



WEEKLY EPIDEMIOLOGICAL REPORT

A publication of the Epidemiology Unit
Ministry of Health

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Cannabis and Health

Background

The extent of global illicit drug use remained stable in the five years up to and including 2010, at between 3.4 and 6.6 per cent of the adult population (persons aged 15-64). However, some 10-13 per cent of drug users continue to be problem users with drug dependence and/or drug-use disorders, the prevalence of HIV (estimated at approximately 20 per cent), hepatitis C (46.7 per cent) and hepatitis B (14.6 per cent) among injecting drug users continues to add to the global burden of disease, and, last but not least, approximately 1 in every 100 deaths among adults is attributed to illicit drug use.

Opioids continue to be the dominant drug type accounting for treatment demand in Asia and Europe and also contribute considerably to treatment demand in Africa, North America and Oceania. Treatment for cocaine use is mainly associated with the Americas, while cannabis is the main drug causing treatment demand in Africa. Demand for treatment relating to the use of amphetamine-type stimulants (ATS) is most common in Asia. Globally, the two most widely used illicit drugs remain cannabis (global annual prevalence ranging from 2.6 to 5.0 per cent) and ATS, excluding "ecstasy", (0.3-1.2 per cent) but data relating to their production are scarce. Total production and cultivation of coca is known to be stable, while the production of opium has returned to levels comparable to 2009. Global annual prevalence of both cocaine and opiates (opium and

heroin) has remained stable, with ranges from 0.3-0.4 per cent and 0.3-0.5 per cent, respectively, of the adult population aged 15-64

Cannabis

Cannabis is a generic term used to denote the several psychoactive preparations of the plant *Cannabis sativa*. The major psychoactive constituent in cannabis is Δ -9 tetrahydrocannabinol (THC). Compounds which are structurally similar to THC are referred to as cannabinoids. In addition, a number of recently identified compounds that differ structurally from cannabinoids nevertheless share many of their pharmacological properties. The Mexican term 'marijuana' is frequently used in referring to cannabis leaves or other crude plant material in many countries. The unpollinated female plants are called *hashish*. Cannabis oil (hashish oil) is a concentrate of cannabinoids obtained by solvent extraction of the crude plant material or of the resin.

Epidemiology

Cannabis is by far the most widely cultivated, trafficked and abused illicit drug. Half of all drug seizures worldwide are cannabis seizures. The geographical spread of those seizures is also global, covering practically every country of the world. About 147 million people, 2.5% of the world population, consume cannabis (annual prevalence) compared with 0.2% consuming cocaine and 0.2% consuming opiates. In the present decade, cannabis abuse has grown more rapidly than cocaine and opiate abuse. The most rapid growth in cannabis abuse since the 1960s has been in developed countries in North America, Western Europe and Australia. Cannabis has become more closely linked to youth culture and the age of initiation is usually lower than for other drugs. An analysis of cannabis markets shows that low prices coincide with high levels of abuse, and vice versa. Cannabis appears to be price-inelastic in the short term, but fairly elastic over the longer term. Though the number of cannabis consumers is greater than opiate and cocaine con-

Annual prevalence and number of illicit drug users at the global level, 2010 (Source-WHO)

	Prevalence (percentage)		Number (thousands)	
	Low	High	Low	High
Cannabis	2.6	5.0	119 420	224 490
Opioids	0.6	0.8	26 380	36 120
Opiates	0.3	0.5	12 980	20 990
Cocaine	0.3	0.4	13 200	19 510
Amphetamine - type stimulants	0.3	1.2	14 340	52 540
"Ecstasy"	0.2	0.6	10 480	28 120
Any illicit drug	3.4	6.6	153 000	300 000

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sumers, the lower prices of cannabis mean that, in economic terms, the cannabis market is much smaller than the opiate or cocaine market.

Acute health effects of cannabis use

The acute effects of cannabis use has been recognized for many years, and recent studies have confirmed and extended earlier findings. These may be summarized as follows:

- Cannabis impairs cognitive development (capabilities of learning), including associative processes; free recall of previously learned items is often impaired when cannabis is used both during learning and recall periods
- Cannabis impairs psychomotor performance in a wide variety of tasks, such as motor coordination, divided attention, and operative tasks of many types; human performance on complex machinery can be impaired for as long as 24 hours after smoking as little as 20 mg of THC in cannabis; there is an increased risk of motor vehicle accidents among persons who drive when intoxicated by cannabis.

Chronic health effects of cannabis use

- Selective impairment of cognitive functioning which include the organization and integration of complex information involving various mechanisms of attention and memory processes
- Prolonged use may lead to greater impairment, which may not recover with cessation of use, and which could affect daily life functions
- Development of a cannabis dependence syndrome characterized by a loss of control over cannabis use is likely in chronic users
- Cannabis use can exacerbate schizophrenia in affected individuals
- Epithelial injury of the trachea and major bronchi is caused by long-term cannabis smoking
- Airway injury, lung inflammation and impaired pulmonary defense against infection from persistent cannabis consumption over prolonged periods
- Heavy cannabis consumption is associated with a higher prevalence of symptoms of chronic bronchitis and a higher incidence of acute bronchitis than in the non-smoking cohort
- Cannabis used during pregnancy is associated with impairment in fetal development leading to a reduction in birth weight.
- Cannabis use during pregnancy may lead to postnatal risk of rare forms of cancer although more research is needed in this area.

The health consequences of cannabis use in developing countries are largely unknown because of limited and non-systematic research, but there is no reason *a priori* to expect that biological effects on individuals in these populations would be substantially different to what has been observed in developed countries. However, other consequences might be different given the cultural and social differences between countries.

Therapeutic uses of cannabinoids

Several studies have demonstrated the therapeutic effects of cannabinoids for nausea and vomiting in the advanced stages of illnesses such as cancer and AIDS. Dronabinol (tetrahydrocannabinol) has been available by prescription for more than a decade in the USA. Other therapeutic uses of cannabinoids are being demonstrated by controlled studies, including treatment of asthma and glaucoma, as an antidepressant, appetite stimulant, anticonvulsant and anti-spasmodic, research in this area should continue. For example, more basic research on the central and peripheral mechanisms of

the effects of cannabinoids on gastrointestinal function may improve the ability to alleviate nausea and emesis. More research is needed on the basic neuropharmacology of THC and other cannabinoids so that better therapeutic agents can be found.

Source

Cannabis-available from http://www.who.int/substance_abuse/facts/cannabis/en/
Executive summary, available from http://www.unodc.org/documents/data-and-analysis/WDR2012/-Executive_summary_24may.pdf

Compiled by **Dr. Madhava Gunasekera** of the Epidemiology Unit

**Table 3 : Water Quality Surveillance
Number of microbiological water samples - Aug / 2013**

District	MOH areas	No: Expected *	No: Received
Colombo	12	72	29
Gampaha	15	90	38
Kalutara	12	72	0
Kalutara NISH	2	12	14
Kandy	23	138	19
Matale	12	72	0
Nuwara Eliya	13	78	0
Galle	19	114	0
Matara	17	102	4
Hambantota	12	72	83
Jaffna	11	66	55
Kilinochchi	4	24	0
Manner	5	30	27
Vavuniya	4	24	30
Mullatvu	4	24	9
Batticaloa	14	84	0
Ampara	7	42	0
Trincomalee	11	66	27
Kurunegala	23	138	77
Puttalam	9	84	27
Anuradhapura	19	114	24
Polonnaruwa	7	42	19
Badulla	15	90	0
Moneragala	11	66	118
Rathnapura	18	108	0
Kegalle	11	66	42
Kalmunai	13	78	0

* No of samples expected (6 / MOH area / Month)
NR = Return not received

Table 4: Selected notifiable diseases reported by Medical Officers of Health 07th - 13th September (37th Week)

RDHS	Dengue Fever		Dysentery		Encephaliti		E Fever		F Poisoning		Leptospiros		T Fever		V Hepatitis		H Rabies		Chickenpox		Meningitis		Leishmaniasis		WRCD %	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	T*	C**
Colombo	55	7211	0	157	0	16	1	108	3	48	7	162	0	7	1	65	0	1	2	319	1	50	0	0	69	31
Gampaha	53	2743	2	158	0	13	2	43	3	26	16	286	1	15	1	150	0	0	4	123	1	76	0	5	73	27
Kalutara	31	1356	5	145	0	17	1	66	0	23	8	298	1	4	1	19	0	0	4	206	2	58	0	0	62	38
Kandy	25	1432	2	113	0	11	1	21	0	8	1	61	2	90	4	77	0	0	1	100	1	13	0	3	52	48
Matale	4	367	0	77	0	4	0	23	0	7	0	53	0	4	0	35	0	0	0	39	2	32	1	10	54	46
NuwaraEliya	1	195	1	126	0	2	0	9	140	144	0	21	1	57	0	19	0	0	0	98	0	12	0	0	69	31
Galle	16	680	3	90	0	18	0	3	0	79	8	21	3	45	1	11	0	1	7	260	1	43	0	0	79	21
Hambantota	9	267	2	45	0	3	1	14	0	32	3	173	1	60	2	79	0	0	1	85	0	43	2	243	83	17
Matara	8	384	0	65	0	10	2	26	0	27	2	156	2	71	1	131	0	2	3	215	2	64	4	73	94	6
Jaffna	10	564	23	233	1	8	1	288	0	88	0	126	0	326	0	14	0	1	6	129	1	51	0	0	100	0
Kilinochchi	0	52	0	22	0	0	2	13	0	5	0	8	0	16	0	0	0	1	0	2	0	7	0	9	50	50
Mannar	0	60	1	53	0	1	0	57	0	25	0	9	0	18	0	2	0	0	0	11	0	5	0	3	60	40
Vavuniya	0	59	0	36	0	12	0	9	0	16	1	13	0	2	0	3	0	2	0	21	0	30	1	8	50	50
Mullaitivu	0	101	1	13	0	2	0	7	0	34	0	50	0	6	0	1	0	2	0	8	0	5	0	12	40	60
Batticaloa	0	480	7	234	0	5	1	6	11	49	0	37	0	2	0	10	0	3	1	39	0	7	0	0	71	29
Ampara	10	143	16	118	0	0	0	4	1	8	0	31	0	1	1	6	0	0	4	74	0	15	1	3	86	14
Trincomalee	1	179	1	52	0	3	0	5	0	1	0	59	0	11	0	3	0	1	1	35	0	4	0	27	50	50
Kurunegala	24	2407	0	132	0	31	0	36	2	23	10	261	2	34	2	44	0	1	7	293	0	92	0	35	93	7
Puttalam	9	767	3	59	0	7	0	15	0	35	3	39	0	12	0	5	0	0	0	65	0	31	0	7	62	38
Anuradhapur	4	429	3	81	1	16	0	3	3	35	0	295	0	20	0	18	1	2	8	154	2	86	2	323	84	16
Polonnaruwa	9	352	1	56	0	1	0	14	0	61	5	151	0	3	0	27	1	2	1	114	0	16	0	130	100	0
Badulla	5	410	3	145	0	4	1	16	0	8	0	47	1	66	0	40	0	0	0	101	0	52	1	7	65	35
Monaragala	2	196	2	94	0	4	1	20	0	20	2	191	0	51	24	99	0	1	1	41	0	22	0	10	82	18
Ratnapura	20	1507	11	301	0	83	0	37	0	16	4	282	2	53	9	318	0	1	4	131	3	73	0	12	78	22
Kegalle	16	913	1	103	0	15	0	23	0	11	10	164	1	66	3	180	0	0	7	259	0	95	0	1	100	0
Kalmune	0	485	0	128	0	2	0	3	0	98	0	8	0	2	0	4	0	0	0	74	0	8	0	1	31	69
SRI LANKA	312	23739	88	2836	02	288	14	869	160	927	80	3012	17	1042	50	360	02	21	62	2996	16	990	12	922	73	27

Source: Weekly Returns of Communicable Diseases (WRCD).

*T= Timeliness refers to returns received on or before 13th September. 2013 Total number of reporting units 339. Number of reporting units data provided for the current week:245 C**= Completeness

A = Cases reported during the current week. B = Cumulative cases for the year.H Rabies*= Human Rabies, E Fever*=Enteric Fever, F Poison*=Typhus Fever, V Hepatitis*=Viral Hepatitis

Table 1: Vaccine-Preventable Diseases & AFP 07th – 13th September 2013 (37th Week)

Disease	No. of Cases by Province									Number of cases during current week in 2013	Number of cases during same week in 2012	Total number of cases to date in 2013	Total number of cases to date in 2012	Difference between the number of cases to date in 2013 & 2012
	W	C	S	N	E	NW	NC	U	Sab					
AFP*	01	01	03	00	00	00	00	01	00	06	01	66	55	+ 20.0 %
Diphtheria	00	00	00	00	00	00	00	00	00	-	-	-	-	-
Mumps	03	03	05	02	03	03	02	03	01	25	76	1158	3466	- 66.6 %
Measles	18	03	18	02	04	06	03	01	46	104	01	2605	42	+ 6102.4 %
Rubella	00	00	00	00	00	01	00	00	00	01	-	23	-	-
CRS**	00	00	00	00	00	00	00	00	00	00	-	06	-	-
Tetanus	00	00	00	00	00	00	00	00	00	00	00	16	08	+ 100.0 %
Neonatal Tetanus	00	00	00	00	00	00	00	00	00	00	-	00	-	-
Japanese Encephalitis	00	00	00	00	00	00	00	00	00	00	-	66	-	-
Whooping Cough	00	00	01	01	00	00	00	00	00	02	00	64	69	- 07.2 %
Tuberculosis	48	00	14	03	11	00	00	04	23	103	22	5895	6107	- 03.5 %

Key to Table 1 & 2

Provinces: W: Western, C: Central, S: Southern, N: North, E: East, NC: North Central, NW: North Western, U: Uva, Sab: Sabaragamuwa.
 RDHS Divisions: CB: Colombo, GM: Gampaha, KL: Kalutara, KD: Kandy, ML: Matale, NE: Nuwara Eliya, GL: Galle, HB: Hambantota, MT: Matara, JF: Jaffna, KN: Killinochchi, MN: Mannar, VA: Vavuniya, MU: Mullaitivu, BT: Batticaloa, AM: Ampara, TR: Trincomalee, KM: Kalmunai, KR: Kurunegala, PU: Puttalam, AP: Anuradhapura, PO: Polonnaruwa, BD: Badulla, MO: Moneragala, RP: Ratnapura, KG: Kegalle.

Data Sources:

Weekly Return of Communicable Diseases: Diphtheria, Measles, Tetanus, Neonatal Tetanus, Whooping Cough, Chickenpox, Meningitis, Mumps., Rubella, CRS,

Special Surveillance: AFP* (Acute Flaccid Paralysis), Japanese Encephalitis

CRS** =Congenital Rubella Syndrome

AFP and all clinically confirmed Vaccine Preventable Diseases except Tuberculosis and Mumps should be investigated by the MOH

Dengue Prevention and Control Health Messages

To prevent dengue, remove mosquito breeding places in and around your home, workplace or school once a week.

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ON STATE SERVICE

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