An information booklet on the harmful effects of cannabis
<table>
<thead>
<tr>
<th>CONTENTS</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreword</td>
<td>3</td>
</tr>
<tr>
<td>#DidYouKnow</td>
<td>4</td>
</tr>
<tr>
<td>Facts &amp; Myths</td>
<td>6</td>
</tr>
<tr>
<td>Statistics &amp; Trends</td>
<td>18</td>
</tr>
<tr>
<td>Tips &amp; Conversation Starters</td>
<td>22</td>
</tr>
<tr>
<td>Infographics</td>
<td>24</td>
</tr>
<tr>
<td>Videos</td>
<td>29</td>
</tr>
<tr>
<td>Posters</td>
<td>32</td>
</tr>
</tbody>
</table>
Singapore’s comprehensive approach to tackling both drug supply and demand has allowed us to remain relatively drug-free. In 2019, the number of drug abusers arrested comprised less than 0.1% of our resident population.

However, youths today tend to have a more liberal view on drugs due to the influence of media and legalisation of cannabis in some countries. Misinformation of cannabis online may also further shape youths’ perception that cannabis is not harmful and is less addictive.

It is important to differentiate between products containing unprocessed or raw cannabis marketed as “medical cannabis”, and pharmaceutical products containing cannabinoids. Cannabinoids are chemical compounds found in the cannabis plant which can be medically administered through pharmaceutical products such as oral solutions and sprays.

There is some published research on the potential therapeutic uses of cannabinoids to manage seizures and epilepsy, and frameworks have been put in place for the supply, prescription and dispensation of such products for medical purposes in Singapore.

On the contrary, there is no evidence to support the medical efficacy of raw, unprocessed extracts of cannabis, despite some countries legalising such products.

Our drug control policies are underpinned by evidence and research. A literature review conducted by the Institute of Mental Health experts (published in 2016) affirmed the addictive and harmful nature of cannabis, and that it damages the brain. These findings reiterate our position that cannabis should remain an illicit drug. Decriminalisation of drugs and legalisation of cannabis are not the way forward, especially when our drug situation is well under control.

We hope that you will find this information booklet useful in equipping you with the knowledge of the harmful effects of cannabis, and in turn, pass on the knowledge to your students so that they will not be misled by inaccurate information online.

Mr. Ng Ser Song
Director
Central Narcotics Bureau
Cannabis

Cannabis, derived from the Cannabis Sativa plant, is one of the oldest psychotropic drugs in human history.

Tetrahydrocannabinol (THC) is the main psychoactive substance in cannabis that causes abusers to feel “high”. It also has adverse health impacts and is listed as a Class A controlled drug in the First Schedule of the Misuse of Drugs Act.

Worldwide, there were an estimated 188 million users of cannabis in 2017, corresponding to 3.8% of the global population aged 15-64. In Singapore, cannabis is amongst the top three drugs abused by new abusers.

“Medical Cannabis”

The so-called medical benefits and alleged harmlessness of cannabis have been in the spotlight, with some countries legalising the medical, and even recreational use of cannabis. It is important to differentiate between products containing unprocessed or raw cannabis and pharmaceutical products containing cannabinoids.

Some countries have legalised raw, unprocessed cannabis and extracts passing them off as “medical cannabis” and allowed them to be supplied as medication. To date, there are no studies which have validated the claims of raw, unprocessed extracts of cannabis being able to treat any medical conditions.

A limited number of pharmaceutical products contain cannabinoids, the chemical compounds found in the cannabis plant. One such potentially useful cannabinoid is cannabidiol (CBD) which does not cause intoxication or the “high” that comes from THC.

Singapore’s Position

On “Medical Cannabis”

There are pharmaceutical products containing cannabinoids such as CBD which are designed to manage specific medical conditions such as certain forms of epilepsy and seizures. These are usually administered via oral solutions and sprays. As these products currently still contain some THC content, they are deemed as controlled drugs.

Despite it being a controlled drug, the prescription of such pharmaceutical products are viable, but subjected to strict health guidelines and assessment by the relevant authorities.

In Feb 2019, the Ministry of Home Affairs (MHA) and Ministry of Health (MOH) issued a joint statement clarifying the Singapore Government’s position on the use of pharmaceutical products containing cannabinoids.

KEY POINTS INCLUDE

• Evidence shows that raw cannabis is harmful and addictive, and there are no studies validating its use to treat medical conditions.

• CBD pharmaceuticals that may have medical value need to be reviewed by the Health Sciences Authority (HSA).

• There is avenue for safe and controlled access to evidence-based medical treatment programmes based on CBD pharmaceuticals.

Source

1 World Drug Report 2019, United Nations Office on Drugs and Crime
CANNABIS IS HIGHLY ADDICTIVE

“(Cannabis abuse) can lead to physical and psychological withdrawal (symptoms). Although the physical withdrawal may not be as severe as other substances, the psychological withdrawal is similar (as bad) as other substances.

(The) psychological withdrawal is the main part of the addiction. Once somebody gets addicted, it is very difficult to overcome the psychological withdrawal — the craving or the urge to continue marijuana abuse and the related mood problems, and (he) will take a long time to recover from the addiction.”

Dr. Guo Song
Senior Consultant
National Addictions Management Service
Institute of Mental Health

Among daily abusers, 50% are going to get addicted.²

NEWS ARTICLES

- True Account of An Ex-Abuser
- Story of Mr. Bruce Mathieu

Source

² A Literature Review on Medical Cannabis: Conducted by a team of psychiatrists and researchers from the Institute of Mental Health, Singapore, 2016
CANNABIS IS HARMFUL TO THE BODY

Smoking cannabis is associated with symptoms of bronchitis such as morning cough, phlegm and chest wheeze. Reducing or quitting cannabis abuse is associated with reductions in the prevalence of the symptoms.

Sources


CANNABIS SMOKING IMPAIRS
BRAIN DEVELOPMENT IN TEENS

Regular abuse of cannabis before the age of 18 leads to an average IQ of 6-8 fewer points at age 38 relative to those who did not abuse cannabis before 18 years old.

Teens who were heavy cannabis abusers (i.e. smoking daily for three years) had abnormal changes in their brain structures related to working memory and performed poorly on memory tasks.⁵

Studies have shown that adolescents who report regular cannabis abuse perform more poorly in tests on working memory, visual scanning, cognitive flexibility, and learning.⁶

Regular abuse of cannabis before the age of 18 leads to an average IQ of 6-8 fewer points at age 38 relative to those who did not abuse cannabis before 18 years old.⁷

Sources


CANNABIS ABUSE IS LINKED TO SCHIZOPHRENIA OR OTHER PSYCHOSES

“There are some evidence to suggest that cannabis usage – heavy and long term usage – can precipitate psychiatric conditions, or disorders like schizophrenia.”

Dr. Lim Boon Leng
Psychiatrist & Medical Director
Centre for Psychological Wellness

Daily cannabis abusers and high-potency abusers face higher risks of developing mental health issues.

In the largest study to date that involved 2,000 participants from 11 sites across Europe and Brazil, it was found that 50% of new cases of psychotic disorder in Amsterdam and 30% in London were linked to the abuse of high-potency cannabis. It was also found in the same study that daily cannabis abusers and high-potency abusers were respectively 3 times and 5 times more likely to develop psychotic disorder than those who had never abused the drug.

Source

CANNABIS ABUSE INCREASES RISK OF MOTOR VEHICLE ACCIDENTS

In Colorado, there is a 151% increase in cannabis-related traffic deaths after cannabis legalisation.

Based on a review of scientific evidence, cannabis abuse can increase the risk of a fatal accident by two- to seven-fold.\(^9\)

In Colorado, there is a 151% increase in cannabis-related traffic deaths after cannabis legalisation.\(^{10}\)

There is also a higher rate of police-reported crashes (5.2% higher) in Colorado, Washington DC and Oregon than neighbouring states that have not legalised recreational cannabis.\(^{11}\)

Sources


10 The Legalization of Marijuana in Colorado: The Impact. Rocky Mountain High Intensity Drug Trafficking Area. Vol. 5 - 2018 Update

11 Effect of recreational marijuana sales on police-reported crashes in Colorado, Oregon, and Washington. Insurance Institute for Highway Safety, Samuel S. Monfort, Oct 2018
MEDICAL BENEFITS ARE NOT CONCLUSIVE

There is some evidence to support the use of CBD for certain limited conditions, but insufficient evidence to prove the effectiveness of cannabis use for most medical conditions.

There is some evidence to support the use of CBD for certain limited conditions, but insufficient evidence to prove the effectiveness of cannabis use for most medical conditions.

Pharmaceuticals containing cannabinoids need to undergo rigorous scientific review by the HSA before they can be registered for supply in Singapore.

In the United States, the Food and Drug Administration (FDA) has only approved one CBD-based pharmaceutical for the treatment of specific medical conditions.

Many non-FDA-approved products are sold as “medical cannabis” and there is a lack of control over its access and quality, and no scientific basis for their alleged efficacy. The FDA has warned consumers that these products are not approved for diagnosis, cure, mitigation, treatment, or prevention of any disease. CBD products could contain THC despite claims that they are THC-free. The FDA has also conducted tests on several CBD products and many were found to not contain the levels of CBD they claimed to contain.
WORRYING GLOBAL TRENDS
(CALLS FOR LEGALISATION OF CANNABIS,
DECRIMINALISATION OF DRUG USE)

- The World Drug Report 2019 by the United Nations Office on Drugs and Crime has highlighted that the most widely used drug worldwide is cannabis, and in most regions, there is an increasing proportion of people entering treatment for cannabis use disorders.

- There is an increasing number of foreign jurisdictions legalising cannabis for recreational use, especially in the Americas. Cannabis was first legalised for recreational use in Colorado and Washington in Nov 2012. Canada legalised it in Oct 2018.

- Internationally, some countries are decriminalising drug use and adopting harm reduction approaches, such as needle exchange programme. The priorities of these countries are to minimise costs from HIV and other blood-borne infections, rather than preventing drug abuse because drug abuse is often already pervasive. However, each country has the right to determine the best approach it needs to deal with its drug problems.

CHANGING PROFILE OF DRUG ABUSERS

- Cannabis is one of the most commonly abused drugs in Singapore.

- CNB is also seeing more cases of drug clusters amongst youths. Many of these youths had abused cannabis.

- The profiles of youth abusers have also evolved, with more coming from middle-class families and who are doing well in school.

Source

12 The latest annual statistics are available at www.cnb.gov.sg.
MORE LIBERAL VIEWS AMONGST YOUTHS

• Older youths seem to have more liberal views towards cannabis: that it is a “soft and cool” drug, is less harmful and less addictive than tobacco, and are hence more willing to experiment with it. These views are wrong and dangerous.

• The Ministry of Home Affairs (MHA) conducted a survey between Jul and Oct 2018 to study Singapore residents’ perception of the drug situation in Singapore, and their support for Singapore’s anti-drug policies. While the public’s support for Singapore’s tough stance against drugs was strong at 98%, only about 68% of youths perceived the consumption of cannabis to be harmful.

• Such views could have been influenced by what they read on the internet and social media that normalise drug-taking behaviour, by celebrities (e.g. Rihanna, Justin Bieber, Lindsay Lohan) glamourising a drug-taking lifestyle, and by the growing calls of support from pro-drug lobbyists seeking to decriminalise drug use and even legalise certain drugs.

• Many sources advocating cannabis use have hidden agendas. Very often, they may be sponsored by entities that would benefit commercially from cannabis legalisation. Teach your students to be discerning readers, and to take a step back to think critically when reading information from these sources.

MARKETING TACTICS

• Companies use questionable marketing tactics that downplay or dismiss the harms of cannabis. They portray cannabis and its consumption as part of an active, natural lifestyle choice so as to shape public perception of cannabis and cannabis abusers.

• Cannabis has also been added into consumer edibles such as cookies and candies, normalising cannabis as a part of everyday edibles, making the young and impressionable think that cannabis is harmless and safe.

NEWS ARTICLE

• 138 arrested in drug blitz.
Cannabis chocolate and strawberry taffies seized.

Cannabis-infused chocolate and strawberry taffies seized in a CNB raid.
TIPS & CONVERSATION STARTERS

CNB has the following Preventive Drug Education (PDE) offerings for schools and educators to take on an active role in keeping our young away from drugs. Contact us for more information at cnb_preventive_education_unit@cnb.gov.sg.

- **After-School Engagement Programme** (for Secondary students)
- **Anti-Drug Ambassador Activity** (for Primary 4 & 5 students)
- **Augmented Reality Exhibition & Static Exhibition**
- **Drug Buster Academy** (mobile exhibition bus)
- **Illustrated Book “Captain Drug Buster vs Dr. Wacko: The Final Showdown”** (available at all Primary School libraries & public libraries)
- **Monthly PDE Newsletter** (for teacher advocates)

- **Message Cards** (for educators & counsellors)
- **PDE Skits** (for Primary, Secondary & Post-Secondary students)
- **PDE Talks** (for students, educators & counsellors)
- **PDE Videos on CNB.DrugFreeSG social media handles**
- **Small Group Sharing Sessions** (for at-risk students)
- **PDE Toolkit** (for educators & counsellors)

**KNOW THE SIGNS**

- Hangs around with a different group of friends
- Sudden drop in school grades
- Exhibits extreme mood swings
- Displays poor body coordination
- Has bloodshot / sunken eyes
- Skips school regularly

**WAYS TO HELP YOUTHS STAY DRUG-FREE**

- Listen to them when they feel stressed and suggest healthy group activities for a wider social circle.
- Emphasise that substance abuse is not the right way to fit in.
- Equip them with the skills to refuse drug offers.
- Involve them in higher responsibility work so that they feel valued. Praise them when they deserve it.

CNB has collaborated with the Ministry of Education (MOE) to incorporate PDE messages into some syllabi.

- “Drugs & Their Effects” module on MOE Student Learning Space
- Lower Secondary Science Normal (Technical) textbook “Science Around Us”
- Secondary 1 & 2 Character & Citizenship Education
- Primary 4 & 5 Health Education

**LESSON PLANS & TEACHING AIDS**

Lesson plans and teaching aids are available in the PDE Toolkit for Educators. To access, scan the QR code and refer to pages 104 - 142.
INFOGRAPHICS

CNB has produced many useful PDE materials to aid persons of influence such as educators, counsellors and parents to raise awareness of drug abuse.

IMPACT OF CANNABIS ABUSE ON YOUR LIFE

If you are a perfectly healthy person, would you jeopardize your lifestyle with...?

MEN

HAIR LOSS
Young male cannabis smokers are prone to hair loss

MAN BOOBS
Regular male cannabis smokers can develop Gynecomastia - aka man boobs

WOMEN

BAD COMPLEXION
Acne and increased facial hair in women

MENSTRUAL CYCLE DISRUPTION
Even 1g of cannabis abuse is enough to disrupt the menstrual cycle

STRONG SUPPORT AGAINST LEGALISATION OF CANNABIS

87% agreed that cannabis abuse should remain illegal in Singapore

Source
Public Perception Survey on Singapore’s Anti-Drug Policies 2018
BRAIN CHANGES IN CHILDREN EXPOSED TO CANNABIS
- Lower IQ
- Cognitive performance decline in adulthood

DEVELOPMENT OF MAJOR MENTAL CONDITIONS
- SCHIZOPHRENIA
- DEPRESSION
- BIPOLAR DISORDER

CANNABIS IS ADDICTIVE
Among daily abusers, 50% are going to get addicted

Source
A Literature Review on Medical Cannabis: Conducted by a team of psychiatrists and researchers from the Institute of Mental Health, Singapore, 2016
VIDEOS

1. Lancet Study: The Link Between Cannabis Use and Psychosis

0:43 min

Findings from the largest study of its kind to date show that daily cannabis abuse, as well as the abuse of high-potency cannabis, increase the risk of mental health problems.

WHAT SHOULD YOU KNOW?

The International Narcotics Control Board (INCB) has warned about the risks of pharmaceutical products containing cannabinoids, and the dangers of legalising cannabis for recreational use.

1. Cannabis use has adverse impact on public health. Effects of short-term use include intoxication and panic attacks, while long-term use is associated with dependence, stroke and increased risk of cancer.

2. Cannabinoids should only be approved for medical use on the basis of scientific evidence.

3. Clinical trials suggest that while some cannabinoids may relieve the symptoms of certain illnesses, they do not address the underlying diseases.

4. Attempts to market and promote the medical use of cannabis products as “herbal medicines” are inconsistent with the classification of cannabis and its derivatives under the 1961 and 1971 United Nation International Drug Control Conventions.

5. The legalisation of cannabis use controversies international drug control treaties.

Source

Annual Report 2018, International Narcotics Control Board
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<thead>
<tr>
<th>4. Dangers of Marijuana - Mental Health Issues</th>
<th>7. Cannabis</th>
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<td>1:21 min Dr. Jimmy Lee from Institute of Mental Health shares about the effects cannabis has on mental health.</td>
<td>3:20 min Learn about the harmful effects and addictive nature of cannabis, and understand the myths surrounding its use.</td>
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<th>5. Dangers of Marijuana Addiction</th>
<th>8. Harms of Cannabis</th>
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<td>1:22 min The video shows that although the risk of cannabis addiction may not be the same as heroin, there is still a high risk of developing psychological dependency on the drug.</td>
<td>2:15 min This video provides parents with a general overview of the harms of cannabis, and the worrying trend of increasing liberal attitudes among youths towards drugs.</td>
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<th>6. Dangers of Marijuana - Medical Marijuana</th>
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<td>1:31 min Dr. Jimmy Lee from Institute of Mental Health shares about the harmful effects of “medical cannabis”.</td>
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These posters are also available at www.cnb.gov.sg.
#DidYouKnow that the colours of the anti-drug ribbon, which is a green ribbon over a white one, represent 'Health', 'Vitality' and 'Strength'?
Visit the CNB website at www.cnb.gov.sg for more information. If you have been approached to try drugs or wish to report any information, please call the CNB hotline at 1800-325-6666.

@CNB.DrugFreeSG