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WHO EXPERT COMMITTEE ON DEPENDENCE-PRODUCING DRUGS

Fifteenth Report

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WORLD HEALTH ORGANIZATION
GENEVA
1966

WHO EXPERT COMMITTEE ON DEPENDENCE-PRODUCING DRUGS

Geneva, 4-9 July 1966

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WHO EXPERT COMMITTEE ON DEPENDENCE-PRODUCING DRUGS

Fifteenth Report

The WHO Expert Committee on Dependence-Producing Drugs met in Geneva from 4 to 9 July 1965.

Dr P. Dorolle, Deputy Director-General, on behalf of the Director-General, opened the session and welcomed the members of the Committee, the representatives of the Secretary-General of the United Nations, and the representatives of the Permanent Central Narcotics Board and the Drug Supervisory Body. He referred to the functions of this Expert Committee as the medical advisory body in respect of measures to be taken, nationally as well as internationally, against drug abuse and recalled its responsibilities within the framework of the international narcotics control treaties. While the Committee had initially been concerned solely with the determination of the control status of drugs falling under the provisions of these treaties it had extended systematically its activity to cover other aspects of drug dependence and drug abuse. This was clearly reflected also in the agenda of the present meeting.

Dr N. B. Eddy was elected Chairman, Dr L. Goldberg Vice-Chairman, and Dr A. D. Macdonald Rapporteur.

1. Notifications

1.1 *Acetorphine* [1, 2]

The Committee considered the notification forwarded by the Government of Great Britain and Northern Ireland under paragraph 1 of Article 3 of the Single Convention on Narcotic Drugs, 1961, concerning acetorphine.

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[1] International non-proprietary name proposed for O^3-acetyl-7,8-dihydro-7α-[1(*R*)-hydroxy-1-methylbutyl]-O^6-methyl-6,14-*endo*ethenomorphine, also designated as 3-*O*-acetyltetrahydro-7α-(1-hydroxy-1-methylbutyl)-6,14-*endo*etheno-oripavine and as 5-acetoxy-1,2,3,3a,8,9-hexahydro-2α-[1(*R*)-hydroxy-1-methylbutyl]-3-methoxy-12-methyl-3,9a-etheno-9,9b-iminoethanophenanthro[4,5-bcd]furan.

[2] Also known under the manufacturer's code number M183.

(*a*) The Committee noted that in monkeys acetorphine at very low dose levels suppresses abstinence phenomena of a known dependence of morphine type. Experience has shown that results obtained in the monkey correlate with those in man, so that, when the former are unequivocal, they may be accepted as evidence of what is to be expected in man. Consequently, the Committee was of the opinion that acetorphine must be considered to be a dependence-producing drug of the morphine type and should, therefore, be placed on Schedule I of the Single Convention on Narcotic Drugs, 1961.

(*b*) The Committee was further of the opinion that acetorphine is particularly liable to abuse and to produce ill effects and that such liability is not offset by substantial therapeutic advantages not possessed by substances other than drugs in Schedule IV. Therefore, the use of acetorphine in man should be restricted to its applications in medical and scientific research, but its use for the handling of animals should be allowed. The Committee was accordingly of the opinion that acetorphine should be placed on Schedule IV of the Single Convention provided that this permits its use in animals. Therefore,

The WHO Expert Committee on Dependence-Producing Drugs

RECOMMENDS that its opinions with regard to acetorphine should be communicated to the Secretary-General of the United Nations.

1.2 *Cyprenorphine* [1, 2]

The Committee considered the notification forwarded by the Government of Great Britain and Northern Ireland under paragraph 1 of Article 3 of the Single Convention on Narcotic Drugs, 1961, concerning cyprenorphine.

The Committee noted that cyprenorphine, even more so than nalorphine, produced dysphoria rather than euphoria. It would not relieve the abstinence syndrome or sustain a dependence of morphine type, but would precipitate abstinence phenomena if physical dependence on morphine had been established. The Committee concluded that cyprenorphine had the characteristics of a specific opiate antagonist and should be considered as not having dependence-producing properties of the morphine type, not being liable to similar abuse, and not being productive of similar ill effects as the drugs in Schedule I or Schedule II of the Single Convention.

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[1] International non-proprietary name proposed for *N*-cyclopropylmethyl-7,8-dihydro-7α-(1-hydroxy-1-methylethyl)-O^6-methyl-6,14-*endo*ethenomorphine, also designated as *N*-cyclopropylmethyltetrahydro-7α-(1-hydroxy-1-methylethyl)-6,14-*endo*ethenonororipavine and as 12-cyclopropylmethyl-1,2,3,3a,8,9-hexahydro-5-hydroxy-2α-(1-hydroxymethylethyl)-3-methoxy-3,9a-etheno-9,9b-iminoethanophenanthro[4,5-*bcd*]furan.

[2] Also known under the manufacturer's code number M285.

The Committee was accordingly of the opinion that cyprenorphine should not be placed on any of the schedules of the Single Convention. Therefore,

The WHO Expert Committee on Dependence-Producing Drugs

RECOMMENDS that its opinions with regard to cyprenorphine should be communicated to the Secretary-General of the United Nations.

1.3 *Etorphine* [1, 2]

The Committee considered the notification forwarded by the Government of Great Britain and Northern Ireland under paragraph 1 of Article 3 of the Single Convention on Narcotic Drugs, 1961, concerning etorphine.

(*a*) The Committee noted that in monkeys etorphine at very low doses suppresses abstinence phenomena of a known dependence of morphine type. Experience has shown that results obtained in the monkey correlate with those in man, so that, when the former are unequivocal, they may be accepted as evidence of what is to be expected in man. Consequently, the Committee was of the opinion that etorphine must be considered to be a dependence-producing drug of the morphine type and should therefore, be placed on Schedule I of the Single Convention on Narcotic Drugs, 1961.

(*b*) The Committee was further of the opinion that etorphine is particularly liable to abuse and to produce ill effects and that such liability is not offset by substantial therapeutic advantages not possessed by substances other than drugs in Schedule IV. Therefore, the use of etorphine in man should be restricted to its applications in medical and scientific research, but its use for the handling of animals should be allowed. The Committee accordingly was of the opinion that etorphine should be placed on Schedule IV of the Single Convention provided this permits its use in animals. Therefore,

The WHO Expert Committee on Dependence-Producing Drugs

RECOMMENDS that its opinions with regard to etorphine should be communicated to the Secretary-General of the United Nations.

1.4 *Nicodicodine* [3]

With reference to the notification from the Government of France concerning nicodicodine, the Committee examined evidence supplementary

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[1] International non-proprietary name proposed for 7,8-dihydro-7α-[1(*R*)-hydroxy-1-methylbutyl]-O^6-methyl-6,14-*endo*ethenomorphine, also designated as tetrahydro-7α-(1-hydroxy-1-methylbutyl)-6,14-*endo*etheno-oripavine and as 1,2,3,3a,8,9-hexahydro-5-hydroxy-2α-[1(*R*)-hydroxy-1-methylbutyl]-3-methoxy-12-methyl-3,9a-etheno-9,9b-imino-ethanophenanthro[4,5-*bcd*]furan.

[2] Also known under the manufacturer's code number M99.

[3] International non-proprietary name for 6-nicotinyldihydrocodeine.

to that available to the previous meeting.[1] Primary addiction studies in monkeys indicated that nicodicodine has physical dependence capacity. Experience has shown that results obtained in the monkey correlate with those in man so that, when the former are unequivocal, they may be accepted as evidence for what is to be expected in man. Consequently, the Committee was of the opinion that nicodicodine must be considered to be a dependence-producing drug of the morphine type and that nicodicodine and its salts should fall under the regime laid down in the 1931 Convention for the drugs specified in Article 1, paragraph 2, Group 1 of that Convention. Therefore,

The WHO Expert Committee on Dependence-Producing Drugs

RECOMMENDS that its opinion with respect to nicodicodine be communicated to the Secretary-General of the United Nations.

The Committee would draw attention to the fact that, as an ester and ether of dihydromorphine, nicodicodine is automatically included in Schedule I of the Single Convention on Narcotic Drugs, 1961.

2. The Situation in Respect of Pentazocine [2]

The Committee has considered the development of specific opiate antagonists and the desirability of indicating its opinion on the value and safety of these drugs. Some are not practical as analgesics because of their dysphoric effects. Others, such as pentazocine, are less limited and their analgesic activities have been found useful in various trials and appear to be uncomplicated by the risk of misuse.

In the case of pentazocine the Committee considered

(1) the negative results in physical dependence capacity testing in monkeys;

(2) the absence of evidence of significant liking of the compound by former addicts and the absence of evidence of dependence-producing properties in trials in man; and

(3) the very extensive clinical trials of this compound.

The Committee concluded that there was very little likelihood of abuse of this compound and that it presented no significant risk to public health.

On this account the Committee was of the opinion that there was no need at this time for narcotics control of pentazocine internationally or nationally.

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[1] *Wld Hlth Org. techn. Rep. Ser.*, 1965, **312**, 4.

[2] International non-proprietary name proposed for 3-(3-methyl-2-butenyl)-1,2,3,4,5,6-hexahydro-8-hydroxy-6,11-dimethyl-2,6-methano-3-benzazocine, also designated as 2′-hydroxy-5,9-dimethyl-2-(3,3-dimethylallyl)-6,7-benzomorphan.

3. Work of International Bodies Concerned with the Control of Narcotic Drugs

3.1 From the report of the twentieth session of the Commission on Narcotic Drugs of the Economic and Social Council,[1] the Committee noted the progress made in the realistic appreciation of the various factors and circumstances connected with coca leaf chewing and in the planning and development of control and remedial measures. Their vigorous prosecution should be helped by general acceptance of the fact that for therapeutic purposes cocaine can be adequately replaced by synthetic substitutes.

3.2 It would appear that accurate appraisal of the extent and severity of drug abuse in a given area is still greatly hampered by the lack of appropriate and practicable methods of case finding and accounting; this is borne out by difficulties encountered in summarizing, evaluating and comparing relevant reports from various quarters of the world.[2]

A step towards more uniform and meaningful data might be the enumeration of individuals receiving, on medical prescription and over a certain minimum period of time, one or more of the drugs subjected to one or other of the international control regimes; this would at least provide an indicator of the extent to which drug dependence may arise in connexion with the legal consumption of such drugs. In conjunction with specific information, where such exists, on known drug-dependent persons and with the information available on violations of narcotic laws and regulations, as regards both drugs and individuals concerned, this information would aid materially in clarifying the total picture of the use and abuse of dependence-producing drugs.

3.3 The Committee noted further the growing acceptance of the improved terminology in respect of drug dependence, recommended in the fourteenth report,[3] and its usefulness for more adequate descriptions of the various types of drug abuse.

3.4 The Committee noted the broad view taken by the Permanent Central Narcotics Board in its report [4] to the Economic and Social Council, in accordance with the views expressed by the Commission on Narcotic Drugs. In particular the Committee noted with satisfaction the emphasis placed in the Board's report on the need for

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[1] United Nations, Commission on Narcotic Drugs (1965) *Report of the Twentieth Session (November-December 1965)—(Economic and Social Council. Official Records: fortieth session. Supplement No. 2)* (Document E/4140).

[2] United Nations, Commission on Narcotic Drugs, *Summary of Annual Reports of Governments* (Document E/NR/1963 Summary).

[3] *Wld Hlth Org. techn. Rep. Ser.*, 1965, **312**, 7 (section 4).

[4] United Nations, Permanent Central Narcotics Board (1965) *Report to the Economic and Social Council on the Work of the Board in 1965* (Document E/OB/21).

(*a*) more accurate statistics on the actual extent of drug abuse in various countries (see section 3.2 of this report);

(*b*) more research on particular factors involved in the varying etiology of drug dependence in different parts of the world; and

(*c*) adequate facilities in all areas for treatment and rehabilitation of drug-dependent persons.

4. Single Convention on Narcotic Drugs, 1961

In the light of observations made in the Commission on Narcotic Drugs of the Economic and Social Council,[1] the Committee re-examined its previous recommendations [2] regarding amendments to the schedules annexed to the Single Convention. It considered that the amendments proposed for Schedule I were of preventive value in certain circumstances by closing possible gaps in the control systems. The suggested amendment [3] concerning products obtained from the phenanthrene and ecgonine alkaloids will permit immediate coverage of new substances of the types indicated, while allowing for freedom of scientific research in this field. Further, the Committee noted that the words "dependence-producing" should be inserted before the word "effects" in the last line of this amendment.

Regarding the entry "Concentrate of Poppy Straw" in Schedule I, the deletion of the words "when such material is made available in trade" would allow for control at all stages of a product which *per se* is of high alkaloidal content with great inherent risk if any diversion should occur.

The proposed amendments [4] concerning the provisions for exemption of preparations under Schedule III clarify and emphasize the essential criteria for such exemption.

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[1] United Nations, Commission on Narcotic Drugs (1965) *Report of the Twentieth Session (November-December 1965)—(Economic and Social Council. Official Records: fortieth session. Supplement No. 2)* (Document E/4140, p. 7).

[2] *Wld Hlth Org. techn. Rep. Ser.*, 1964, **273**, 8 (section 3).

[3] "Any other product obtained from any of the phenanthrene alkaloids of opium or ecgonine alkaloids of the coca leaf, not listed in Schedule I or II, and neither made nor utilized exclusively for authorized domestic research, unless the government concerned finds that the product in question does not have morphine-like or cocaine-like dependence-producing effects."

[4] Sections 1, (*a*) and (*b*), should read as follows:
"When compounded with one or more other ingredients and containing not more than 100 milligrams of the drug per dosage unit and with a concentration of not more than 2.5 per cent in undivided preparations".
In section (2) the following words should be deleted:
"in such a way that the preparation has no, or a negligible, risk of abuse, and in such a way that the drug cannot be recovered by readily applicable means in a yield which would constitute a risk to public health".
In section (3) the words "Solid dose" should be deleted.

5. Significance of Specific Opiate Antagonists in Respect of Abuse

The study of the specific opiate antagonists continues to be the most promising lead towards separation of analgesic and dependence-producing properties and abuse liability. Chemical modifications of the morphine, morphinan, benzomorphan and pethidine series are providing a wide range of compounds with antagonistic action. Their examination, however, has not yet provided any indication of consistency in the relation of structure to analgesic action, dependence-production, or antagonistic action. Nevertheless, the range of activity is known to include high analgesic potency both with and without high frequency of disturbing side effects and, at the most, mild atypical dependence production. Antagonistic action, particularly its characteristic precipitation of abstinence phenomena in an established dependence of morphine type, virtually precludes significant abuse liability. Altogether, research on these compounds is encouraging and promises improvement and greater safety in the relief of pain (see the remarks on pentazocine in section 2, p. 6).

6. New Approaches in Treating Drug Dependence

The Committee reviewed an experiment of over two years' duration in which a group of subjects predominantly dependent on heroin were stabilized on large single daily doses of methadone. These subjects have been helped to find work and accommodation but continue to visit the clinic regularly for their drug, always given orally, and for monitoring of drug intake by urine analysis. They appear to have lost interest in other narcotics, but their attitude towards other drugs is less certain. The pharmacological explanation would appear to be that a high degree of cross-tolerance to the subjective and other effects of heroin and related drugs has been established in these subjects. The majority of the subjects seem to have abandoned their antisocial activities and to show substantial improvement in their social adjustments. The avowed intent has always been eventual withdrawal from drugs, but no effort towards this has yet been made and there is at present no time schedule for such withdrawal. It must be emphasized that this methadone maintenance programme should be looked upon as a research procedure on a limited scale which it is hoped will yield valuable information on the phenomena of drug dependence. However, at present many questions remain unanswered and many investigations to elucidate the precise role of methadone as against that of surrounding conditions need to be initiated.

The Committee is of the opinion that in so far as maintenance on methadone is not carried out simply for gratification of the individual but is used as an adjunct to vigorous efforts towards social rehabilitation, the

employment of this procedure under very carefully controlled conditions will continue to be of considerable scientific interest.

In the present methadone maintenance programme, the drug is given at a high uniform dose level for an undefined period. On the other hand in the use of methadone to mitigate the severity of abstinence phenomena the doses are small and rapidly diminished over a few days. These two uses are in no sense comparable and must not be confused.

The Committee also reviewed the recently introduced experiment involving stabilization on cyclazocine. In this instance heroin-dependent or other narcotic-dependent persons first have their drug withdrawn and after a brief drug-free period receive the antagonist cyclazocine in increasing doses to a level sufficient completely to block the euphorigenic effects of their initial drug of dependence. These patients also are helped to establish good social relationships and working habits. As in the methadone experiment, the subjects appear to be progressing towards rehabilitation. Pharmacologically, however, the explanation is different. The cyclazocine blocks the essential effects of the opiate whereas methadone establishes a high degree of cross tolerance. Furthermore, cyclazocine stabilization is not maintenance of drug dependence of morphine type. Again, there are many unanswered questions including the precise role of antagonist blocking as a long-term treatment procedure.

In any case, the experiments described above indicate that more subjects with a drug dependence of morphine type may be willing to accept social rehabilitation than had been generally believed.

The Committee's attention was directed to a number of community-oriented programmes for the treatment of drug dependence. A positive feature of the philosophy involved in some of these is the emphasis on the prospects of successful treatment. To this end, patients at different stages of treatment are employed for direct help of those who have made less progress than themselves, and eventually for recruitment of new candidates for treatment. The Committee approves this outlook.

7. Sociological Implications of Drug Dependence

The concepts and significance of these problems are discussed in some detail in Annex 1. The Committee has repeatedly drawn attention to the need for epidemiological studies on drug dependence and drug abuse.[1] It appreciates the opportunity to extend its activity towards the sociological aspects of drug dependence and would emphasize the need for research along the following lines :

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[1] *Wld Hlth Org. techn. Rep. Ser.*, 1957, **131**, 11 (section 6) ; 1960, **188**, 10 (section 4) ; 1962, **229**, 11 (section 7).

(1) Fact-finding with respect to incidence (on a continuing basis) as regards sex, age, occupation, groups at risk and the drugs abused.

(2) Definitions of " use " and " abuse " in various cultures.

(3) Investigation of cause-effect relationships based on
(*a*) sociological background (home, family, work, etc.);
(*b*) medical, psychological, economic and cultural factors.

(4) Prevention by education and legislation.

(5) Factors affecting the design of treatment programmes:
(*a*) "contagion " from person to person;
(*b*) " resistance " to influence from environment (availability of agent);
(*c*) changes in the use of medicaments.

(6) Dynamic consequences of enactment of drug-control measures:
(*a*) deterrence of drug abuse by some, perhaps the majority of individuals in a given society;
(*b*) promotion of drug abuse by a minority of individuals in that society;
(*c*) formation of deviant subcultures in which abuse of proscribed drugs is a distinguishing feature;
(*d*) possible dangers of provocation of the society towards creation or further alienation of deviant groups on account of increasingly punitive attitudes in the interpretation and implementation of legislation.

8. Abuse and Control of Drugs not Falling under International Conventions

The abuse of dependence-producing drugs of depressant, stimulant and hallucinogenic [1] types continues to increase and to grow in importance not only for the countries in which there is a significant problem, but also for neighbouring countries. The Committee has repeatedly urged the adoption of adequate national measures of control. These were set out in detail in its fourteenth report,[2] which in addition envisaged the possibility of international measures.

The Committee was informed of a meeting to be convened by the United Nations Commission on Narcotic Drugs to explore the steps that might be taken towards adequate control. It recognized the timeliness of this meeting and emphasized, as did the World Health Assembly,[3]

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[1] These terms in this context include not only barbiturates and amphetamines but also any drug that is found to have dependence-producing action of barbiturate or amphetamine type and shown to be abused because of depressant or stimulating effect on the central nervous system, but excluding alcohol and substances under narcotics control.

[2] *Wld Hlth Org. techn. Rep. Ser.*, 1965, **312**, 9 (section 7).

[3] *Off. Rec. Wld Hlth Org.*, 1965, **143**, 31 (Resolution WHA18.47).

that control within a country, however satisfactory, may not afford adequate protection for that country or others without international co-ordination of control measures.

The Committee has drawn attention to the diversity of the drugs abused and would point out that control could not and should not be instituted on the broad basis of any classification, but that in each specific instance the recognized risk to public health should be the paramount consideration. If control measures in this connexion are to be established, they should include means for evaluating the risk involved.

9. Testing for Dependence Liability

The Committee has from time to time considered the methods available for the determination of dependence liability of different types. A description of the procedures has been published [1] and facilities are now available for screening purposes with respect to sedatives as well as substances that may have morphine-like effects. An outline of the technical conditions for making use of these facilities has since been prepared.[2] This may be particularly timely and helpful in view of what has been said about the increasing abuse of non-narcotic agents not now under international control and the consideration being given to plans for their control.

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[1] *Wld Hlth Org. techn. Rep. Ser.*, 1964, **287**.

[2] National Academy of Sciences—National Research Council, Committee on Problems of Drug Dependence (1966) *Minutes of the twenty-eighth meeting. Addendum 1*, Washington.

Annex 1

SOCIOLOGICAL IMPLICATIONS OF DRUG DEPENDENCE

As a result of historical, political, cultural, religious, economic and other antecedents there exist, in a given society at a given time, a number of beliefs and moral attitudes toward uses and effects of certain drugs and a number of ways of perceiving drug users that may or may not coincide with the beliefs and attitudes of the users themselves or, for that matter, with " objective " scientific information. Such beliefs and attitudes define the social settings in which drugs may or may not be used for designated purposes and these, in turn, influence the behavioural effects of drugs to varying extents. Persons whose drug-usage patterns deviate from the norms approved by the larger society in which they live may then be perceived by the latter as " deviants " requiring separation from it. This alters the deviant drug user's perception of himself and leads him to withdraw further from the larger society, to identify with others like him and with his new " peers ", and to create a subculture with beliefs, attitudes and corresponding patterns of language and behaviour that are even more alien to the larger society. In turn, such increased alienation reduces the larger society's tolerance of deviance, with a consequent increase in the number of persons perceived as deviants, giving further impetus to this " positive feedback system".[1] Operating against this system are, or course, the deterrent effects of social disapproval that limit to some degree the recruitment of new deviants ; in a given society, the number of deviant drug users and the characteristics of their subcultures will be determined by the resultant of these opposing processes. Hence, the social problems arising from deviant drug-use change in time and need periodic re-examination for their proper solution.

Although a considerable amount of descriptive information is available about patterns of drug abuse throughout the world, knowledge of how the variables mentioned above interact is still very fragmentary, being limited mainly to the results of a few studies on drug dependence of morphine type in circumscribed areas. In future studies, attention should be focused on the following factors and their interaction :

I. Antecedents of varying present-day beliefs and attitudes toward drug usage and drug users (compare, for example, the USA, the United Kingdom and Asia).

II. Variations in social settings and drug effects (compare, for example, the purposes and modes of use of opioids and cannabis products among

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[1] Wilkins, L. T. (1965) *Some sociologic factors in drug addiction control.* In : Wilner, D. M. & Kassebaum, G. G., ed., *Narcotics.* New York, McGraw-Hill, pp. 140-156.

different social and occupational groups in Europe, the USA, and in India and other Asian countries).

III. Characteristics of deviant, drug-using subcultures.

(1) Urban, opioid-dependent groups in the USA. Concentration in the slum districts of large metropolitan areas with:

(*a*) extreme poverty, high delinquency, ready availability of drugs of all sorts;

(*b*) unstable family relationships, weak or non-existent models of successful males in the home; sense of futility with regard to long-range prospects of education, employment and security; emphasis on short-term satisfactions; distrust of "law and order"; identification of "success" with illicit activities;

(*c*) prevalence of "street corner" society; pressures to join deviant subgroups; initiation into drug use by peers and "pushers"; positive reinforcement by sense of "belonging".

(2) "Avant-garde" and "beatnik" groups in the USA and Europe (not economically or culturally deprived; role of "protest" and "adolescent rebellion").

IV. Drug control laws and their consequences (compare especially the USA and the United Kingdom; controversies regarding differences in "perception" of drug-dependent persons; current trends in both countries).

Further research should, in particular, be directed towards the following:

(1) Cross-cultural studies on "perception" (and "misperception") of drug use and drug users.

(2) Distinction between "use" and "abuse" of drugs in various cultures.

(3) Socio-economic factors in development of deviance.

(4) Social teaching, learning and identification of drug users with deviant subcultures.

(5) Modes of enforcement of drug-control laws and their consequences.

Annex 2

LIST OF DRUGS UNDER INTERNATIONAL NARCOTICS CONTROL [1]

Common name or INN *	*Chemical designation*	*Expert Committee on Dependence-Producing Drugs*		*Control regime*	
		Report number	*Reference* [2]	*Group/ Schedule*	*Convention*
acetorphine *	O^3-acetyl-7,8-dihydro-7α-[1(*R*)-hydroxy-1-methylbutyl]-O^6-methyl-6,14-*endo*etheno-morphine	15	1966, **343**, 3	I/IV	1961
acetyldihydrocodeine	acetyldihydrocodeine	1	1949, **19**, 30	II	1931
acetylmethadol *	3-acetoxy-6-dimethylamino-4,4-diphenylheptane	1	1949, **19**, 31	I	1931
allylprodine *	3-allyl-1-methyl-4-phenyl-4-propionoxypiperidine	10	1960, **188**, 3	I	1931
alphacetylmethadol *	α-3-acetoxy-6-dimethylamino-4,4-diphenylheptane	4	1954, **76**, 7	I	1931
alphameprodine *	α-3-ethyl-1-methyl-4-phenyl-4-propionoxypiperidine	7	1957, **116**, 8	I	1931
alphamethadol *	α-6-dimethylamino-4,4-diphenyl-3-heptanol	4	1954, **76**, 7	I	1931
alphaprodine *	α-1,3-dimethyl-4-phenyl-4-propionoxypiperidine	1	1949, **19**, 30	I	1931
anileridine *	1-(*p*-aminophenethyl)-4-phenylpiperidine-4-carboxylic acid ethyl ester	7	1957, **116**, 7	I	1931
benzethidine *	1-(2-benzyloxyethyl)-4-phenylpiperidine-4-carboxylic acid ethyl ester	10	1960, **188**, 4	I	1931
benzylmorphine	3-benzylmorphine			I	1931
betacetylmethadol *	β-3-acetoxy-6-dimethylamino-4,4-diphenylheptane	4	1954, **76**, 7	I	1931
betameprodine *	β-3-ethyl-1-methyl-4-phenyl-4-propionoxypiperidine	3	1952, **57**, 7	I	1931
betamethadol *	β-6-dimethylamino-4,4-diphenyl-3-heptanol	5	1955, **95**, 8	I	1931
betaprodine *	β-1,3-dimethyl-4-phenyl-4-propionoxypiperidine	1	1949, **19**, 30	I	1931
cannabis	*Cannabis sativa* L.			I/IV	1961
clonitazene *	2-*p*-chlorbenzyl-1-diethylaminoethyl-5-nitrobenzimidazole	11	1961, **211**, 4	I	1931
cocaine	methyl ester of benzoylecgonine			I	1931
coca leaf				I	1961
codeine	3-methylmorphine			II	1931
codeine-N-oxide				I	1931

* Proposed international non-proprietary name (INN).

[1] For details such as synonyms and the date of coming into force of international control, see *Multilingual list of narcotic drugs under international control* (UN document E/CN 7/436) and *List of drugs under international control* (published annually by the UN, Division of Narcotic Drugs) respectively.

[2] The references given in this column are to *World Health Organization: Technical Report Series*, with the exception of the report published in 1949 which appeared in *Official Records of the World Health Organization*, No. 19.

Common name or INN *	*Chemical designation*	*Expert Committee on Dependence-Producing Drugs*		*Control regime*	
		Report number	*Reference* [1]	*Group/ Schedule*	*Convention*
concentrate of poppy straw				I	1961
desomorphine *	dihydrodeoxymorphine			I/IV	1931/1961
dextromoramide *	(+)-4-[2-methyl-4-oxo-3,3-diphenyl-4-(1-pyrrolidinyl)butyl]morpholine	8	1958, **142**, 8	I	1931
diampromide *	*N*-[2-(methylphenethylamino)-propyl]-propionanilide	11	1961, **211**, 5	I	1931
diethylthiambutene *	3-diethylamino-1,1-di-(2′-thienyl)-1-butene	6	1956, **102**, 10	I	1931
dihydrocodeine	7,8-dihydrocodeine	1	1949, **19**, 30	II	1931
dihydromorphine	7,8-dihydromorphine			I	1931
dihydromorphine esters				I	1931
dimenoxadol *	2-dimethylaminoethyl 1-ethoxy-1,1-diphenylacetate	9	1959, **160**, 9	I	1931
dimepheptanol *	6-dimethylamino-4,4-diphenyl-3-heptanol	1	1949, **19**, 31	I	1931
dimethylthiambutene *	3-dimethylamino-1,1-di-(2′-thienyl)-1-butene	4	1954, **76**, 9	I	1931
dioxaphetyl butyrate *	ethyl 4-morpholino-2,2-diphenylbutyrate	6	1956, **102**, 9	I	1931
diphenoxylate *	1-(3-cyano-3,3-diphenylpropyl)-4-phenylpiperidine-4-carboxylic acid ethyl ester	11	1961, **211**, 5	I	1931
dipipanone *	4,4-diphenyl-6-piperidino-3-heptanone	5	1955, **95**, 8	I	1931
ecgonine	(−)-3-hydroxytropane-2-carboxylate			I	1931
ecgonine esters				I	1931
ethylmethylthiambutene *	3-ethylmethylamino-1,1-di-(2′-thienyl)-1-butene	4	1954, **76**, 9	I	1931
ethylmorphine	3-ethylmorphine			II	1931
etonitazene *	1-diethylaminoethyl-2-*p*-ethoxybenzyl-5-nitrobenzimidazole	11	1961, **211**, 7	I	1931
etorphine *	7,8-dihydro-7α-[1(*R*)-hydroxy-1-methylbutyl]-O^6-methyl-6,14-*endo*ethenomorphine	15	1966, **343**, 5	I/IV	1961
etoxeridine *	1-[2-(2-hydroxyethoxy)ethyl]-4-phenylpiperidine-4-carboxylic acid ethyl ester	8	1958, **142**, 9	I	1931
fentanyl *	1-phenethyl-4-*N*-propionylanilinopiperidine	13	1964, **273**, 4	I	1931
furethidine *	1-(2-tetrahydrofurfuryloxyethyl)-4-phenylpiperidine-4-carboxylic acid ethyl ester	10	1960, **188**, 5	I	1931
heroin	diacetylmorphine			I/IV	1931/1961
hydrocodone *	dihydrocodeinone			I	1931
hydrocodone esters				I	1931
hydromorphinol *	14-hydroxydihydromorphine	11	1961, **211**, 7	I	1931

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Common name or INN *	*Chemical designation*	*Expert Committee on Dependence-Producing Drugs*		*Control regime*	
		Report number	*Reference* [1]	*Group/ Schedule*	*Convention*
hydromorphone *	dihydromorphinone				1925
hydromorphone esters					1925
hydroxypethidine *	4-(*m*-hydroxyphenyl)-1-methylpiperidine-4-carboxylic acid ethyl ester	1	1949, **19**, 30	I	1931
isomethadone *	6-dimethylamino-5-methyl-4,4-diphenyl-3-hexanone	1	1949, **19**, 31	I	1931
ketobemidone *	4-(*m*-hydroxyphenyl)-1-methyl-4-propionylpiperidine	1	1949, **19**, 30	I/IV	1931/1961
levomethorphan *	(—)-3-methoxy-*N*-methylmorphinan	3	1952, **57**, 6	I	1931
levomoramide *	(—)-4-[2-methyl-4-oxo-3,3-diphenyl-4-(1-pyrrolidinyl)-butyl]morpholine	8	1958, **142**, 8	I	1931
levophenacylmorphan *	(—)-3-hydroxy-*N*-phenacylmorphinan	10	1960, **188**, 5	I	1931
levorphanol *	(—)-3-hydroxy-*N*-methylmorphinan	3	1952, **57**, 6	I	1931
metazocine *	2'-hydroxy-2,5,9-trimethyl-6,7-benzomorphan	10	1960, **188**, 6	I	1931
methadone *	6-dimethylamino-4,4-diphenyl-3-heptanone	1	1949, **19**, 30	I	1931
methadone-intermediate	4-cyano-2-dimethylamino-4,4-diphenylbutane	12	1962, **229**, 7	I	1931
methyldesorphine *	6-methyl-Δ^6-deoxymorphine	4	1954, **76**, 6	I	1931
methyldihydromorphine *	6-methyldihydromorphine	5	1955, **95**, 5	I	1931
metopon *	5-methyldihydromorphinone	1	1949, **19**, 30	I	1931
moramide-intermediate	2-methyl-3-morpholino-1,1-diphenylpropane carboxylic acid	12	1962, **229**, 7	I	1931
morpheridine *	1-(2-morpholinoethyl)-4-phenylpiperidine-4-carboxylic acid ethyl ester	8	1958, **142**, 8	I	1931
morphine				I	1931
morphine esters				I	1931
morphine ethers				I	1931
morphine-*N*-oxide				I	1931
morphine-*N*-oxide derivatives				I	1931
morphine pentavalent nitrogen derivatives				I	1931
myrophine *	myristylbenzylmorphine	5	1955, **95**, 6	II	1931
nicocodine *	6-nicotinylcodeine	12	1962, **229**, 6	II	1931
nicodicodine *	6-nicotinyldihydrocodeine	15	1966, **343**, 5	I	1961
nicomorphine *	3,6-dinicotinylmorphine	9	1959, **160**, 4	I	1931
noracymethadol *	(±)-α-3-acetoxy-6-methylamino-4,4-diphenylheptane	12	1962, **229**, 5	I	1931
norcodeine *	*N*-demethylcodeine	9	1959, **160**, 5	II [2]	1931
norlevorphanol *	(—)-3-hydroxymorphinan	10	1960, **188**, 6	I	1931

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[2] Recommended by WHO for this control regime.

Common name or INN *	*Chemical designation*	*Expert Committee on Dependence-Producing Drugs*		*Control regime*	
		Report number	*Reference* [1]	*Group/ Schedule*	*Convention*
normethadone *	6-dimethylamino-4,4-diphenyl-3-hexanone	5	1955, **95**, 7	I	1931
normorphine *	demethylmorphine	9	1959, **160**, 5	I	1931
norpipanone *	4,4-diphenyl-6-piperidino-3-hexanone	13	1964, **273**, 4	I	1931
opium					1925
oxycodone *	14-hydroxydihydrocodeinone			I	1931
oxycodone esters				I	1931
oxymorphone *	14-hydroxydihydromorphinone	5	1955, **95**, 6	I	1931
pethidine *	1-methyl-4-phenylpiperidine-4-carboxylic acid ethyl ester	1	1949, **19**, 30	I	1931
pethidine-intermediate-A	4-cyano-1-methyl-4-phenylpiperidine	12	1962, **229**, 7	I	1931
pethidine-intermediate-B	4-phenylpiperidine-4-carboxylic acid ethyl ester	12	1962, **229**, 7	I	1931
pethidine-intermediate-C	1-methyl-4-phenylpiperidine-4-carboxylic acid			I	1931
pethidine-intermediate-C, esters of		5	1955, **95**, 9	I	1931
phenadoxone *	6-morpholino-4,4-diphenyl-3-heptanone	1	1949, **19**, 31	I	1931
phenampromide *	*N*-(1-methyl-2-piperidinoethyl)propionanilide	11	1961, **211**, 7	I	1931
phenazocine *	2'-hydroxy-5,9-dimethyl-2-phenethyl-6,7-benzomorphan	10	1960, **188**, 6	I	1931
phenomorphan *	3-hydroxy-*N*-phenethylmorphinan	6	1956, **102**, 8	I	1931
phenoperidine *	1-(3-hydroxy-3-phenylpropyl)-4-phenylpiperidine-4-carboxylic acid ethyl ester	11	1961, **211**, 8	I	1931
pholcodine *	morpholinylethylmorphine	3	1952, **57**, 5	II	1931
piminodine *	4-phenyl-1-(3-phenylaminopropyl)piperidine-4-carboxylic acid ethyl ester	10	1960, **188**, 7	I	1931
piritramide *	1-(3-cyano-3,3-diphenylpropyl)-4-(1-piperidino)-piperidine-4-carboxylic acid amide	14	1965, **312**, 3	I	1931/1961
proheptazine *	1,3-dimethyl-4-phenyl-4-propionoxyazacycloheptane	6	1956, **102**, 11	I	1931
properidine *	1-methyl-4-phenylpiperidine-4-carboxylic acid isopropyl ester	5	1955, **95**, 9	I	1931
racemethorphan *	(±)-3-methoxy-*N*-methylmorphinan	3	1952, **57**, 7	I	1931
racemoramide *	(±)-4-[2-methyl-4-oxo-3,3-diphenyl-4-(1-pyrrolidinyl)-butyl]morpholine	8	1958, **142**, 8	I	1931
racemorphan *	(±)-3-hydroxy-*N*-methylmorphinan	3	1952, **57**, 6	I	1931
thebacon *	acetyldihydrocodeinone			I	1931
thebaine	3,6-dimethyl-8-dehydromorphine			I	1931
trimeperidine *	1,2,5-trimethyl-4-phenyl-4-propionoxypiperidine	8	1958, **142**, 9	I	1931

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