal habits and lifestyles

RP (1): High-risk situation

- **Any situation or condition that poses a threat to the individual's sense of control (self-efficacy) and increases the risk of potential relapse**
- **Big Three categories:**
 - **Negative Emotional States (35%)**
 - **Social Pressure (20%)**
 - **Interpersonal Conflict (16%)**

Intervention:

- **Identify specific high-risk situation**
- **Teach specific ways of coping**

RP(2): Identifying & managing early warning signs of relapse

- Obvious or subtle warning signs often show prior to relapse of drug abuse
- Refusal or stop attending treatment or self-self group

Intervention:

- Regular contact for early identification
- Easy accessibility of help e.g. hotline, case worker
- Active tracing of defaulters

RP(3): Early Intervention For Lapse/Relapse

- **Initial emotional & cognitive response to a lapse largely determine whether there's a return to recovery or movement further down the road to a full-blown relapse**
- **Negative thought generate e.g. “ I'm incapable of changing, I just can't do it, so why ever bother trying”**

Intervention:

- **Help to understand lapse not equal to relapse and it is part of 'natural' and learning process**
- **Reminder cards (lapse ≠ relapse, ways to seek help)**
- **Supported by case nurse / worker**
- **Early FU for assessment**

RP(4): Making Boarder Changes to Achieve a more Balanced Lifestyle

- Improve coping ability
- Reduce stress
- Improve health
- **Change of life style** (regular sleep pattern, regular exercise, develop interest, day-time engagement)

Principles of Drug Treatment (1)

- Need of drug treatment for both psychiatric and drug abuse problems should be considered
- Used drug with less drug interactions, less risk of fatal overdose (SSRI vs TCA) and less addictive potential (cautious in prescribing hypnotics and benzodiazepines)
- Avoid prescribing drugs with risk of diversion (e.g. methadone tablets or Dormicum) or covering client's illegal act (e.g. sleeping pills)

Principles of Drug Treatment (2)

- Maintain reasonable non-addictive psychiatric drugs (e.g. antidepressants, antipsychotics, etc) during detoxification
- For acute behavioural stabilization, use whatever medications which are necessary (including benzodiazepines) to prevent harm

Principles of Drug Treatment (3)

- A period of drug-free observation for case with possibility of drug-induced condition
- Drug for minimization of psychiatric complications: depot antipsychotic for repeated drug-induced psychosis
- Acute detoxification: basically same for people with dual diagnosis as those without psychiatric co-morbidity
- Drug for relapse prevention: consider effect on specific psychiatric problems e.g. Disulfiram may exacerbate psychosis

Specific Drugs Used

- For detoxification:
 - Methadone (老味, 蜜瓜汁, 美沙酮, 帆船仔)
 - Suboxone (Buprenorphine + Naloxone) (睇底丸)
 - Clonidine (藍波子) / Lofexidine
 - Valium (安定)
 - Tramadol (for pain control)
- For symptomatic relief for urinary symptoms
 - Pyridium
 - Oxybutynin
- For long-term maintenance:
 - Methadone
 - Buprenorphine
- For relapse prevention:
 - Naltrexone (納曲酮)
 - Disulfiram (戒酒硫)