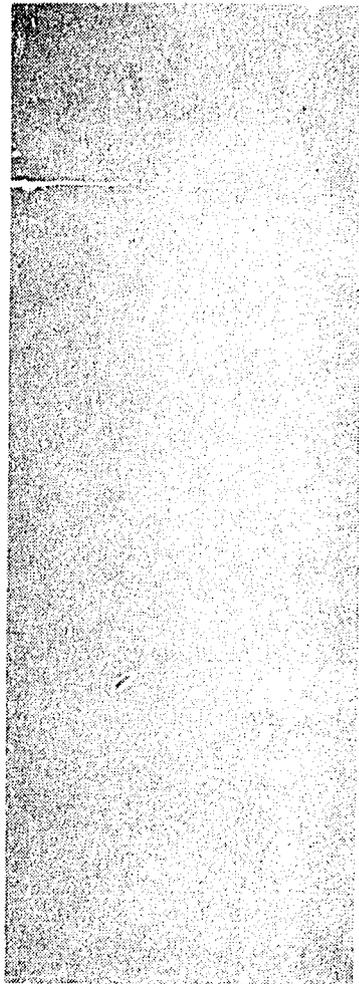


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CENTO seminar on

The Epidemiology of Non-Medical Drug Use

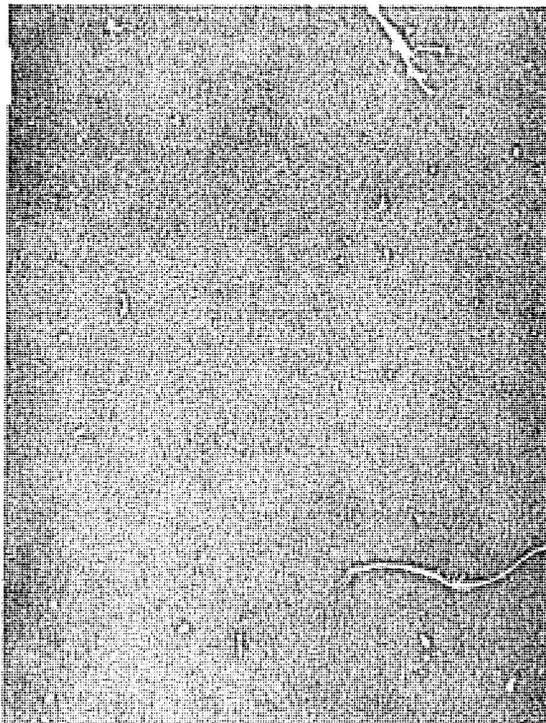
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Foreword



The problems of drug addiction were perhaps much the same in ancient history as they are today. Perhaps the problem only seems worse today because statistics make it look so; the problems and causes of addiction may have been the same and as pondersome since people began forming societies. Although many of the reasons for addiction are globally similar, the styles vary from East to West.

At this CENTO Seminar on the Epidemiology of Non-Medical Use of Drugs the various problems of registration, treatment and information were discussed. A variety of thought provoking diparities, similarities and statistics were presented and discussed.

The timing of the Seminar co-incided with the historical abolition of the public and lawful opium vending system in Pakistan. This provided the delegates with the opportunity to recommend that some regional experts be immediately allowed the chance to observe any sociological, medical or legal changes which might occur in the country. It should provide interesting information which would be invaluable for future studies and planning in any fields or programmes of humanitarian concern.

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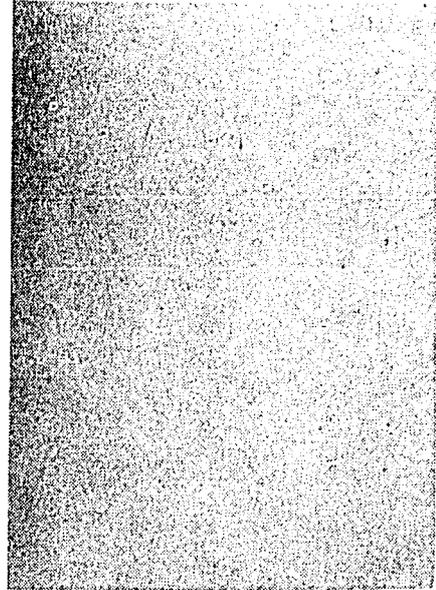
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CENTO Report



I. INTRODUCTION

The Seminar on the Epidemiology of Non-Medical Drug Use was held in the Department of Psychology at Ege University, Bornova, Izmir from 7-11 October, 1974. All Member Governments were represented at the Seminar.

II. INAUGURATION

The Seminar was opened by Mr. Douglas Thorpe who delivered a message on behalf of the Secretary General of CENTO.

Dr. Alaettin Akçasu, the Coordinator for Turkey then delivered a welcoming address on behalf of the Government of Turkey.

Following Dr. Akçasu's address the Governor of Izmir, Mr. Rashid Bilgeürün, in welcoming the Delegates to Izmir said that he was "very pleased to receive the distinguished delegates of the CENTO Member Countries to discuss the problem which not only relates to the Turkish community but

also concerns the whole world." He expressed the hope that, "the stay of the members in Izmir would be most enjoyable and that they would find time to visit some of the interesting historical sites in the area." Dr. Necati Akgün, Rector of Ege University, then spoke briefly to the delegates welcoming them to Ege University. He said he took "great pleasure to have the delegates of the CENTO Member Countries on his campus and that the young university of Turkey, Izmir-Ege University, would always be willing to help hold scientific and social meetings in Izmir. This meeting will be unforgettable in the history of Ege University".

The leaders of the delegations from Iran, Dr. Azarakhsh, and Pakistan, Dr. Akhlaque-un-Nabi Khan then responded to the welcoming addresses.

Dr. Philip Connell, the United Kingdom Delegate, in the introduction to his Keynote Address entitled: "Non-Medical Drug Use as a Challenge to Society" spoke of "the honour at being invited to give this address; of taking part in the CENTO Seminar and of the pleasure of meeting old friends who had attended the first CENTO Seminar in Tehran, 1972."

III. INSTALLATION OF CHAIRMAN

Dr. Alaettin Akçasu of Turkey was installed as Chairman.

IV. ADOPTION OF AGENDA

Following a brief discussion the agenda was adopted. The Seminar then adjourned for a lunch break.

TOPIC I: "Epidemiology of Drug Use in the Regional Countries"

On re-assembling, the Iranian Delegate presented his paper and said that he wanted to deal "firstly with the historical aspect of the drug problem in Iran" and explained the epidemiological progress of addiction in the country.

Paper: "Prevalence and Trends in Non-Medical Use of Drugs in Pakistan"
by the COordinator from Pakistan.

Paper: "The Control of Narcotics in Pakistan"
by the Pakistan Delegate.

Paper: "General Aspects of Drug Abuse in Turkey"
presented by a Delegate of Turkey.

TOPIC II: "Prevalence and Trends in Drug Use Among Student Population"

Paper: "Drug Abuse and Education"
by a Delegate of Turkey.

Paper: "Pattern of Illicit Drugs and Alcohol Users Among University Students in Iran"
by the Delegate of Iran.

Paper: "Psychodynamics of Addiction in Regard to the Psycho-Social Conditions in Turkey"
by the Delegate of Turkey.

Paper: "Drug Dependence Problem and Social Values Among Medical Students"
by the Delegate of Turkey.

TOPIC III: "The Impact of Policy Changes in Opium Use in Iran"

Paper: "The Opium Maintenance System in Iran"
by the Delegate of Iran.

Paper: "Addiction and Mental Health in Iran"
by the Delegate of Iran.

TOPIC IV: GENERAL PAPERS

Paper: "Poppy Cultivation and Opium Distribution in Pakistan"
by the Delegate of Pakistan

Paper: "Patterns of Drug Addiction Among Hospitalized Patients in the Province of Punjab"
by the Delegate of Pakistan.

Paper: "A Study of the Reasons for the Lack of Opium Use Among Opium Growers"
by the Delegate of Turkey.

Paper: "Mental Disorder in Chronic Cannabis Users"
by the Delegate of Turkey.

Wednesday, October 9

TOPIC V: "The Collection and Use of Drug Epidemiological Data"

- Paper: "Data Requirements for Policy Planning and Evaluation"
by the Delegate of U.S.A.
- Paper: "The Measurement of Prevalence, Incidence, and Patterns of Drug Use in the United States"
by the Delegate of U.S.A.
- Paper: "Assessing Drug Abuse Trends at the Community Level"
by the Delegate of U.S.A.

V. CONCLUSIONS

The delegates considered that the Seminar had been very helpful in stimulating interest, discussion and practical suggestions relating to the epidemiology of the non-medical use of drugs and other matters.

Noting that considerable progress had been made in some fields since the Tehran Seminar it was observed with regret that a number of the recommendations of that Seminar had not been able to be implemented. In particular, recommendations 3 (A study of charas smoking), 4 (The content of cannabis products) and 5 (Study of the association of chronic cannabis use with physical health, mental health and social functioning) had either not been carried out or had not studied representative samples or used the necessary techniques for the wider application of findings.

The delegates, in reviewing the present situation, stressed the many areas in which future research was needed. It was recognized that resources, particularly those of manpower in general; expertise and finance, were important limiting factors. In this context a primary need was help from experts in designing research instruments (such as questionnaires) research methodology, data collection, data storage and data retrieval systems. Methods of linkage between registration forms, national identity cards and other statutory documents were required. The principle of three-month visits by appropriate experts, to Regional Countries in order that the expert has time to acquaint himself about the problems existing so that he may be better able to advise, was strongly supported.

The value of cooperation, advice and possibly attendance of WHO representatives and those of other relevant international bodies, was stressed as was the need for support of a practical and definitive form from such bodies.

Reviewing the question of immediate and future needs the delegates stressed certain aspects, such as the feasibility of adopting methods of data recording and study design for use in other countries; the need to continue ef-

forts to assess the drug content in materials used (THC in cannabis preparations, etc.).

The delegates also noted with approval a study by Iran in conjunction with WHO of opium maintained subjects and looked forward to learning the results of the study.

The delegates recognized, however, that there are certain priorities relating to each Regional Country and therefore drew up the following specific recommendations to take these priorities into account.

VI. RECOMMENDATIONS

In view of the planned discontinuation of the vendor system for distributing opium in Pakistan, and the subsequent establishment of a registration and maintenance programme, it is recommended that a consultant be provided urgently to Pakistan for approximately three months. The objectives would be to (1) identify a sample of persons currently obtaining opium or other drugs, through the vendors; (2) design an interview questionnaire on drug use history and other characteristics of the sample and (3) make appropriate plans for a follow-up study of this group following the establishment of the maintenance programme. This study would take advantage of a unique opportunity to learn the impact of the implementation of a new governmental drug policy on the current addict population.

Consultants should be made available to Pakistan and other Regional Countries if required, to help in the problems of design, storage, and retrieval of a registration form for the new opiate registration programme. This form should provide crucial data items such as type, amount, frequency, and duration of drug use as well as demographic and identification data. Use of this form would allow a continuing monitoring of incidence prevalence and long term consequences of opiate addiction for the country as a whole and for important sub-populations within it, defined by age, sex, region, etc.

CENTO should encourage exchanges of experience between Iran and Pakistan in initiating and monitoring the registration of opiate addicts. Initially, this would take the form of visits to Iran by persons from Pakistan who will have administrative responsibility for establishing the system, and later, after the Pakistan system is operative, visits from each country to the other to share experiences and, where possible, to share forms and methods for data collection so that comparative studies can be conducted.

There is a need to monitor drug usage among young persons as a continuing basis to provide for early interven-

tion. This might best be accomplished through a brief anonymous questionnaire administered to students in selected population groups during their final year of compulsory training.

VII. ADOPTION OF REPORT

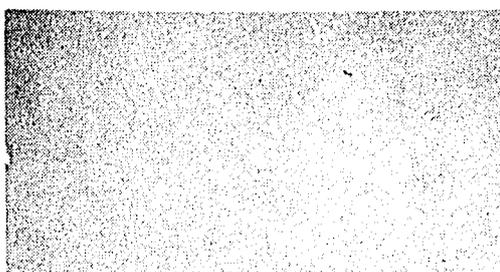
The Seminar considered the draft report which was adopted after incorporating certain amendments. There was general agreement that the recommendations of the report should be brought to the attention of the Regional Governments with the utmost urgency.

Opening Ceremony

Address

read by

Mr. C.D. Thorpe



Your Excellency, Distinguished Delegates, Ladies and Gentlemen.

I am privileged, on behalf of the Secretary General of the Central Treaty Organization, His Excellency Mr. Nassir Assar, to welcome you to this Seminar on the Epidemiology of the Non-Medical Use of Drugs. His Excellency has asked me to convey to you his warm greetings on the occasion of this meeting and to express his sincere hopes that the outcome of your discussions on this subject, which is one of such international concern, will be fruitful.

This Seminar is one of the many projects which are undertaken annually under the economic Programme of the Central Treaty Organization which endeavours to encourage and secure economic and social advancement throughout the Region.

It follows, therefore, that the subject of this particular Seminar is of vital concern, not only to us as individuals, or within the family circle, but to all nations who wish to safeguard the health and well-being of their young citizens and thereby their own economic and social future. As some of you will know, this Seminar is a follow-up to the

earlier Seminar on "Public Health and Medical Problems Involved in Narcotics Drug Abuse", which was held in Tehran, 1972. What you may not know, is that over 2000 copies of the full report, which is published in book form by the Economic Division of the Central Treaty Organization were distributed to various bodies and organizations throughout the world. It is to be hoped that by continuing to hold these discussions at regular intervals, there will develop, in time, the framework for close cooperation in this and other fields.

I would now like to express the thanks of the CENTO Secretariat to our hosts, the Government of Turkey, for kindly offering to hold the Seminar here and in particular our thanks to Ege University, which has generously provided us with facilities for debate and afforded us the opportunity to visit this historical corner of the world.

I would also like to thank Dr. William McGlothlin, the United States Coordinator, who through his personal examination of the problems in this Region has produced an agenda which I feel sure will leave us, at least, no time for pipe dreams in the next few days.

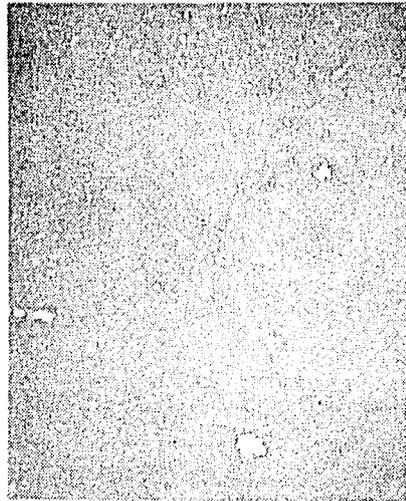
On behalf of the Secretary General of the Central Treaty Organization, I wish you every success.

Address of Welcome

by

Prof. Dr.

Alaettin Akçasu



Distinguished and Honourable Delegates of CENTO Countries.

It is a great privilege and honour for me, to extend to all of you, honourable guests, a warm welcome, on behalf of the Government and Ministry of Health of Turkey.

I sincerely hope you will enjoy your stay in Izmir, an important archeological city, where in old days, opium, hashish and related natural products were used to alleviate both the ailments of body and soul of its inhabitants. These natural drugs have been misused by man, from time to time, in parallel to the social fluctuation of civilization.

The subject to be discussed in this seminar does not concern our countries only, but extends to the whole world.

Epidemiology of non-medical drug use, especially so called narcotics, is of great importance in preventing its dissemination among younger generations of the world.

In order to gain more insight about the dreadful threat brought about by uncontrolled use of such drugs, we must investigate the psychological, social and political aspects of this particular subject. One should not induce himself to think that a fire burning in one part of the world has no influence on other parts of the world. Thanks to civilization our planet has shrunk to such an extent that every bit of the problems in one country will influence another country. I do trust that civilization will find some measure which will protect mankind from its own deleterious effects. The most important requirement for such a measure is a mutual understanding and a close cooperation between nations which will thus allow us to find a way to control the non-medical use of drugs.

In conclusion, I wish especially to thank the Central Treaty Organization for giving us the opportunity of being together to discuss our problems.

Opening Statements

Iran

by

Dr. Hassan Ali Azarakhsh



Ladies, Gentlemen and Dear Colleagues,

I wish to say how pleased we are to meet our Treaty colleagues once more for discussions on this very important matter, which will enable us to extend our cooperation for the exchange of information in the fight against the menace of drug abuse.

I remember very well our last meeting on Public Health and Medical Problems involved in narcotic drugs addiction held in Tehran, 1972; which was fruitful in enlarging our knowledge and in profiting us all through our collective experiences. We fully realise the importance for a cooperative effort by all countries to find the answers to the many obscurities which still exist in the field of drug dependence as a problem of public health.

We are aware that drug dependence is like a communicable disease and no individual is immune from it. It is the most dangerous epidemic or even pandemic at the present time. No part of the world is immune from the menace of drug abuse.

The only variation will be the type of drug involved. I believe that despite all our efforts, there is still much we need to find out; we are insufficient in our knowledge about its aetiology and epidemiology at the present time.

Consequently we would welcome all the information and experience which is available from our colleagues in countries of this Region in this field.

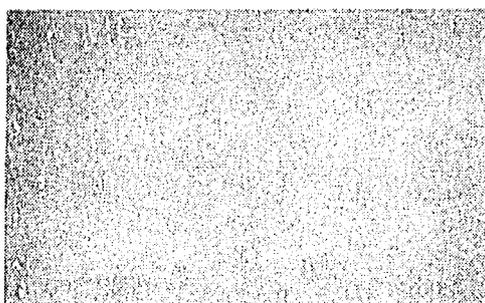
In conclusion I must especially thank the Central Treaty Organization for sponsoring this Seminar.

Thank you.

Pakistan

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by

Dr. Akhlaque-un-Nabi Khan



Distinguished Delegates, Ladies and Gentlemen:

I am very happy to be here this morning to participate in the Seminar on "Non-Medical Use of Drugs". I am sorry that Dr. Sirajul Haq Mahmood who was to lead our delegation has been detained because of important assignment at home. I have, therefore, been assigned his duty at the last moment.

This Seminar will provide us with opportunities to share the experiences, compare the problems and exchange our thoughts to achieve the common objective of limiting Non-Medical Use of Drugs as much as possible.

Various types of drugs have been used by men in various parts of the world to get intoxicated with the idea of having temporary refuge from problems and adverse realities of life. In the earlier times this was localized and the drugs used were in rather crude form and not as potent. However, because of improved communications throughout the world and because of modern scientific advancements, at present the drugs can very quickly find their way from one corner of the world to the other, and they are also available in purified and potent forms. It is, therefore, very essential that collective efforts are made to assess and evaluate

the problems of drug abuse and to control this menace. The present Seminar, therefore, will play a very positive role in enforcing these collective efforts.

On behalf of the delegates from Pakistan, I offer my sincere thanks to the organizers for being provided with this opportunity of participating in the Seminar. I am also thankful to the Turkish Government and their delegation for providing all possible facilities to us and for looking after us so very well.

My delegation feels particularly happy to be here in a brotherly country with which we have strong historical and cultural bonds.

Thank you.

KEYNOTE ADDRESS

Nonmedical Drug Use as a Challenge to Society

by

Dr. P.H. Connell, MD, MRCP,
FRC Psych, DPM



I am honoured to have been invited to give the first contribution to the scientific part of this CENTO Seminar. I had the privilege of taking part in the CENTO Seminar in Tehran from April 8th-12th 1972, when public health and medical problems involved in narcotics drug addiction were discussed. I am delighted to see some of my old friends and colleagues who attended that seminar present at this one.

I see, from the list of delegates to this Seminar, that the membership is multi-disciplinary, including pharmacology, sociology, psychiatry, rehabilitation, administration and other fields.

I also see from the provisional programme that the title of the Seminar is "Epidemiology of Non-Medical Drug Use", and prevalence, incidence and patterns of non-medical drug use; the description of user characteristics, motivation for use and the method of spread to new users will be

Dr. Connell is the Director of the Drug Dependence Clinical Research and Treatment Units of the Bethlem Royal Hospital and the Maudsley Hospital in London.

covered. It is the intention, however, to range more widely into such fields as prevention and control of drug use and others, though attempting always to look at these fields in terms of data which might be important in monitoring changes in prevalence, incidence and type of use. The relevance of such data in the evaluation of control policies is also to be covered.

Looking at the proceedings of the 1972 Tehran Seminar (Narcotics 1972), it is clear that many of these fields were discussed then and that this Seminar can truly be thought of as an extension of, and a development from the 1972 Seminar, and I am sure that we shall all look forward with interest and excitement to hearing about these developments.

When I saw in the provisional programme that I was to give what was termed the "Keynote Address", any small musical appreciation that I may have deserted me. My task and pleasure clearly does not include anticipating the contributions of others, nor to present facts and figures, but perhaps to examine the field to be covered in a general way and perhaps set the tone for the conference. A tall order. It would seem appropriate, however, to start with some general remarks concerning 'Epidemiology'.

EPIDEMIOLOGY

Epidemiology has been defined as (W.H.O.1973b) -

"The study of the distribution of a disease or condition in a population and the factors that influence that distribution".

It was noted (W.H.O.1973b) that: *"Epidemiological approaches and methods have been used in studying a wide variety of diseases, disorders and pathogenic phenomena ranging from infectious diseases to cardiac and pulmonary disturbances, and including hereditary disorders, mental illnesses, delinquency and accidents. These approaches and methods have been used:*

- (1) to determine the prevalence, incidence and distribution of a condition or disorder in a defined population;*
- (2) to determine the natural history of a disorder;*
- (3) to clarify the aetiology and the nature of modifying or precipitating factors;*
- (4) to estimate the group and/or individual risk of*

developing a disorder,

(5) to serve as a basis for policy or programme formulation;

(6) to evaluate the effectiveness of such policies and programmes; in achieving their stated aims; and

(7) to identify new syndromes."

This expert Committee (W.H.O.1973a) of which I had the honour to be a member, spent a week which was primarily devoted to examining the application of the epidemiological approach to the study of drug dependence. The committee noted some special problems relating to epidemiological studies of drug dependence including the following (W.H.O.1973d) -

1. The diversity of drugs, users and environments, and the complexity of these and their inter-relationships.
2. The drug-seeking behaviour in which, unlike most individuals with health disorders, meant that there is active seeking out of the agent, or drugs associated with the disorder, in spite of experiencing damaging effects associated with the use of certain dependence producing drugs (c.f. smokers and persons who contact venereal disease), and the complexity of this behaviour in the individuals involved and the motivations underlying it.
3. The presence of economic profit which may promote the continued use and spread of the behaviour, the illicit nature of the behaviour and the possibility of corruption of law enforcement officers and other personnel (including doctors), so impairing the effectiveness of control systems.
4. Emotional factors, including belief systems both individual and social as to the goodness or badness of the behaviour which may affect the objectivity of research workers.
5. The multi-disciplinary nature of the total field which could include cultural anthropology, criminology, ecology, economics, education, general medicine, history, pharmacology, psychiatry, psychology, sociology and statistics, and the need for co-operation with research workers and a wide variety of other persons such as the clergy, the courts, the law enforcement agencies and the welfare services.

Reviewing "Approaches and Methods" the report (W.H.O.1973e) defines three broad headings: *"those intended to describe the magnitude and extent of the problems, those intended to clarify aetiology and those intended to evaluate the effects of programmes for the prevention or control of such problems"*. In all these approaches, case definition and ascertainment are of crucial importance.

Data considered to be important by the Expert Committee included that related to patterns of drug use; to quantification of drug dependence (including signs and symptoms of current drug use; signs and symptoms of withdrawal-their frequency and intensity) to attitudes of users towards drug use and their perceptions of the worth of drugs; to the degree of personal involvement in drug taking behaviour and degree of involvement with a drug-taking milieu; and to adverse consequences of drug use, including causes of admission to hospitals, school and job problems and difficulties in interpersonal relationships.

The magnitude and nature of the problem, although difficult to assess accurately because of complexities of case ascertainment, differences in definition and classification of drug-taking behaviour, could be evaluated from such data as death certificates; post mortem reports; morbidity records; reports from bodies such as The International Narcotics Control Board (licit production, export, import and medical consumption of drugs controlled under international instruments); United Nations reports on illicit production, drug traffic and seizures; enquiry from hospitals regarding in-patients and out-patients and of prescribing practices both in hospital and in family practices; and informal data such as the underground press, "street" rumours, information from active and former drugs users and analysis of the nature, potency and/or adulteration of "street" drugs. Central Case Registers and community surveys are also of value.

In relation to aetiology, the Expert Committee stressed cross-sectional studies, retrospective studies, prospective (cohort) studies, quasi-prospective (cohort) studies as important research strategies in relation to programme evaluation, before and after studies; 'natural experiments' (such as changes observed following a change of policy or programme) and controlled field trials are stressed as relevant research techniques.

The Expert Committee (W.H.O.1973f) then dealt with some priority research areas (aetiology; ascertainment methods to develop reliable and valid methods of describing events and defining cases; evaluation methods including cost benefit analysis of intervention techniques; and natural history studies) with comparability (development of comparable methods and systems of measurement; development of pre-

cise terminology; collection and retrieval of data; collaborative research; promotion of research and training; encouragement of working conferences) and finally with the topic of communication with policy-makers.

PREVENTION

The next meeting of the W.H.O. Expert Committee, which is also of relevance to us, was held on 8-13 October 1973 and dealt with the subject: "Prevention of Problems Associated with Drug Use". (W.H.O.1974a). Dr.W.H.McGlothlin, co-ordinator of this Seminar and architect of the programme, was a consultant to the World Health Organisation and very active at that expert committee.

As is often the case, the longest reports indicate the complexities and difficulties of the area being considered and this report (W.H.O.1974a) can be recommended as being an excellent review of the field. This report will not be dealt with in detail, since prevention is tangential rather than primary to our deliberations. Furthermore there is a good deal of overlap between it and the earlier report which I have just dealt with at length (W.H.O.1973a) since epidemiological data is important in planning prevention.

In the preamble, the report reminds us of the three levels of prevention which it defined as follows: (W.H.O. 1974b) -

"Primary prevention is aimed at ensuring that a disorder, process or problem will not occur

Secondary prevention is aimed at identifying and terminating or modifying for the better a disorder, process, or problem at the earliest possible moment

Tertiary prevention is aimed at stopping or retarding the progress of a disorder, process, or problem and its sequelae even though the basic condition persists."

The preamble also squarely faces the fact that (W.H.O.1974b) -

"Many of the existing policies and programmes are based on differing and sometimes conflicting assumptions and goals, even in one and the same community. For example, some programmes are based on the belief that most drug taking, especially that involving a socially disapproved drug or manner of use, is a moral problem, while other programmes appear to be founded on the assumption that drug use stems largely from either individual or social ills. The goal

of reducing the health and other costs of alcohol-related problems is more often than not in conflict with the goal of obtaining profits or revenues at individual, corporate, and governmental levels. The same considerations, of course, apply to tobacco."

The broad purpose of prevention in this field (W.H.O.1974c) -

"should be to prevent or reduce the incidence and severity of problems associated with the non-medical use of dependence producing drugs" and this includes "acute intoxications; behaviour changes (increased passivity or aggressiveness, non-conforming behaviour); adverse effects of certain societal reactions against socially unacceptable behaviour (stigmatization, blocked opportunity, and incarceration); and other complications (injections, injuries, bronchitis from smoking cannabis or tobacco, cirrhosis of the liver, gastritis and neurological disorders associated with alcohol use; malnutrition) as well as concentrating on limiting the availability of dependence-producing drugs and reducing social acceptance of, interest in, and demand for dependence producing drugs." (W.H.O.1974d).

Approaches to prevention thus include, as can be noted in the chapter headings of the report (W.H.O.1974e) -

Measures directed primarily toward limiting the availability of drugs

*Measures directed primarily at individuals and small groups
(identification of persons at high risk; peer group influences, role of drug information and education programmes)*

*Measures directed primarily at the environment
(monitoring the environment, improving the effectiveness of social controls, alleviating general environmental stress)*

*Special considerations relating to alcoholic beverages
(problems associated with "excessive" drinking, the question of specific beverage consumption, advertising, price in relation to purchasing power)*

The Expert Committee (W.H.O.1974f) -

"...recognized the complexity and multifactorial nature of the human problems (individual and social) associated with the non-medical use of dependence-

producing drugs, and the consequent difficulties of preventing or lessening such problems. Taking these factors into account, and recognizing also the existence of serious deficiencies in basic knowledge related to this field-knowledge whose acquisition and application involves the skills of a wide variety of professional disciplines"

the Committee made certain recommendations and in particular stressed the need for research and in particular the need for prospective and quasi-prospective (cohort) studies.

CLINICAL EXPERIENCE

By using the two W.H.O. reports as a model, an attempt has been made to introduce the field we are to cover in this seminar. It may well be that all I have achieved is to discourage members from doing anything since it all seems to be so complex, so difficult, and so impracticable having regard to the limitations of sophisticated trained personnel in such a wide field of disciplines and to shortage of money.

I am, however, a clinician, not an epidemiologist, or sociologist, or anthropologist. I therefore propose to consider, in an anecdotal way, certain experiences I have had as a clinician which may have bearing on the fields I have just introduced, and which may be helpful in orienting us in the coming week.

In January 1954, working at the Maudsley Hospital, London, a patient was admitted to the ward. He was very intelligent and had many mental symptoms including the belief that the neighbours over the road were talking about him and which he claimed to have substantiated by building an amplifier and hanging a powerful microphone out of his window pointing in the direction of the house opposite. There were many other paranoid ideas. He was an electronic engineer and had been, for some time, using amphetamine inhalers to relieve his nasal congestion. The history showed that he had been using these inhalers at a rate which was far greater than could be explained by the recommended therapeutic dosage.

The condition he presented was identical to paranoid schizophrenia and the problem was in what way, if at all, the use of amphetamine inhalers had contributed to his mental condition. At that time there was no evidence to suggest that amphetamines inhaled into the nose, had other than a local effect. What can one do to answer this question? This is what was done:-

1. Colleagues were asked if they had seen any cases

of psychosis in which the person was taking amphetamines either orally or by inhalation. A few cases were found.

2. The case histories of these cases were carefully scrutinized and it was found that the patient was often admitted to an observation ward suffering from an acute paranoid psychosis which quickly remitted and was diagnosed at the first admission as an acute paranoid reaction but that on subsequent admissions the diagnosis was paranoid schizophrenia.
3. Senior colleagues were consulted and most were not impressed with the notion that amphetamines might be the cause of the psychosis although some of these sceptics considered that amphetamines might activate latent paranoid schizophrenia.

My view, however, was that there was enough data to warrant continuing investigation of the hypothesis that amphetamines either caused, or were contributory to the development of a paranoid psychosis-particularly since the few case notes studied noted the large doses of amphetamines being taken and that psychotic symptoms disappeared within days of admission to hospital, an unlikely event in the prephenothiazine days for a person suffering from paranoid schizophrenia. What was to be the next step?

Clearly, it was necessary to find as many cases as possible and see them personally for a full psychiatric evaluation. This involved communication by letter and telephone with other nearby psychiatric hospitals; alerting them about this interest in amphetamine users and seeking notification of them and permission to go and examine them.

However, supposing one found forty or so cases, one could not prove conclusively that amphetamine was a factor in the production of their psychosis unless one had some means of demonstrating that they were or were not taking amphetamines at the time and were absorbing them into the blood stream. What does one do? One searches the literature for tests for amphetamines in biological fluids. Two such tests had been described for the determination of amines in urine. It was thus necessary to evaluate these tests. Luckily one of them worked well. Finally, it was necessary to test the urines of patients suffering from the paranoid psychosis and determine the relationship between the psychotic symptoms and the presence of amphetamine in the body and to demonstrate, by the use of paper partition chromatography (a relatively new procedure), that the amine present was amphetamine.

Forty-two cases were identified and it was proved

conclusively that the psychosis remitted before the drug had been fully excreted and was not present in the absence of amphetamines and, as a side issue, it was proved that amphetamines were absorbed from the nasal mucosa into the blood stream. Thus the condition "Amphetamine Psychosis" was established as a separate disease entity from paranoid schizophrenia. (Connell 1958).

Why is this anecdote being used here when it contains 'old hat' material. I am using it because I want to make the following points:-

1. This was done by one person with interest, drive and motivation.
2. It did not need a complex multidisciplinary team. The urine testing was done by the same person.
3. The person was fully involved in general clinical work.
4. It had considerable influence on the understanding of paranoid states.
5. It was part of the data which led to amphetamines, which at that time were freely available without medical prescription, being limited to prescription by doctors.
6. The only resources needed to carry out the study (with the exception of the chromatography) were the use of a biochemical laboratory, its equipment, and the advice of a biochemist.

A good deal later in my career, in late 1967, it was suggested to me (I had at that time become Consultant Advisor on drug addiction to the Department of Health and Social Security) that I might like to design a questionnaire which might be of general use for the fifteen or so special clinics that it was proposed to set up in London. Dr. Gardner (my chief assistant at the time who did most of the detailed work) and I got to work on this. The principles followed were:-

1. That we should take cognisance of existing questionnaires used in other countries for general data collecting.
2. That it was important to communicate with other physicians who were running, or about to run, special drug addiction clinics to see what they wished and what they saw as practical difficulties.

3. That it was important to communicate with specialist research workers-which in this instance was the staff of the Addiction Research Unit of the Institute of Psychiatry, London University, and including psychologists and sociologists, to see what they felt were the basic needs.

It so happened that I had spent a month in the U.S.A. in 1966 and visited many centres. I therefore had copies of many types of questionnaires and data collection material including the one being used by the National Institute of Mental Health.

After many hours of discussion at joint meetings and on an individual basis, we evolved a questionnaire (Connell and Gardner 1968)---a copy of which is attached. Clinics started using it and the completed pro-formas were returned to me.

A few months later, after discussions with the Statistics Branch of the Department of Health, the whole operation was transferred to the Department where computer analysis was available, the questionnaire being modified to that attached so as to be more suitable for such analysis.

It soon became clear that from a practical viewpoint, even with the best of goodwill from clinics, time was just not available to complete the questionnaires because of the clinical pressures on the staff of many clinics. The Department of Health, therefore, appointed two research workers to go to the clinics which were unable to complete the questionnaires.

Notification of addiction to heroin to the Chief Medical Officer of the Home Office (also Chief Medical Officer at the Department of Health) was obligatory by law and the findings of the studies of the Department of Health covered all those who had been notified (Bransby, 1971 and Bransby, et al, 1973).

This questionnaire also formed the basis of studies carried out at the Maudsley Hospital clinic. (See Gardner and Connell, 1970, 1971 and 1972).

What does one learn from this exercise? Perhaps the following:-

1. That the people, not full-time research workers, can produce a form of data collecting which is of value both nationally as well as locally.
2. That in the discussions which lead to the questionnaire it was quite clear that simplicity and keeping items to a minimum were the requirements

for general use and that it was impossible in such a questionnaire to meet the needs of special research projects which required their own more complex research instruments.

3. That even such a simple instrument was not a practicable possibility in some clinics. Staffing of clinics should therefore take into account such data collecting needs, since retrospective collection of data from case records by other workers does not ensure that the case record contains all the items of interest!
4. That it would be of international interest for simple research instruments to be developed which could be used in cross-cultural studies and in the questionnaire evolved much assistance was gained from the study of other questionnaires- particularly that of the N.I.M.H.

THE MULTIDISCIPLINARY TEAM

At a different level, full-time research workers welded into a multidisciplinary team can produce important findings. Thus, in the United Kingdom, at about the same time as my Clinical Research Unit was in the planning stage, the Department of Health and the Institute of Psychiatry of London University (The Maudsley Hospital and the Bethlem Royal Hospital are the post graduate psychiatric hospitals closely linked with the Institute of Psychiatry) were setting up such a team headed by Dr. Griffith Edwards to deal with research into all forms of dependence including alcohol and tobacco. Thus various studies relating to clinic groups at many clinics and relating to non-clinic groups and to epidemiological, sociological and other areas, including the area of conceptual frameworks, have emerged. Some studies are listed in the references for the interest of participants. (Blumberg, et al, 1974 a & b; Edwards, 1970 and 1974; Hawks, 1971 and 1973; Hawks, et al, 1969; Hitchins, et al, 1971; Kosviner, et al, 1968; Mitcheson, et al, 1970; Russell, 1973; Russel, et al, 1973; Stimson, 1972; Stimson & Ogborne, 1970 a & b; Teasdale, et al, 1971; Triesman, 1973; Zacune, 1971; and Zacune, et al, 1969).

The only points which I would wish to make now about such a team are:-

1. The advantage of close links with clinical and other caring organisations to ensure, for the team
 - a) a protection against isolation and bias;

- b) feed back which may be important in the stimulation of ideas for future inquiry;
- c) the interest of other workers in collecting data of value in research.

2. The need for such complex teams to have security of finance since much of the important work is concerned with long term enquiries.

Looking at the present situation in the United Kingdom, there is still as much or greater opportunity for limited clinical studies (see Cossop, et al, 1974; Parker, et al, 1974) which may be of value for later and more formal epidemiological or other studies. The opportunities for clinicians who have no research commitment and those who have some time available but are not members of a large multidisciplinary team have been well demonstrated in the studies of a "New Town" near London (Alarcon de, 1969 & 1972; Alarcon de and Rathod, 1968).

THE CHALLENGE TO US

I have drawn freely on the W.H.O. Expert Committee reports and my own personal experience in presenting this somewhat sketchy review of matters of interest to us at this seminar. What threads can be drawn from this review? I would suggest the following:-

1. We need to face up to the fact that the field we are to discuss is complex and that research is full of pit-falls and snags, and that specialised multi-disciplinary teams may be outside the bounds of practicality for many countries.
2. We need to avoid being put off by 'experts' from whatever discipline, who, wrapped up in their expertise and seeking for perfection in research and research instruments may unwittingly discourage others from attempting any enquiry, however simple, which may be of value.
3. We need to learn how best to use experts by seeking advice in relation to matters of research interest before the project has been started, to ensure the maximum value from the project. This means not only making personal contact with an expert but also making full use of the scientific literature.
4. We need to be available to experts from other disciplines to help them in understanding our special field and so educate and cross-fertilize research endeavours.

5. We need to face up to the fact that the field is wide open for small, medium and large scale projects since there is so much to be learnt. Without energetic enquiry and sound knowledge little can be effected on a sound basis so far as general policy is concerned.

We shall need to talk together, listen to facts, to fascinating ideas, to problems disappointments and successes. We shall, I am sure, enjoy ourselves but at all times recognise the general challenge of how to combat the dangers and adverse social and personal effects of non-medical drug use and the personal challenge of how can each of us, personally, contribute to this goal.

As I see it we are among those who are being looked to for help in evaluating and planning effective policy to combat the dangers of the non-medical use of drugs. We cannot give sound counsel to politicians, educationists, health departments without facts.

Facts may be simple or complex. Their collection may be simple or complex. But data, however simple or complex, does not just grow on trees, and even if it did it has to be gathered and stored.

As I see it, therefore, the keynote of our seminar this week is to face up to this question of the collection of data, the relevance of data, the evaluation of data and the practical use to which data can be put. It does not matter whether it be sociologist or teacher; psychiatrist or nurse; superintendent or secretary; psychologist or social worker, etc. all have a role to play in the collection of data and one must not scorn the use of any personnel, however humble.

Let us, therefore, this week, give special attention at all times to the practical issues of what data to collect; how to tailor it to the resources of personnel available; how to evaluate it when it is collected, and to the question "in what areas is such data likely to be of most use in combating the problem of the non-medical use of drugs".

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<p>1. Treatment Centre</p> <p>2. Date</p> <hr/> <p style="text-align: center;"><u>Particulars relating to patient at date of first attendance</u></p> <p style="text-align: center;">Serial Number </p> <p>3. Date of first Attendance</p> <p>4. Hospital Number</p> <p>5. Surname</p> <p>6. First name(s)</p> <p>7. Surname at birth (if different)</p> <p>8. Aliases (if any)</p> <p>9. Address</p> <p>10. Name and address of next of 'kin'</p> <p>11. Date of birth</p> <p>12. Year first arrived in UK (if born abroad)</p> <p>13. Name and address of general practitioner</p> <hr/> <p style="text-align: center;"><u>PLEASE CIRCLE APPROPRIATE NUMBER</u></p> <p>14. <u>Sex</u> Male 1 Female 2</p> <hr/> <p>15. <u>Place of birth (of patient or mother)</u></p> <p style="text-align: center;">In case of patients under 16, use mother's place of birth</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">England 00</td> <td style="width: 50%;">West Indies 08</td> </tr> <tr> <td>Wales 01</td> <td>Africa 09</td> </tr> <tr> <td>Scotland 02</td> <td>Australia/NZ 10</td> </tr> <tr> <td>N Ireland 03</td> <td>India/Pakistan 11</td> </tr> <tr> <td>Rep of Eire 04</td> <td>Other Asia 12</td> </tr> <tr> <td>Other Europe 05</td> <td>Other 13</td> </tr> <tr> <td>USA 06</td> <td>Not known 14</td> </tr> <tr> <td>Canada 07</td> <td></td> </tr> </table>	England 00	West Indies 08	Wales 01	Africa 09	Scotland 02	Australia/NZ 10	N Ireland 03	India/Pakistan 11	Rep of Eire 04	Other Asia 12	Other Europe 05	Other 13	USA 06	Not known 14	Canada 07		<p>16. <u>Present marital</u></p> <p>Single Married Separated Divorced Widow/Widower Not known</p> <hr/> <p>17. <u>Living arrangem</u></p> <p>please specify spouse or child father, with or alone, cohabit specify</p> <hr/> <p>18. <u>Whether patient</u></p> <p>Yes 1 No 2 Not known 3</p> <hr/> <p>19. <u>Whether home b</u></p> <p>Yes 1 No 2 Not known 3</p> <p>if 'yes' A (Parents divor Mother desert Mother died Father desert Father died</p> <hr/> <p>20. <u>Usual occupati</u></p> <p>Father's occup father substit Father Father substit Not known Usual occupati</p> <hr/> <p>21. <u>Full time educ</u></p> <p>Part-time stud Still attendin Terminated Not known</p> <hr/> <p style="text-align: center;"><u>Age at termina</u></p> <div style="border: 1px solid black; width: 100px; height: 20px; margin: 0 auto;"></div>
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NK	3

22. Whether patient on probation currently
- Yes 1
No 2
Not known 3
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23. Occupation of patient for greater part of the past month
- | | |
|------------------------------------|---|
| Working full time on regular basis | 1 |
| Working part time on regular basis | 2 |
| Working on casual basis | 3 |
| Not known | 4 |
| Not working | 5 |
- Usual occupation
- | | |
|--------------------------|---|
| If not working | |
| Unemployed | 1 |
| Off sick | 2 |
| Institutional care-penal | 3 |
| Institutional care-other | 4 |
| Does not normally work | 5 |
| Other | 6 |
| Not known | 7 |
-
24. Psychiatric history Yes No NK
- Any psychiatric treatment before drug addiction 1 2 3
specify
- Any psychiatric complications due to drugs taking 1 2 3
specify
- Suicide attempts, gestures, self injury 1 2 3
-
25. Physical complications possibly due to drug taking. Please record only if these occurred after onset of drug taking Yes No NK
- Jaundice, Hepatitis 1 2 3
Abscess (injection site only) 1 2 3
Endocarditis, Septicaemia 1 2 3
Overdose 1 2 3
Fits 1 2 3
Other physical complications 1 2 3
Specify
-
26. Diagnosis of patient
- a. Type of drug dependence
b. Other psychiatric
-
27. Treatment advised at first attendance
- None 1
Out patient at same centre 2
Referred for out patient elsewhere 3
In patient informal 4
Mental Health Act, Section 5
Other 6
Not Known 7

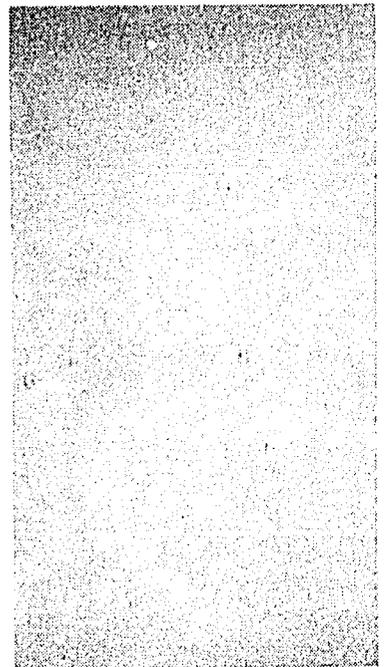
28-34 Drug Use

Drug	28-29 Age first used & first used daily		30. Present use, <u>main</u> frequency in past month						31. Na c
	28. Age 1st used drug (1)	29. Age 1st used daily	Daily	Less than daily	Less than weekly	Ever used-not now	Not at all	Not known	
Heroin pill			1	2	3	4	5	6	
Heroin powder			1	2	3	4	5	6	
Methadone			1	2	3	4	5	6	
Cocaine			1	2	3	4	5	6	
Barbiturates			1	2	3	4	5	6	
Non barbiturates depressants			1	2	3	4	5	6	
Amphetamines and similar stimulants			1	2	3	4	5	6	
Proprietary preparations containing barbiturates			1	2	3	4	5	6	
Synthetic hallucinogens (eg LSD) specify			1	2	3	4	5	6	
Cannabis			1	2	3	4	5	6	
Other drugs (specify)			1	2	3	4	5	6	
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Other drugs (specify)			1	2	3	4	5	6	

(1) If the drug has been used but the age is not known, enter ✓
 If it is not known whether or not drug has been used enter NK

Topic 1

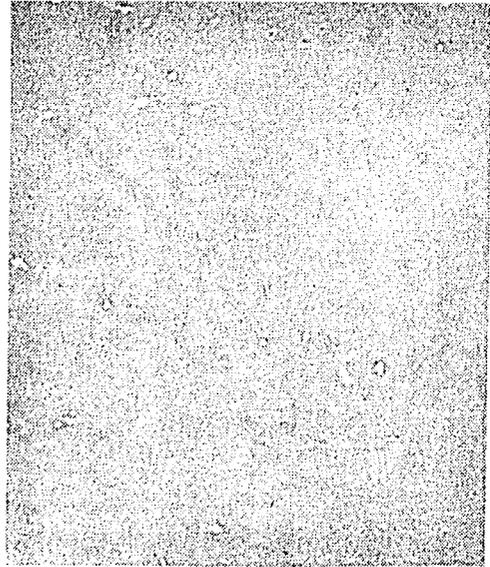
Epidemiology of Drug Use in the Regional Countries



Iran

by

Dr. Hassan Ali Azarakhsh



In the present century drug addiction has been recognized as an important public health problem. This recognition is in fact recent for it was not until 1915, when the Harrison Narcotics Act came into force in the United States and American addicts were consequently faced with the difficulty of obtaining their drugs, that the medical reality of addiction became gradually clear to physicians.

In order to know the epidemiological progress of addiction in Iran it can be said that, in the same way as some pharmaceutical preparations like vitamins and hormones are freely used today without prior consultation with doctors in the hope of some imaginary results, opium was also used in Iran for many centuries by some people with the expectation of getting imaginary results.

In the 17th Century the French traveler Chardin stated that, "In Iran opium is primarily used by active and able people for soothing their anxieties resulting from ac-

Dr. Azarakhsh is an Advisor to the Minister of Health in Tehran.

accomplishment of important duties, and Iranians believe that opium produces an agreeable imagination, especially joy". This statement clearly expressed the opinion of Iranians as to the psychological factors of addiction to opium.

This situation continued until the middle of 19th Century, when poppy cultivation and use of opium became wide-spread, and addiction in the form of opium smoking turned into an epidemic for two reasons: one economic and the other hygenic. Economically, through the benefit of opium trade and hygenically because there was a deficiency of doctors and medicine in the villages. It is evident that in places which lacked physicians and medication, opium was the best pain killer. In Persian opium is called *teriaque* which means a remedy for all diseases and at that time people took opium as a remedy for all diseases. We can still find some old people today who say their addiction to opium is due to the recommendation of a physician. Addiction, which was always considered a social vice in Iran, gradually became an acceptable habit like the smoking of tobacco. This terrible situation, which was detrimental to the socio-economic progress of our nation, continued until 1955 when the law prohibiting the planting of the opium poppy was enacted. In this way the ground was prepared for the elimination and prevention of drug addiction in Iran.

In 1955, in the addict treatment centre of Teheran, we made studies of the case histories of a group of 1167 arrested addicts to opium and shireh (which is made from the residue of smoked opium) who were under compulsory treatment and we reached the following conclusions:

a) 70% were 20-40 years old which showed that addiction was getting at the individual during the peak period of his energetic activity.

Age groups of addicts to opium and shireh in 1955:

1-20	% 3.7
20-30	%31.0
30-40	%39.2
40-50	%16.9
50-60	% 7.0
Over 60	% 2.2

b) After compiling details of the group's work, we found that 54.5% were individuals who were doing strenuous work like iron working, weaving by hand spools, printing, and other tiring jobs like driving. Only 2% of the group were Government employees.

Occupational groups:

Paid employees	% 2.2
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Labourers	%32.9
Artisans	%21.6
Shopkeepers	%31.2
Farmers	% 8.1
Unemployed	% 4.0

c) When the addicts were asked: "Why are you addicted?", the responses were---41% were due to some ailments, 23% for enjoyment, 19% because of association with another addict, 17% because of fatigue from work. It can be seen that only 23% of the group under study used opium for a positive purpose.

In countries such as Iran where addiction has a long history and where opium was easily obtainable for years, the majority of addicts were individuals whose reason for addiction is not a personality disorder; they have become addicts without their personal will. Since their parents were addicts, consequently they became addicts. Because everybody smokes they have smoked too. Addicts with a personality disorder constitute a small percentage of all, in other words, the minority are real addicts and the majority accidental or social addicts. Fortunately, the treatment of this group is easy and there are usually no relapses. It is, however, often necessary to introduce some environmental changes.

When the group of social addicts gradually decreases, addicts with personality disorders increase and consequently the majority and minority exchange places. We once had the same situation that the United States has today after more than sixty years of their anti-narcotic program.

When narcotic drugs become scarce and unavailable, no one becomes addicted accidentally or without reason, and personality disorders will be the only cause of addiction. It is evident with these conditions that someone's craving for narcotics begins with the first contacts with society, or as soon as an opportunity is at hand. There is a wealth of craving in the juvenile addict for new things and he chooses the narcotic which is easy to use, has a good external appearance, stronger effects, and fantastic action. This is a description of heroin. I can say that in Iran now opium is for the old and heroin for the young.

From 1965 to 1972, the addict treatment centre in Teheran received a total of 15,307 voluntary patients addicted to opium or shireh and some 10,452 addicted to heroin. The age groups of these addicts were:-

Opium and Shireh:

Under 20 years	2.5%
21 - 30 years	19.2%
31 - 40 years	37.4%

41 - 50 years	30.1%
51 - 60 years	9.1%
Over 60	1.7%

Heroin:

Under 20 years	5.4%
21 - 30 years	43.1%
31 - 40 years	35.6%
41 - 50 years	13.6%
51 - 60 years	2.2%
Over 60 years	0.1%

The case histories of these 25,759 addicts show the following occupational groups:-

Paid employees	11.5%
Labourers	21.9%
Artisans	10.5%
Shopkeepers	31.3%
Farmers	7.0%
Artists	0.6%
Landowners/Merchants	0.5%
Unemployed	7.0%
Housewives	9.7%

Since 1969 the Government of Iran has pursued a new policy on opium and has continued an opium maintenance system under which about 142,000 persons are presently registered to receive rations of opium.

The effectiveness of this maintenance programme is the subject of a study which is presently being carried out in Teheran in cooperation with the World Health Organization. The aim is to select a total of 2,000 persons from those who are enrolled in the programme and those newly applying for registration. Selections will be made at three clinics situated in different parts of Teheran, which represent different social and economic areas of the city. A series of questionnaires was prepared for use in the programme. These questionnaires are also being used for selected opium and heroin addicts who obtain their drugs from illicit sources.

It is believed that there are approximately 300,000 opium users and 20,000 heroin addicts in Iran at the present time. In addition, the problem is being aggravated by the growing use of cannabis, particularly among young people, and recently, experimentation with L.S.D. became a part of the local drug scene.

The problem, with its many ramifications, is viewed with deep concern by the Government. With a determination to intensify, by all means possible, its campaign against drug

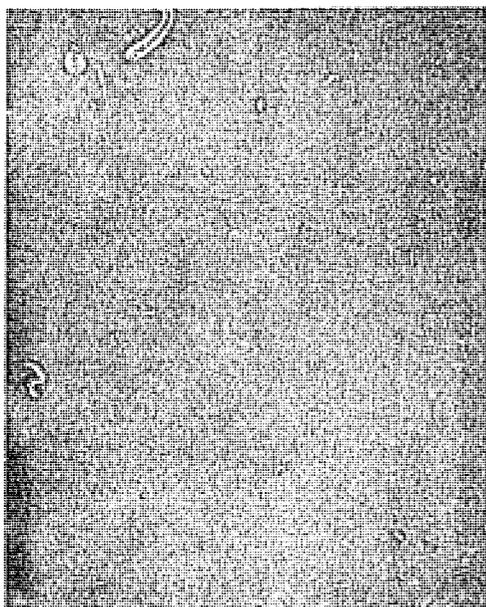
abuse, a Ministerial Committee was established in mid-July, 1974, to plan for and direct a concerted programme of action. Members of the Committee are the Ministers of Health (as co-ordinator); Education; Information; Social Welfare; Cooperative and Rural Affairs; Science and Higher Education; the Chief of the National Police and the Commander of the Gendarmerie. The Committee's objectives are to provide for:-

- a) an education programme through the mass media, directed at all levels of the community to make them aware of the dangers of drug abuse. Special attention will be directed to the youth of the nation;
- b) greater and more effective means of treating drug addiction and for the social re-integration of cured addicts by means of a long-term rehabilitation programme;
- c) an intensification by the narcotics law enforcement authorities, of action against the illicit traffic and those responsible for it;
- d) the strengthening, where necessary, of existing drug laws, and the introduction of a new law for the control of psychotropic substances; and,
- e) the limitation, as far as possible, of the number of persons under 60 years of age who are accepted into the opium rationing system, and stricter control over the allocation and distribution of opium to those holding ration cards.

Pakistan

by

Dr. Siraj-Ul-Haq Mahmud



The two natural dependence-producing drugs available in Pakistan are opium and Charas. No derivatives or synthetic narcotic drugs are manufactured in Pakistan. Sophisticated hard drugs like heroin and LSD are almost unknown. Manufactured narcotic drugs required for bonafide medical requirements are imported from abroad. The requirements of morphine, pethedine and similar morphine-like alkaloids are imported from various countries. The requirements are fixed by the Federal Ministry of Health. The Federal Government also fixes the quota for the provinces. Thereafter these drugs are allowed to be imported on special import authorization by selected manufacturers or dealers of various provincial governments. Quantities of dependence-producing drugs which are imported are found in Annexure-I. Only a few chemists have been licensed to stock and sell them for medical prescriptions. There are occasional abuses under this system.

Dr. Mahmud is Chief of the Health Section of the Government Planning Commission.

OPIUM

Oral opium eating is prevalent on a small scale in Pakistan. It is usually eaten as a mild stimulant, or as a traditional household remedy for various ills. Opium smoking is found to a negligible degree. The point to notice is that there are both regular and casual opium users. We may consider the regular users as addicts or abusers. There has been no exact survey to determine their number or incidence in the population but from one or two general surveys it is estimated that the number of opium users may be as large as 100,000 and there may be 40,000 hard-core addicts among them. This is just an estimate. These figures are, however, significant for appraising the present or any alternative scheme of sale and supply of opium.

The opium available in the country is of two types--licit and illicit. The licit opium is derived from licensed opium cultivation while illicit opium comes from unregulated cultivation in the tribal areas, and also to some extent from pilferage of licensed production. A difficult feature of the opium situation in the country is that unregulated opium poppy cultivation is resorted to in inaccessible tribal areas in the north western frontier of the country. The terrain, administrative controls, economic conditions and traditional beliefs in these inaccessible frontier areas are such that, for the time being, it is difficult to enforce effective measures of prohibition and suppression of poppy cultivation. The illicit traffic comes primarily from such inaccessible areas. It bedevils the opium policy and militates against reformative measures.

Opium is currently being produced and sold by licensed venders all over the country. These licensed venders issue a limited quantity to anyone who would like to purchase opium from them. Anybody can purchase and possess up to 23.32 grammes of opium without a licence.

CANNABIS

It is widely acknowledged that Pakistan faces a growing problem in the abuse of cannabis. The cultivation of cannabis is totally prohibited under the law. Hence the cultivation and the sale of cannabis resin are illegal and all the products thus available are contraband.

Cannabis is mainly being used by people living around shrines and in mystical sub-cultural groups. It is also prevalent among taxi and rickshaw drivers, especially in big cities, and long distance truck drivers. This poses a traffic hazard. Besides this, some of the addicts became professional blood donors.

The records of recent meetings held under the auspices of the Pakistan Narcotics Control Board show an overwhelming concern with the abuse of "charas". It is sometimes asserted that the problem is much greater than that of "harder" drugs, part of the reason being that local cannabis is said to have a T.H.C. content of up to 15%.

Its use is generally believed to be spreading in educational establishments, and is described as "rapidly mushrooming" in urban areas. The effects of charas are said to be increased by mixing it with opium or its derivatives. It has been possible to do some work on charas-related crimes and to begin to attribute some part of the high rate of traffic accidents to the abuse of cannabis.

PROGRESS AND DEVELOPMENT IN DRUG ABUSE SINCE DECEMBER 1972

A major achievement in combatting drug abuse was the reconstitution of the Pakistan Narcotics Control Board on March 8, 1973. Unfortunately, by this time, Pakistan was faced with the problem of illicit opium production in the vastness of the NWFP, where, in 1910, the British had described most of the present opium-growing areas as: "within the political frontier of British India, but without effective political control...attached to, but not strictly within, the NWFP."

Even as recently as March 8, 1973, the idea was that the Pakistan Narcotics Control Board should only have responsibility for co-ordination of the activities of various law enforcement agencies against drug abuse.

The first mandate to the Pakistan Narcotics Control Board in respect of law enforcement reads as follows:-

"to provide assistance and advice to enforcement agencies on all matters in the field of narcotics, and to collect information from all law enforcement agencies about illicit traffic and traffickers, and to exchange relevant intelligence with other similar organizations directly and through international channels and generally to facilitate co-ordination of efforts in the prevention and investigation of drug trafficking at operational levels."

The shortcomings of this indirect approach were, however, rapidly realised, and by March 24, 1973, the Pakistan Narcotics Control Board had been given much greater powers:

"to direct enforcement agencies on all matters in the field of narcotics, and to control operations of

all law enforcement agencies about illicit traffic and traffickers, and to exchange relevant intelligence with other similar organizations directly and through international channels and generally to facilitate co-ordination of efforts in the prevention and investigation of drug trafficking at operational levels".

This trend has continued. It is recognized that consistent and effective action against drug traffickers needs a body with direct executive responsibility for enforcement in this field. It also requires a separate organisation which can pursue this responsibility exclusively, without the possibility of being diverted to other duties. Two Directorates (Intelligence and Enforcement) of the Pakistan Narcotics Control Board are being developed for this purpose.

Effects of Greater Co-ordination Through the Pakistan Narcotics Control Board

Meanwhile, the various law enforcement agencies within Pakistan have responded well, within the limits available to them, to encouragement from the Pakistan Narcotics Control Board for more concentrated and effective action against drug abuse. Individuals have been encouraged by the much higher rewards which have been paid through the agency of the Pakistan Narcotics Control Board for information leading to the arrest and successful prosecution of drug traffickers. This replaces a system under which rewards were by certificate and possibly up to Rs.250 per seizure no matter what its size. Now, maximum rewards for large seizures, involving hard work and risk, may go as high as Rs. 10,000.

Internal seizures of opium and cannabis resin indicate that more cannabis resin has been seized than opium.

Internal Seizures of Opium and Cannabis resin 1949-73

<u>Year</u>	<u>Opium</u>	<u>Cannabis Resin</u>
1949	598	1,316
1950	489	2,919
1951	1,121	3,267
1952	1,194	3,561
1953	950	3,981
1954	1,233	2,497
1955	191	N.A.
1956	58	N.A.
1957	1,818	3,800

(continued on next page)

<u>Year</u>	<u>Opium</u>	<u>Cannabis Resin</u>
1958	1,012	4,273
1959	213	2,820
1960	989	4,240
1961	814	889
1962	482	1,900
1963	564	2,336
1964	51	2,347
1965	26	2,733
1966	1,480	2,660
1967	1,234	29
1968	1,624	3,047
1969	522	2,003
1970	1,405	4,890
1971	1,400	4,800
1972	1,084	5,551*
1973	1,704	29,936*

N.A.: Not Available

* *There is some variation in recent figures, as late returns come in and as earlier figures are checked and amended.*

The Punjab Board of Revenue issued a notification on April 20, 1974, revising the D.D.3 form concerning morphine and pethedine issued by medical prescription. The practice in vogue before revision was that the injections were made available to patients and hospitals on the prescription of doctors and on permits issued by the Excise and Taxation Department. Every medical doctor was allowed to prescribe 20 injections of either drug on a form prescribed for this purpose and a person thus advised could get these injections from the chemist. The drug could be repeated six times without reference to the doctor again. A specimen of the D.D.3 form appears in Annexure-II. The revised D.D.3 form for the Province of Punjab appears in Annexure-III.

It is proposed in the Punjab to form a scheme next year which will eliminate licensed private chemists and entrust the Government Medical Stores Depot with the importing and distribution of narcotic drugs for medical purposes. For instance, for the next shipping period only 5 kg. of cocaine, 12 kg. of morphine and 15 kg. of pethedine has been allocated for import by the Medical Stores Depot. No private allocation is to be made in the province this year. Without the intervention of licensed chemists, distribution will be carried out from the Depot to all hospitals, dispensaries, special institutions and general practitioners. This is likely to reduce the quantity of these drugs from one-third to one-fourth of the original consumption.

Twenty Field Investigating Units (F.I.U.s) were to be set up by the Pakistan Narcotics Control Board, each consisting of nine technical staff members and 15 non-technical staff members. Out of the F.I.U.'s 60 field investigating officers have been recruited and are in position. They are mainly located in Karachi, Lahore and Peshawar. They are providing intelligence to the enforcement staff.

Five courses have been organized by the Pakistan Narcotics Control Board and about 150 persons from Police, Excise and Customs have been trained to strengthen the reinforcement staff.

Six doctors have been sent abroad, one from each province and two from the Federal Government. They have gone on fellowships, 4 offered by WHO and 2 by USAID to study the rehabilitation programme of drug dependent persons and prevention of non-medical use of drugs. Out of these, one doctor will be joining the Pakistan Narcotics Control Board to act as a liaison between various agencies and also to render advice on policy matters.

Co-operation with Bilateral Agencies

In January/February 1973, a U.S. team of experts on narcotics visited Pakistan at the request of the Government. On March 9, 1973, the Pakistan Narcotics Control Board was reconstituted with wide powers by a resolution of the Planning Division and the Ministry of Finance in Islamabad.

One of the first tasks undertaken by the new Board was to negotiate for bilateral assistance from the USA for the further development of Pakistan's law enforcement capacity against drug traffickers and for a programme of "economic redirection", concentrating heavily on crop and income substitution, in the settled areas of the North West Frontier Province. Negotiations on the law enforcement effort are complete and are being implemented, those relating to economic redirection in parts of the settled areas are continuing.

Co-operation with UNFDAC/UNDND

On June 13, 1973, in a letter ref. 15(21)MB/72, the Government made a formal request to the UNFDAC for a mission to visit Pakistan to discuss possible assistance towards a programme of drug abuse control.

On November 9, 1973, the Chairman of the Pakistan Narcotics Control Board, following a one-week visit on a consultancy basis to the Division of Narcotic Drugs in Geneva, submitted a request to the Fund for assistance amounting

to US \$3.57 million to be disbursed over three years. Two-thirds of this was intended for a pilot project covering crop substitution and community development in the Buner Sub-Division within the Swat district, in the merged areas of the North West Frontier Province. This was in pursuance of the policy of the Pakistan Narcotics Control Board which aims at the early reduction of licensed cultivation of opium in the settled areas (possibly by the 1975/76 season) and the immediate eradication of illicit opium production in those areas, with U.S. assistance, moving at the same time against illicit growth in the merged areas with the U.N. and other bilateral assistance, and, finally, tackling the tribal areas.

By December 4, 1973, an agreement had been reached between the UNFDAC and the Pakistan Narcotics Control Board concerning a project preparation mission which would visit Pakistan in March, 1974. The authorities of the Pakistan Narcotics Control Board and the NWFP began the preparation of material, through preliminary gathering of information, to assist this mission when it arrived in Pakistan. This resulted in the publication of two documents, one by the Pakistan Narcotics Control Board, entitled: "The Buner Pilot Project" published in Islamabad in March, 1974, the second entitled: "Regional Development Plan for Buner" prepared as a regional development project for the North West Frontier Province by the Planning & Development Department of the Government of the North West Frontier Province and published in Peshawar on March 1, 1974. Both documents concentrate on possible crop and income substitution and regional/community development efforts in one pilot project area.

A mission, including representatives from the UNDND, WHO, ILO and FAO, visited Pakistan in March, 1974. The mission recommended the establishment of a Rehabilitation Centre for Drug-Dependent Persons and other physically handicapped groups in the Buner Area.

The Pakistan Narcotics Control Board is busy in revising all the laws relating to drugs of all kinds. At present these are confused, old, extremely difficult to interpret amongst a large number of amendments and subsidiary legislations and even more difficult to administer. This includes The Opium Acts of 1857 and 1878, The Opium and the Dangerous Drugs (Amendment) Act of 1957, Laws governing opium smoking, the Dangerous Drugs Act of 1930, the Responsibility of Ministry of Finance, the Responsibility of Ministry of Health, The Excise Acts of 1914, and the Sea Customs Act of 1878. Action is being considered which will amend the laws suitably to bring them fully in line with the 1961 Convention, the amending Protocol and the 1971 Psychotropics Convention to reflect the new role of the Pakistan Narcotics Control Board. Penalties for narcotics offences will also be increased.

In March 1974, the first seminar on the abuse of drugs was organised by the Psychiatric Society of Pakistan. This seminar was attended by the Psychiatrists, by the staff of the Pakistan Narcotics Control Board and by the enforcement staff. This seminar urged cooperation between the Psychiatric Society and the Pakistan Narcotics Control Board. One of the main recommendations as a result of the seminar was to make a scientific assessment of the problem of the non-medical use of drugs in Pakistan and to initiate a proper programme of the rehabilitation of addicts.

Amphetamine tablets are banned in Pakistan. These are no longer on the National Formulary and according to the Drugs (Generic Names) Act the production, marketing and sale of these drugs in tablet form is prohibited in Pakistan.

A major development effort has been started by the Government particularly in the Tribal Areas. Maximum effort is being placed on the development of a communication system. To speed the implementation of the programmes a corporation has been entrusted with the development work. The development work includes industrialization of the area and opening new avenues for jobs.

ANNEXURE-I

Quantities of Dependence-Producing
Drugs imported During 1972 and 1973

S.No	Name of Drug	Quantity in Kg. 1972	Quantity in Kg. 1973
1.	Morphine	113.00	89.00
2.	Codeine	3363.00	4188.00
3.	Dihydrocodeine	7.00	7.00
4.	Pethedine	170.00	151.00
5.	Phalcodeine	80.00	45.00
6.	Methadone	4.70	4.50
7.	Di-phenoxyate	13.00	13.00
8.	Ethyl morphine	36.00	30.00
9.	Hydromorphine	0.25	0.25
10.	Cocaine	41.00	41.00

*S.Nos. 1, 2, 4, 5, 6, 7 and 10 are included in the National
Formulary (N.F.)*

ANNEXURE-II

FORM D.D. 3

Official form of prescription to be used when Coca
Opium Alkaloidal derivatives are prescribed.

*Not to be repeated:-

*To be repeated at Interval of _____ days

1. Name and full address of person to whom the prescription
is issued:-
2. Description of drugs to be supplied.
3. Quantity of drugs to be supplied.

Signature _____

Full name, qualification & signature of the medical practi-
tioner

Address _____

Dated _____

*Cross out one of the two alternatives. On the authority of
this prescription the drug must not be supplied to the
holder of this prescription more than 6 times.

Name the persons or
firm who dispenses
the prescription:
Address of premises.

Address of Chemist

Date

ANNEXURE-121

BOARD OF REVENUE, PUNJAB NOTIFICATION

Lahore, dated the 20th April, 1974

No. 501/74/ 338 -EXIV., In exercise of the powers conferred by rules 3, 7, 8, 10, 15, 25, 27 and 31 of the West Pakistan Dangerous Drugs Rules, 1958, the Board of Revenue, Punjab, is pleased to direct that in the West Pakistan Government Excise and Taxation Department's Notification No.1214-A-Ex dated the 19th May, 1961, the following further amendments shall be made:-

A M E N D M E N T S

1. In paragraph 7.-

- (i) for the existing clause (1) the following shall be substituted, namely:-

"(i) The licensee shall ensure that a prescription for the dispensing of such drugs is, as far as may be, written in form D.D.3 annexed herewith; and

- (ii) after clause (i) the following new clause shall be added:-

"(ii) Ordinarily more than one grain of Morphine or 6 ampules each of 100 mgm of Pethedine Hydrochloride shall not be sold or dispensed at a time".

2. For the existing Form DD.3 annexed to the notification the following shall be substituted:-

(continued on next page)

FORM DD.3.

Official form of prescription to be used when Coca derivatives or Opium alkaloidal derivatives are prescribed.

1. Name and full address of the person to whom the prescription is issued. _____
2. Description of drugs to be supplied. _____
3. Quantity of drugs to be supplied. _____
4. Signature of the Medical Practitioner. _____
5. Full name. _____
6. Qualifications. _____
7. Registration No. of Pakistan Medical Council. _____
8. Address _____
9. Dated _____
10. Name of the persons or firm who dispenses the prescription. _____
11. Address of premises. _____
12. Date of issue. _____

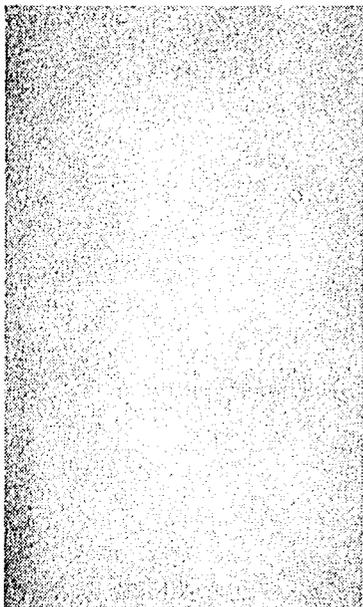
*The quantity prescribed of Opium alkaloids shall not exceed more than one grain of Morphine Hydrochloride or 6 ampules each of 100 mgm. of Pethedine Hydrochloride.

(M. Aslam Avais) Member (Excise & Taxation) Board of Revenue, Punjab.

Pakistan

by

Mr. Shafiullah Khan



BACKGROUND

The national policy in respect of production of opium and its distribution in Pakistan has been a heritage of the British rule in the sub-continent which viewed opium as a source of Government revenue. However, in consequence of the ratification of the Single Convention of 1961, Pakistan is obliged to restrict the use of opium to medical purposes by 1979.

ESTABLISHMENT OF PAKISTAN NARCOTICS CONTROL BOARD

As a result, the Pakistan Narcotics Board was organized in March, 1973 and entrusted with responsibility to coordinate and direct the activities of the existing Enforcement Agencies for strict implementation of the Narcotic

Mr. Khan is an Officer on Special Duty with the Establishment Division in Islamabad.

Laws; to take suitable measures for redirection of economic life in poppy growing areas by undertaking integrated development schemes; to effectively control distribution of narcotic drugs, both imported or locally produced; to take steps for the registration, treatment and rehabilitation of the addicts and to launch an intensive campaign of public education for creating the necessary motivation in the various related sectors.

ORGANIZATION

The Pakistan Narcotics Control started in March, 1973 with a Chairman, a Secretary and a few clerks. It has now developed into a full-fledged organization with a total establishment of 1250 persons having Regional Offices at Karachi, Peshawar and Lahore. The Regional office at Quetta is also being established. The Organization Chart of the PNCB is shown in Annexe I.

ENFORCEMENT

The enforcement of Narcotics Laws are primarily the responsibility of the following agencies:

Police, Customs, Excise & Taxation, Coast Guards, West Pakistan Rangers, Frontier Constabulary and Health."

All of these agencies also have other multifarious assignments and none of them is exclusively responsible for narcotics law enforcement. In view of the necessity of urgent action in this field to discharge obligations under multilateral and bilateral commitments, and the lack of resources of the existing agencies, it was considered necessary to raise fully equipped mobile squads to operate exclusively for narcotics law enforcement.

Field Investigative Units

To achieve this objective, it was proposed to initially establish 25 Field Investigative Units located at strategic points all over the country, especially along the borders, sea coast and important international routes.

So far about 140 officers, drawn from various enforcement agencies, have been given special training through in-country courses conducted with the help of instructors from the US Drug Enforcement Administration. Another 45 Investigating Officers, selected from University graduates, are presently undergoing training at the Police Training School in Hangu. They are learning the latest techniques of

collection, evaluation and dissemination of narcotics intelligence, suppression of illicit drug production, detection and apprehension of narcotics traffickers and drug offences.

Supply of Equipment

Equipment for these FIU's, consisting of vehicles and a telecommunication network, is to be supplied by the United States under a Project Agreement, which was signed in January, 1974.

Enactment of Laws

Legal provisions to cover the functions of the Pakistan Narcotics Control Board are being made and the existing narcotic laws are being amended suitably in accordance with modern trends and also to make the punishment for narcotics offences more deterrent and commensurate the severity of the respective offences. The Provincial Governments are also taking suitable measures in this field. The Government of Sind has already enhanced the penalty under the excise law from 6 months to 5 years of rigorous imprisonment and raised the fine from Rs. 1000 to Rs. 7000. Other Provincial Governments are also adopting similar measures.

Enforcement Activities

Meanwhile the PNCB has adopted all the necessary measures to gear up enforcement activity throughout the country not only through coordination with the existing enforcement agencies but also by organizing a country-wide intelligence network for the purpose of feeding the enforcement agencies with reliable information and intelligence for taking action.

INTELLIGENCE

The Intelligence Directorate of the Pakistan Narcotics Control Board has collected exhaustive information about illicit poppy growers and about smugglers of narcotics---especially opium---their contacts in foreign countries and financiers in this trade. Index cards, giving exhaustive details in respect of previous convictions in narcotic cases, have been prepared and are being kept up to date. The Directorate is maintaining continuous contact with international agencies and sister organizations in other countries for exchange of information and intelligence.

These measures, coupled with incentives through liberal rewards, have produced unprecedented results. The sei-

zure of contraband during 1973 almost doubled as far as opium is concerned. In regard to cannabis, one of the cases hit an all time high when about 10,200 kgs. of cannabis was seized. The total quantity of cannabis seized has risen six times as compared to that of the last year. The comparative figures are as follows:

Year of Seizure	Opium Kg.	Charas Kg.
1972	1,057	5,551
1973	1,728	30,640

During the current year, the tempo of the work has further accelerated. The seizure of opium has gone up about seven times compared to the corresponding period of the preceding year. To be more precise, up to the end of March, 1974, the total quantity of opium seized comes to 769 kilos as against 137 kilos during the corresponding period of last year.

DEVELOPMENTS IN THE RE-DIRECTION OF ECONOMIC LIFE

The Pakistan Narcotics Control Board, making surveys through special agents, has been able for the first time to get reliable estimates of the extent of poppy cultivation.

Poppy Growing Areas

The poppy growing areas in Pakistan are:

- a) the settled district of the North West Frontier Province where normal laws of the country apply;
- b) the merged areas, namely, the former states of the NWFP now administered by the Provincial Government to which narcotic laws have not yet been extended; and
- c) the centrally administered tribal areas to which normal laws of the country do not apply.

Development Plans

The Production and Development Directorate which has a competent engineer and an agriculture expert, through special agents in close liaison with Provincial Development Departments, has collected a mass of vital information on the geological, soil and water resources of areas with poppy

cultivation. Plans for integrated development have been formulated.

The projects envisaged for development of the poppy growing areas are in the nature of (a) community development activities, such as construction of link roads, exploitation of water resources, improvement of forests and ranges and the establishment of small industries, (b) incentives for individual poppy growers to change over to other crops and activities. These incentives could take the form of the supplying of fertilizers, seeds, improved breeds of cattle, supplies of insecticides and expert agricultural know-how in respect to special crops which can be substituted for the poppy.

A pilot project for the poppy cultivating areas of the Buner tehsil of Swat district has already been prepared by the Board. The project is now under examination by a U.N. Project Mission which visited Pakistan in March of 1974.

Extent of Financial Arrangements

The plans initially formulated by the Provincial Government for the poppy growing areas were rather ambitious as they were not confined to areas at present growing poppy, but covered other areas also. These plans had to be revised. The Swabi Tehsil, where most of the licensed cultivation takes place, has made plans which could cost up to 17 million dollars.

Involvement of United Nations

The United Nations Fund for Drug Abuse Control is interested in projects aimed at controlling drug abuse in all its forms. Such projects relate to enforcement, rehabilitation of addicts and substitution of crops. The issues had been discussed by the Chairman of the PNCB with the Director of the United Nations Division of Narcotic Drugs and the Executive Director of the United Nations Drug Abuse Control Fund, who has shown interest in the crop substitution programme in the local poppy growing areas and has initially proposed to finance projects in the rural development poppy growing areas of Buner. He has also shown interest in providing funds for the establishment of a Narcotics Laboratory and arranging for training facilities for staffs in the field of addict rehabilitation and allied matters. In this connection, a Mission of experts visited Pakistan in March of this year to see the areas and formulate projects to be financed by the United Nations Drug Abuse Control Fund. Plans were made to enter into an agreement with the Government in this respect. The development plans for this region will, more or less, be on the same lines as those proposed

for the Swabi Tehsil as suggested to the United States.

DISTRIBUTION OF DRUGS, REGISTRATION & THE TREATMENT AND REHABILITATION OF ADDICTS

Pakistan, while ratifying the Single Convention as provided in its Article 49, allows the quasi-medical use of opium, and of cannabis up to the maximum permissible. Legal action has already been taken in respect to cannabis because it is prohibited. As for opium, suitable steps must be taken as early as possible to ensure that its use is confined to medical and scientific purposes by 1979, when the period of reservation allowed under the Single Convention expires.

Diversion of Imported Narcotic Drugs

It is also necessary that control of the distribution and utilization of manufactured narcotic drugs which are legally imported for medical and scientific purposes is improved and made more effective so that the possibility of diversion of such drugs for illicit use is minimised.

Distribution of Excise Opium

As far as opium is concerned, it is presently being legally produced for addicts and for medical and quasi-medical purposes. This opium is known as Excise Opium, as distinguished from raw opium produced or distributed illegally. The present system of distribution of Excise Opium is that throughout the country a fixed number of licenced shops have been established, to which Excise Opium is issued by the Government at a fixed rate.

Abolition of the Present Opium Venders

It is proposed to abolish the present vender system of opium and replace it with a more scientific and efficient system to issue opium through licensed chemists or Government-controlled dispensaries. This would be the correct approach to the problem of distribution of legal opium for medical and quasi-medical use. This is especially so in view of the fact that use of opium for other than medical and scientific purposes is to be eliminated as early as possible. It is, therefore, being programmed that opium be issued only to registered addicts on the basis of a medical prescription.

Registration of Addicts

The change in the system of distribution of legal

opium is intimately linked with the programmes of addict registration, their medical examination, treatment and ultimate rehabilitation.

Addiction to Imported Drugs

A wide variety of other drugs is also illegally available. These are primarily pathedine, methadone, injectable morphine barbiturates, amphetamines and other manufactured narcotic drugs.

The situation, therefore, demands that there should be an integrated programme of distribution of drugs, registration treatment and rehabilitation of addicts. This would involve the following:

Registration, treatment and rehabilitation of addicts

- (1) On a voluntary basis addicts be medically examined, registered, treated and rehabilitated.

Initially, it is proposed to provide basic medical facilities, more or less of a consultative type, in the four Provincial capitals and in the Capital of the Federation. In addition, it is proposed to establish 50 Centres to register addicts on a voluntary basis in all the District Headquarters.

Medical and Social Rehabilitation of Addicts

- (2) Ultimately, comprehensive drug treatment units and medical centers should be established throughout the country.

Such centres could provide not only treatment, but also reasonable combinations of medical and social rehabilitation and subsequent follow up.

Training of Doctors and Para-Medical Staff

- (3) A cadre of medical doctors and social workers trained in the current techniques of drug treatment, medical facilities and rehabilitation centres should be created.

The WHO and the ILO are interested in these objectives and are prepared to assist by providing training fellowships abroad, in country training courses for medical and para-medical staff and the supply of equipment for narcotics laboratories.

Public Education

- (4) The Board has also chalked out an intensive programme of Public Education for creating the necessary motivation in the various related sectors. Such a campaign is essential not only for the success of the efforts in the different fields of activity, but also to educate the public in general and the younger generation in particular in the hazards of narcotics addiction.

In this campaign of public education, it is proposed to make maximum use of audio-visual equipment, namely films, television, slides, posters, etc. The help and cooperation of the press, radio and television can play a useful role in creating an awareness of the menace among the potentially prone sections of the society or among the elders who may detect the early symptoms among the youngsters in their midst.

The production and distribution of attractive and persuasive literature on the subject is also envisaged. For creating the necessary awakening among the people about the health hazards of addiction, special lectures, group discussions and symposia with ex-addicts participating in them, will also be arranged.

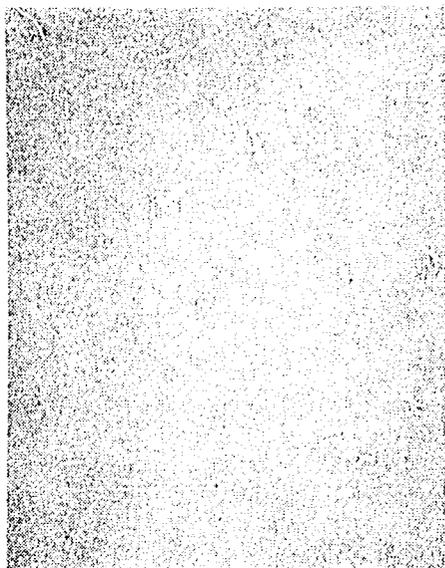
FINANCIAL IMPLICATIONS

It is apparent that an integrated plan of addiction surveys, registration, treatment and rehabilitation of addicts, along with an efficient system of dispensing locally-produced and imported narcotic drugs would require substantial expenditure, even in the initial stages. The more replacement of the present system of distribution of opium through licenced vendors by licenced chemists or through Government dispensaries, would cost the Provincial Government its entire revenue from this source. In spite of these constraints it is absolutely necessary that effective action be taken in this field even if only as a precautionary measure before the situation deteriorates further.

Turkey

by

Prof. Özcan Köknel, MD



MISUSE OF MEDICAL DRUGS

1. Hypnotics: Barbiturate derivatives, phenobarbital (Luminal) and pentobarbital (Nembutal) are widely used with or without medical prescription. We cannot establish the exact number of medical and non-medical users. It appears that a number of non-medical users were initiated into barbiturate use for medical reasons.

Minimum and maximum non-medical doses of these drugs are 200 to 2000 mg. a day.

2. Minor tranquilizers: Chlordiazepoxide, meprobamate, diazepam and oxazepam are the minor tranquilizers widely used medically and non-medically in our country. According to many observers the quantity used yearly greatly exceeds medical needs and a considerable percentage may be diverted for non-medical use.

Professor Dr. Köknel is with the Psychiatric Clinic at the Medical Faculty of the University of Istanbul.

Minimum and maximum daily doses for non-medical use of these drugs are:

Chlordiazepoxide	30 - 100 mg.
Meprobamate	1200 - 6000 mg.
Diazepam	15 - 150 mg.
Oxezepam	10 - 160 mg.

During recent years, an increase in the abuse of hypnotics and minor tranquilizers has been observed particularly in the large cities such as Ankara, Istanbul, and Izmir. The users include young people, aged 20-25, belonging to all socio-economic classes. They use these drugs alone or mixed with other drugs such as opium, heroin, hashish, etc. or in place of these drugs.

Some suicides and attempted suicides were attributed to hypnotics and minor tranquilizing drugs (45% of apparent and attempted suicides).

3. Amphetamine: Without medical authorisation or prescription, this drug has been widely used by vehicle drivers on long trips, night-shift workers, artists, designers, athletes, housewives and students studying for examinations. Approximately 5% of the high school and university students use this drug during examination periods.

In chronic users, this drug produces a tolerance and dependence which has often been associated with irritability, hyperemotivity and anxiety.

In predisposed cases, acute and chronic amphetamine psychosis may develop which closely resembles paranoid psychosis or paranoid schizophrenic types.

Up to the present time, we have observed 8 cases of amphetamine psychosis, two of which developed into a chronic paranoid schizophrenic type.

4. In the present Turkish pharmacopoeia, the most important drugs containing opium are: Extractum opii, opium concentratum, opium pulveratum, sirupus opii, sirupus opii dilutus, tinctura opii, tinctura opii benzoica, tinctura opii crocata, morphine hydrochloridum, sirupus morphini, codeinum, sirupus codeini, codeini phosphas, codeini sulphas, and dihidrocodeini.

Legitimate prescription of morphine and other opium derivatives are under strict control. But we could observe users of opium derivatives such as pure codeine and phosphate of codeine particularly among individuals belonging to upper socio-economic classes, living in large cities and among individuals belonging to lower socio-economic classes living in rural areas.

CANNABIS (HASHISH)

In Turkey, at present, medical use of cannabis is not accepted in the pharmacopoeia.

Non-medically, cannabis has been widely used during recent years by young people from 20 to 35 years of age belonging to both lower and upper socio-economic and cultural classes.

Among users, it is commonly called: 'Yellow Girl' 'Pot', 'Weed', 'Of this', 'Jook', or 'Snift'.

It is generally smoked in a cigarette, mixed with tobacco, or burned in a "Pot" in ordinary pipes, water pipes (Nargilet) or in a special cup.

Some cannabis users take it orally, with food containing sugar and honey.

The effects of cannabis vary greatly depending on many factors such as: the type of preparation, mode of administration, doses, the personality of the users, and the chronic use of cannabis.

Interviews made with young addicts suggest the following psychosocial situations:

Poor communication with the family unit, break down of family, desire to be in the peer group, a search for identity, means of rejecting certain values of the adult world and finally social pressures caused by a change in the cultural environment.

The average daily intake of cannabis in our country is 5 gr. Minimal and maximal doses are also 2-10 gr. daily.

There is little tendency for intermittent users to increase the dose. Certain cannabis effects may be modified by repeated experiences with the substance. Smaller doses may produce the desired effects after the individual becomes familiar with cannabis.

Control, Traffic and Legislative Problems

In our country the General Security Head Office, the 2nd Section of the General Security Office, the Financial Police and the Smuggling Bureau deal with illegitimate traffic of narcotic drugs.

Individuals arrested by the above-mentioned offices are sent to the court of justice for their preliminary inquiries. After this they are sent either to the office of

legal medicine, to the tribunal or to the mental hospital, depending on their condition.

We obtained accurate and official statistical figures about narcotic drug users based upon these statistical data and mental hospital statistics.

TABLE 1.
ANNUAL USE OF ADDICTED SUBSTANCE (KG/PER YEAR)

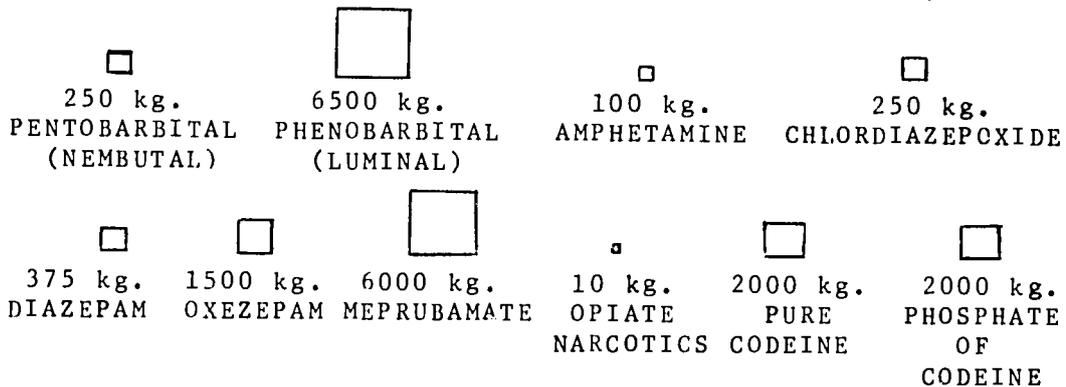


TABLE 2.
ILLUSTRATES EVENTS CONCERNED WITH
NARCOTIC DRUGS IN 1966, 1967, 1968

Year	Number	Number Arrested
1966	1217	1994
1967	1316	2148
1968	1503	2470

TABLE 3.

ILLUSTRATES NATURE OF ADDICTS IN
1966, 1967, 1968

Year	Hashish	Opium	Morphine	Heroin	Cocaine
1966	1103	110	3	-	1
1967	1207	98	11	-	-
1968	1412	80	11	-	-

TABLE 4.
ILLUSTRATES THE NUMBER OF EVENTS ACCORDING TO THE NATURE
OF NARCOTIC DRUGS IN 1968

Nature of Narcotic Drugs	Addict	Salesmen	Production
Hashish	1227	185	-
Opium	29	51	-
Morphine	-	11	-
Heroin	-	-	-
Cocaine	-	-	-
Total	1226	247	-

TABLE 5.
ILLUSTRATES THE DISTRIBUTION OF TOTAL NUMBER OF ADDICTS
AND ARRESTS ACCORDING TO THEIR AGE IN 1968

Age	Hashish	Opium	Morphine	Total
15 under	29	1	-	30
16-25	295	13	1	309
21-25	393	16	7	416
26-30	516	12	7	535
31-35	418	23	9	450
36-40	315	29	9	353
41-45	194	19	2	215
46-50	51	4	1	56
51-65	78	16	3	97
65 over	9	-	-	9
Total	2298	133	39	2470

We have observed that the majority of addicts to opium and cannabis belong to the age group ranging from 20 to 40.

We haven't got statistical data about the professions, educational degrees, family status and social situation or about any other punishment for other crimes.

Articles 403 to 408 of the Turkish Penal code are related to the traffic of narcotic drugs. The general conception of these articles is as follows:

Any attempt to produce or actual production of narcotic drugs without authorized license: and the import, and/or export of them is prohibited and the penalty cannot be less than 10 years of imprisonment.

If the drug in question is heroin, cocaine, morphine or cannabis, the penalty is life imprisonment and for every gram of the drug the individual is fined 10 TL.

To sell, buy, possess, keep, or transport drugs to help the process of their being bought or transported are offences. The penalty cannot be less than 5 years of imprisonment. And for every gram of the drug the individual is fined 10 TL.

If the offences in the above-mentioned article are concerned with heroin, cocaine, morphine and cannabis, the penalty cannot be less than 10 years of imprisonment.

If the individuals making these offences are organized, the penalty is doubled.

To use or carry such a drug with the intention of using it is an offence and the penalty is 3 to 5 years of imprisonment.

The users are sometimes sent to a hospital and are not given any penalty but must remain until their condition is improved.

Turkey has accepted all international conventions on narcotic drugs.

There are not any special services which deal particularly with drug addicts, however, we do have special services dealing with drug dependence in Istanbul, Manisa, and Elazığ. The number of addicts hospitalized in 1969 is as follows: Istanbul 245, Manisa 14, Elazığ 11.

Prevention and education are included in the General Mental Health Policy.

DISCUSSION

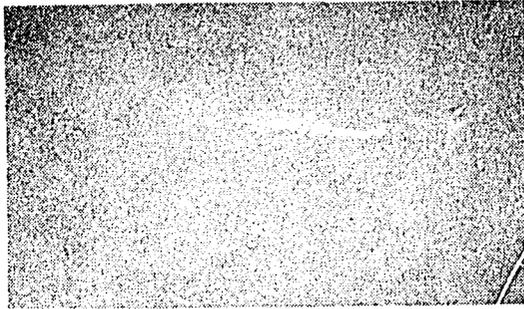
In the discussions which ensued the speakers were asked to elaborate on the methods of collecting the data cited and estimates made. It was questioned whether differences in the age distributions of 1955 addict arrestees in Iran and a population volunteering for treatment during the period 1965-72 reflected a change in the age distribution of the overall population of addicts, or rather were due to the manner in which the two samples were selected.

A question was raised concerning the method of estimating the current prevalence of opium users in Iran at 300,000. The Iranian Coordinator replied that this was based on known registrants plus an estimate of the amount of illicit opium used. For the latter estimate it was assumed that the illicit opium consumed was equal to ten times that seized. It was pointed out that since over 50% of the 153,000 persons registered for opium maintenance are over 60 years of age, addiction would have to be heavily over-represented in the older age groups for a prevalence figure of 300,000 not to be a gross underestimate of the addict population. Another member of the Iranian Delegation suggested that some persons over 60 were registered but not actually addicts. It was also suggested that the fact that some 50% or 75,000 of the registered addicts were residents of Tehran (representing 10-12% of Iran's population) further indicated that the 300,000 figure might be an underestimate. The leader of the Iranian Delegation replied that opium addiction was not uniformly present throughout the country and that the overall rate of addiction could not be estimated from data on the Tehran population.

A question was raised concerning the source of the estimate of 5% amphetamine use among high school and university students in Turkey. This estimate was based on surveys indicating "occasional" use. It was stressed that greater care needed to be taken in describing the sources of prevalence estimates and also the definition of what constituted use or dependence, should be stated whenever data are cited.

A member of the Pakistan Delegation stressed that there is no data on prevalence of opium, charas or other drug use in Pakistan and that those estimates which have been made are only guesses. It was suggested that the five years of experience in registering addicts and providing

opium maintenance in Iran could be a profitable source of information to aid in the planned registration and maintenance programme in Pakistan.



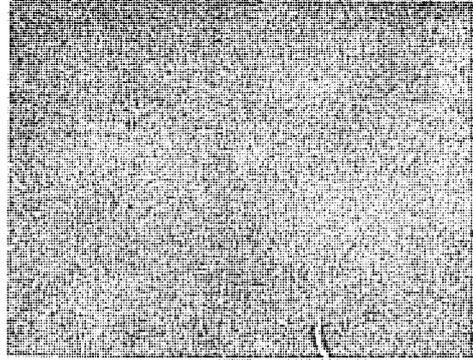
Topic 2

Prevalence & Trends in Drug Use Among Students

Drug Abuse and Education

by

Dr. Yıldız Kuzgun



Addiction to narcotic substances has always been a problem in almost every society throughout history. In the 20th century, in which technological progress is high especially in advanced countries, we can see that in addition to natural narcotic and toxic substances the tendency to use synthetic drugs, which were discovered for medical purposes, in excessive doses and for non-medical reasons is increasing. Drug abuse is spreading especially among the youth in our country.

THE PROBLEM

In order to fight drug abuse, it is necessary to eradicate the market along with trying to control production and trade. It is the aim of education to develop desirable behaviors or to extinguish undesirable behaviors. In order to prepare an effective program against drug abuse, first of

Dr. Kuzgun is a Counseling Psychologist at Hacettepe University in Ankara.

all, we should identify the people who are disposed to form a drug habit, in other words, we should find out the needs which motivate individuals to use drugs frequently and for the specific purpose of getting pleasure from it.

METHOD

Today in our country we see that drug abuse is increasing, especially among the younger generation. In order to find out the rate and socio-economic backgrounds of the students who have formed a drug habit among the normal university population, we did some research at Hacettepe University. We considered the socio-economic backgrounds, academic achievements, friendships, philosophies of life and parental attitudes as independent variables along with the frequency of using drugs like amphetamines, coughing pills, cigarettes, alcohol, tranquilizers and hashish as dependent variables and we prepared a questionnaire consisting of 70 items.

DEVICE

Most of the items of the questionnaire were placed on a rating scale of five steps. The validity of the questions was tested through the evaluations of the specialists in the fields of psychiatry and social science. We asked no question which might lead to the identification of the students in order to obtain honest and sincere answers. Considering the fact that knowing their faculties and departments might make them suspicious of the researcher, the questionnaires were administered in the classrooms in which students from various departments had classes at the same time.

Sampling was chosen through taking 1/10th of the whole population. The data was obtained from 477 students.

FINDINGS

The following presents a summary of the findings obtained from the sample in relation to the dependent variables which we gathered under the headings of "Drug Abuse".

1. Cigarettes

According to our findings, 47 percent of the subjects did not smoke at all; 30.4 percent smoked 2-5 cigarette a day, 2.5 percent smoked one package a day and 3 percent smoked more than one package a day.

2. Alcohol

43 percent of the subjects did not drink at all. 18 percent drank very seldom, 36 percent drank once in awhile 2.5 percent drank two or three times a week, and 0.6 percent drank almost every evening.

3. Tranquilizers

We found that 15 percent used tranquilizers very seldom. 8 percent used it once in awhile. Those who used it often were 2 percent, and those who took it every day were 0.2 percent of all the subjects.

4. Amphetamines

Those who tried amphetamines to stay up for studying or some other reasons were roughly 8 percent of the subjects. 3 percent of the subjects used it once in awhile, 2 percent used sometimes and 0.6 percent used it frequently, and 0.4 percent used it habitually.

5. Coughing Pills

The rate of using coughing pills was found very low. 0.6 percent of the sample used it sometimes or frequently. We found no subject who indicated that he used it habitually.

6. Hashish

In order to find out the frequency of hashish use, we preferred at first to ask indirect questions. 16 percent of the subjects gave a positive answer to the question, "Have you ever met any narcotic substance called hashish?". 40 percent gave a positive answer to the question, "Have you ever heard that some of your friends use hashish?".

Those who indicated that they had used hashish once were 6 percent, those who used it very seldom were 1 percent, those who used it sometimes were 1.05 percent, and those who used it frequently were 0.2 percent of the sample. We can conclude that the total rate of these who used habit-forming drugs seldom, sometimes or often are roughly 2 or 3 percent of the sample.

The number of users might have been higher if we consider that some subjects may have given false answers in order not to reveal themselves or to preserve their self-concepts or because of some other reasons, regardless of all

measures taken to obtain true and sincere answers. Thus, the fact that those who expressed that they used hashish only once or few times consisted about 7 percent of the sample whereas those who had seen this substance were around 16 percent seems to support the above judgement.

Gökçe (1973) found that 2 or 3 percent of the adolescents answered as "Yes" to the question, "Is there anyone who uses hashish among your friends?" in her survey study of gecekondu areas of Ankara in 1971. Because of the fact that most of the youngsters in this study were around 14 years of age, and the questions were asked orally and in the presence of adults, the number who answered affirmatively is lower than ours. In addition to this, the difference of socio-economic backgrounds might have affected this result.

The number of subjects who use amphetamines sometimes, or often was found to be 6 percent. Köknel (1970) found the rate of amphetamine users as 5-8 percent, too. When the data is examined carefully, the frequency of using various drugs seems to correlate. There seems to be a close relationship between the habit for alcohol and the habit for hashish which are both used for pleasure. For this reason, in analyzing the data, we dealt only with the dependent variables related to hashish and examined their relationships with the independent variables mentioned above.

Being exposed to, or having tried hashish once in awhile or being addict to it seems to correlate primarily with the sex of the subjects. Although both male and female subjects had seen and used hashish, the rate of using it is higher among male subjects, and the hashish users were all males in our sample.

Another variable which seems to be correlated with hashish abuse is allowance. It was observed that students who are given higher allowances seem to be exposed to hashish more often. Gökçe (1972) found the same degree of correlation between allowances and being exposed to hashish, however, there is no relationship between allowance and using hashish sometimes. In this case, we may conclude that, usually the students who have a high allowance may try hashish once just to get an unusual experience, but if they develop a habit for hashish for some reason, they tend to continue to use this expensive substance regardless of their financial status.

The students who had part-time jobs seemed to try hashish more than those who do not work. The subjects who have part-time jobs may have better financial status, and consequently are in a position to obtain hashish.

The tendency for experimenting and using hashish seems to be more common among the subjects who spent their

childhood in large cities. Thus, the general opinion that drug abuse is a problem of large cities and it is the result of modernization and urbanization is supported by the findings of this research.

Another variable which seem to have a rather high correlation with using hashish is academic achievement. Although we could not find a significant correlation (at the expected level of 0.05), those who had a habit for hashish were all unsuccessful students at the university. However, this correlation does not indicate which variable is the cause and which one is the effect.

We also found a close relationship between nervousness and the habit for hashish and for other drugs. 33 percent of the subjects indicated that they felt tension and nervousness in their daily living. Also the hashish users were found to believe that success in life can be achieved through favoritism and being lucky or by cheating.

A moderate correlation was found between hashish using and the affection of the mother or hard discipline of the father, i.e. those who are either protected or neglected by their mothers, and those who are either severely controlled or ignored by their fathers tended to experiment with or to use hashish. Thus, we can say that overprotective, authoritarian and negligent parental attitudes hinder the development of the ability of students to behave independently and to take adequate care of themselves, and causes the development of either an aggressive or a passive and weak personality. So, we may conclude that those who have this kind of undesirable personality characteristics could not cope with the difficulties of life and tend to search for some means to keep themselves away from some responsibilities and undesirable situations. The subjects who used hashish sometimes indicated that they did not have self-confidence, could not overcome their personal problems, and could not get enough satisfaction from their relationships with the opposite sex.

There was no relationship to be found between drug abuse and the following variables: consistency of parental attitudes, fathers, affection toward their children, belief in destiny, happiness in childhood and hope for the future.

Since this research was done on about 500 students and the percentage of drug users was found to be very low, the number of subjects in each group was very few. As a result, the percentages in each group increased. If this kind of research could be done on larger groups it would be possible to obtain more reliable results and the findings could be generalized with more confidence.

78 percent of the subjects tried hashish just for

curiosity. 14 percent did it because they could not resist group pressure. 8 percent tried it without knowing what it was. Apparently, curiosity and the tendency for getting an unusual, exciting experience seem to be an important factor for the need to try hashish. But to continue to use it after the first trial seems to be the result of stress, boredom and the desire to get rid of bothersome responsibilities.

Our findings seem to be consistent with those obtained by Köknel from 136 youngsters in Turkey and those obtained from research done in the U.S.A. For instance, in a study done at Princeton University in 1967, the students mentioned "boredom" as the most important reason for drug use. In other research, curiosity, the need for amusement, pleasure, relaxation, freedom from inhibitions and stress and peer group pressure were mentioned as the main causes for drug use. To develop insight and to understand oneself were mentioned secondarily. In this case, we can say that people usually try narcotic substances just for the sake of fun and the excitement of unusual experiences. Using drugs habitually seems to be connected more closely with serious personality disorders. For instance, Köknel (1970) and Blum (1969) found that drug users were deviant, adventurous, rebellious against social control, atheistic, and they are usually unsuccessful in their personal relationships.

In our country, technological advancement and the difficulty of living conditions in large cities make people nervous, and intolerant of each other. As a result of this, conflicts among family members are getting more serious. Since emancipation of women provided them with more economic and social freedom, divorce is getting more common, and consequently, parental control and affection of growing children is decreasing. Thus, pathological affection or lack of affection and excessive control or lack of control makes the individual weak, insecure, and alienated from his parents. Consequently, he becomes rebellious to any kind of authority, consciously or unconsciously.

SOME EDUCATIONAL MEASURES AGAINST DRUG ABUSE

In the following, we are presenting the possible measures which can be taken by educators to prevent youth from drug abuse.

1. In order to initiate an effective program against drug abuse, we must emphasize the causes underlying the symptoms. We have to protect the individual from psychological disturbances which might motivate him to use drugs. To do this educators should take the responsibility to handle mild psychological problems before they become more serious.

We have mentioned that one-third of our subjects felt nervous, uneasy and tense in their daily life. Köknel (1970) found that, in 1964, 4.4. percent of the young people had some psychological disturbances. In 1967, 5.6 percent of them had the same kind of problems. For this reason, it seems obvious that in our educational institutions we need some services which can handle a mild degree of adjustment problems before they get worse. Although Medico-Social Centers in some of our universities are providing this kind of service, the need for Counseling and Guidance Services have been felt by both academic personnel and students in every educational setting.

In addition to this, educators should provide the most favorable atmosphere for the students who need to self-actualize themselves. Extracurricular activities, student clubs and associations for various purposes should be encouraged and supported by the authorities.

2. We have mentioned that the psychological disorders which motivate people to use drugs are the result of unfavorable parental attitudes.

Although it is not easy to change overprotective or authoritarian attitudes of parents entirely, as educators we can enlighten parents about the principles of child education and influence them to a degree through the mass media.

Moreover we can provide a democratic atmosphere for our students on any level of education. Thus, we may be able to decrease the undesirable effects of the wrong parental attitudes to a degree and perhaps we may be able to educate future parents to be better adjusted and healthier.

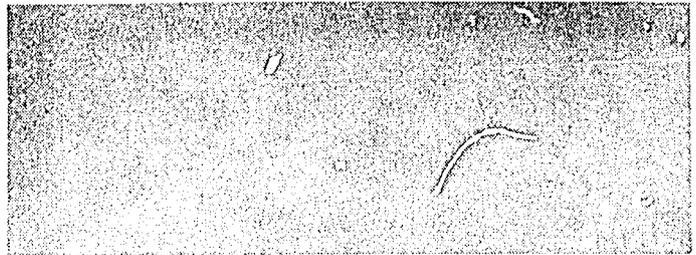
It is generally known that psychological disorders are common among people who have to live in a society which ignores or represses fundamental human needs and motives. That is, rivalry, competition and being obliged to meet the expectations of other's make people alienated to themselves and others, and consequently they feel life is meaningless and worthless. As a result of this, they tend to search for some means which will remove them from reality. For this reason, the main duty of educators should be to accept interdependence instead of competition and rivalry, and self-actualization instead of pleasing others as the main educational principles and teach these values to the new generations.

Finally, The Ministry of Education, working cooperatively with the Ministry of Health and Social Welfare, and the Ministry of Youth and Sports should arrange lectures in schools, and speeches on radio and TV to enlighten the young generation about drugs and their possible harmful effects. We believe that lectures which do not arouse neither fear nor curiosity about the effects of drugs could decrease the rate of the first trials.

Patterns of Illicit Drug and Alcohol Use Among University Students in Iran

by

Dr. M. Ali Shamie, MD



One of the problems which has been seriously threatening the mental and physical growth of our adolescents today is the tendency to abuse alcohol and drugs more than at any other time during the past 10 to 15 years.

To understand the development and causes of drug dependence, not only the pharmacological interaction between drug and organism, but also the characteristics of the socio-cultural forces interacting with the psychological background of the individuals in a society are to be given important consideration. The present epidemiological study is an attempt to disclose the important family and socio-cultural factors responsible for the primary motivation to alcohol and drug usage, and possible causes of drug dependence among the most vulnerable group in our society.

Dr. Shamie is a Staff Psychiatrist at the Firuzgar Medical Center in Teheran.

METHOD

This study was undertaken in May of 1974 to determine patterns of alcohol and drug usage by a group of university students who were in training at a medical center in Teheran. All available medical and nursing students at the time of this survey were included. The medical students had finished their first 3 years of college in southern Iran (Province of Khuzestan) before being assigned to their remaining training in the medical center. The nursing students were under a 4-year training program at a nursing school affiliated with the medical center. The total sample was 150; 75 male and 75 female. 66 of the female group were students of nursing and the rest (9) were medical students. The average age was 25, ranging from 20 to 30 years of age. A majority of the students were Muslim with the exception of one Christian, one Jew and 2 of unknown religion.

A self-administered, anonymous questionnaire consisting of 30 items was employed. Inquiry was made about tobacco, alcohol, hashish, opium, shireh (the smoked residue of opium), heroin, D-Lysergic acid diethylamine (L.S.D.), barbiturates and other drugs (as specified).

The data were used to describe the prevalence and incidence of alcohol and illicit drug usage and the psychosocial factors related to drug behaviours, however, no statistical tests were used to analyse the data at this stage of the study.

Although the sample was in no respect representative of the total youth population of Iran, it could be considered a significant sample of the university students of the region and quantitatively, a small number of the university student's representative of our country.

FINDINGS

a) Prevalence of Alcohol and Drug Use: (Table I.)

Alcohol was the most commonly used drug among males while tobacco smoking was the most frequent drug used by female students. 36 females (48%) smoked tobacco and 13 (17.3%) used alcoholic beverages while 50 (66.6%) males used alcohol and 47 (62.3%) smoked tobacco. Among narcotic drugs, opium was the most commonly used by our male sample. Narcotic drugs, including opium and its derivatives had been used at least once by 18 males (24%) and by 2 females (2.6%). In the male group, 15 men used opium (20%); 6 of them occasionally (less than once a month) and 9 of them frequently

(two or more times in a month) of the remaining 3 men, 2 used heroin (one occasionally and one frequently) and one used shireh (smoked residue of opium, locally called "shireh") with occasional frequency. In respect to the narcotic usage among our female sample, one used opium occasionally and the other one used heroin with regular (once or more in a week) frequency. D-Lysergic Acid Diethylamine (L.S.D.) was found to be used by one of the female students only. (See Table II).

Multiple drug use was much more common among male (16%) than female (4%) students. There was a significant correlation between the illicit drugs and alcohol use; with the non-users or the occasional users of alcohol having a much lower frequency of illicit drug usage. 17 males and 35 females never used alcohol or drugs. A reciprocal correlation was found between the use of alcohol and tobacco. Hashish smoking also correlated with the use of narcotic drugs and alcohol. 9 out of 15 hashish smokers used opium and opiates, while the rest used either alcohol or alcohol and tobacco along with hashish. (See Table III).

b) The Effects of Family and Other Social Values

For both alcohol and illicit drugs, the influence of peers was very strong whether measured by the percentage of friends who used drugs or the percentage of classmates estimated to be using alcohol and illicit drugs; however, there was no significant correlation between the quality of the family and the peer group relationships and the frequency of alcohol and drug usage by either sex groups. A majority of the students reported to have a good relationship with their parents and siblings (64 out of 75 male and 60 out of 75 female). Similarly, good relationships with friends and classmates were reported by the majority of male and female students.

A significant correlation was found between the frequency of alcohol and narcotic drugs usage and the living situation of the students whether living in an apartment or in dormitories. (Fig. I & II). Among the married students there was no incidence of narcotic drug usage while a higher frequency of alcohol use was quite prominent in both sexes.

Religion was another social variable which was examined for its correlation with the incidence of alcohol and drug usage. (Fig. III & IV). The students who were devoted to their religion were found to use narcotic drugs much less frequently than the ones who did not practice their religion. As far as alcohol usage was concerned, it was somewhat higher among the nonreligious than the religious group in both sexes, however, it was not as significant as the narcotic drugs.

DISCUSSION

Our findings with respect to the prevalence of alcohol and drug usage among university students reveals that alcohol has been more freely and freely used by the youth population. Alcohol, from the incidence which was found, appears to have become an accepted social behaviour among this group. Illicit drug experimentation and usage, although not extensively used or widely spread, corresponds with alcohol usage.

In view of having no similar survey in the region for comparison, I would like to refer to the findings of a survey of known drug addicts which was carried out by a group of social work students in Teheran Addiction Hospital in 1972-1973. It was found that most drug-dependent individuals were between 20 to 30 years of age. 2% of them had their first drug experience while in college and alcohol was a significant factor preceding illicit drug usage. (67% of the known drug addicts used alcohol prior to the usage of narcotic drugs). Social relationships with other alcohol and drug users was a very significant factor preceding drug experimentation and habituation. The findings, although statistically not comparable with our group, indicate similar factors responsible for drug experimentation and drug dependence. In our youth population, social relationships with other alcohol and drug experimentors or users, whether their friends or classmates, were considered important social factors for initiation and/or continuation of alcohol and drug usage. Of course, we all know that this and other provocative socio-cultural factors influence the psychologically susceptible and motivated individuals in any group of people and particularly the "At risk" youth population.

Hashish, contrary to popular opinion, did not appear to be a drug which was widely used by this group of students, nevertheless, it was used by some who were already exposed to alcohol or narcotics. The general view about the wide spread use of cannabis by youth does not seem to hold true in this region as far as our findings are concerned.

In our country, the Muslem religion, which prohibits the use of alcohol and any drugs producing mental aberration, has been a very influential force for the inhibition of alcohol---When we talk about growing adolescents we are dealing with a group whose value systems are rapidly changing in a developing country such as ours. Thus, the influence of psycho-social family structures and society as a whole becomes a matter of constant conflict and pressure for them. Consequently, we see the rejection of religious training particularly by the young male population. In our sample, it seems that our youth lean towards a social drinking

practice, as Europeans do, regardless of their religious affiliations and beliefs.

The family structure, which helps the adolescent adjust himself more harmoniously to adult society, was found to have a greater influence on the inhibition of alcohol usage among females. Traditionally, there is a very strong family relationship between parents and their children. This close emotional and social relationship usually continues into adult life. When these psycho-social ties are broken, through the separation of the adolescent from his family and exposure to a more open society, he might be driven to different activities previously unknown to him. In this way the adolescent who lives away from his family is exposed to alcohol and drug experimentation and usage more than when he lives with his family. Consequently, in our study, we found the use of narcotics become significantly prominent among both groups of males and females who live away from home; but alcohol, which seems to be more accepted social behaviour by the male-dominated families, does not appear highly different in relation to the family life situation as far as the frequency of its usage is concerned.

These socio-cultural forces which are held responsible for the development of drug experimentation in our youth are a few, but not all, of the causative factors. Besides other bio-psycno-social factors, however, they are to be considered important in a multidimensional campaign against drug abuse in our society.

TABLE I.

PREVALENCE OF USAGE OF INDIVIDUAL DRUGS

Drug	75 male	%	75 female	%	150 total
Tobacco	47	62.3	36	48	83
Alcohol	50	66.6	13	17.3	63
Opium	15	20	1	1.3	16
Hashish	12	16	3	4	15
Barbiturates	7	9.3	4	5.3	11
Heroin	2	2.6	1	1.3	3
Psychotropics and Sedatives	4	5.2	2	2.6	6
Shireh	1	1.3	0	0	1
L.S.D.	0	-	1	1.3	1
Multiple Illicit Drugs	12	16	3	4	15

TABLE II.

FREQUENCY OF DRUG & ALCOHOL USE BY EACH SEX

Drugs	MALE				FEMALE			
	Occasionally	Frequently	Regularly	TOTAL	Occasionally	Frequently	Regularly	TOTAL
Tobacco	13	14	20	47	17	16	3	36
Alcohol	16	31	3	50	5	8	0	13
Opium	6	9	0	15	1	0	0	1
Shireh	1	0	0	1	0	0	0	0
Heroin	1	1	0	2	0	0	1	1
Hashish	6	0	6	12	2	1	0	3
Barbiturates	2	5	0	7	2	2	0	4
Psychotropics	2	2	0	4	2	0	0	2
L.S.D.	0	0	0	0	1	0	0	1

TABLE III.

EXPERIENCE WITH TOBACCO, ALCOHOL AND
MULTIPLE NARCOTIC DRUGS

Drugs	Male	Female	Total
No alcohol or Drug Usage	17	35	52
Tobacco Alone	7	25	32
Tobacco and Hashish	0	0	0
Alcohol Alone	9	5	14
Tobacco and Alcohol	24	5	29
Tobacco and Alcohol and Hashish	4	2	6
Tobacco and Alcohol and Narcotic Drugs and Hashish	8	1	9
Tobacco and Alcohol and Narcotic Drugs	5	2	7

FIGURE I.

INCIDENCE OF ALCOHOL USAGE IN
RELATION TO THE FAMILY AND SOCIAL SITUATION

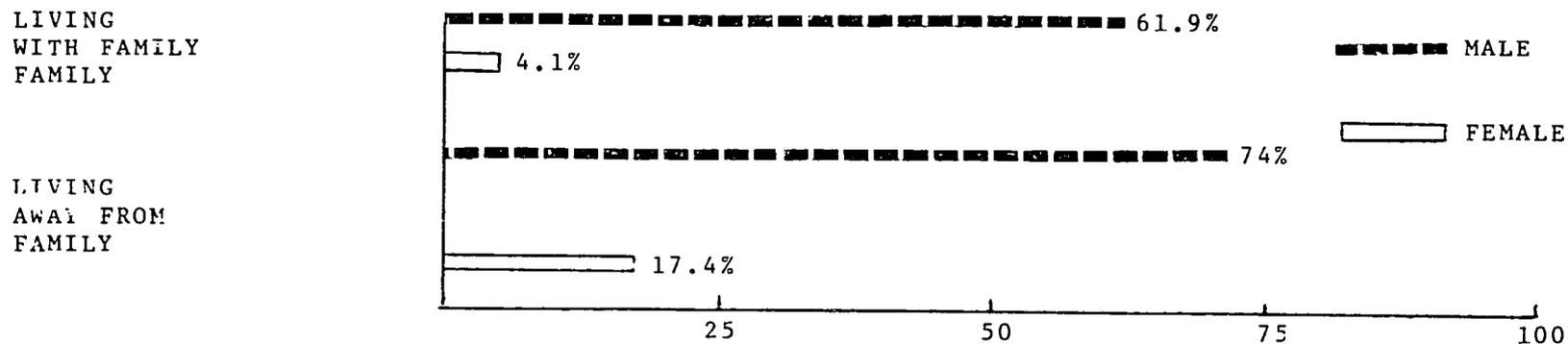


FIGURE II.

INCIDENCE OF NARCOTIC DRUGS USAGE
IN RELATION TO THE FAMILY AND SOCIAL SITUATION

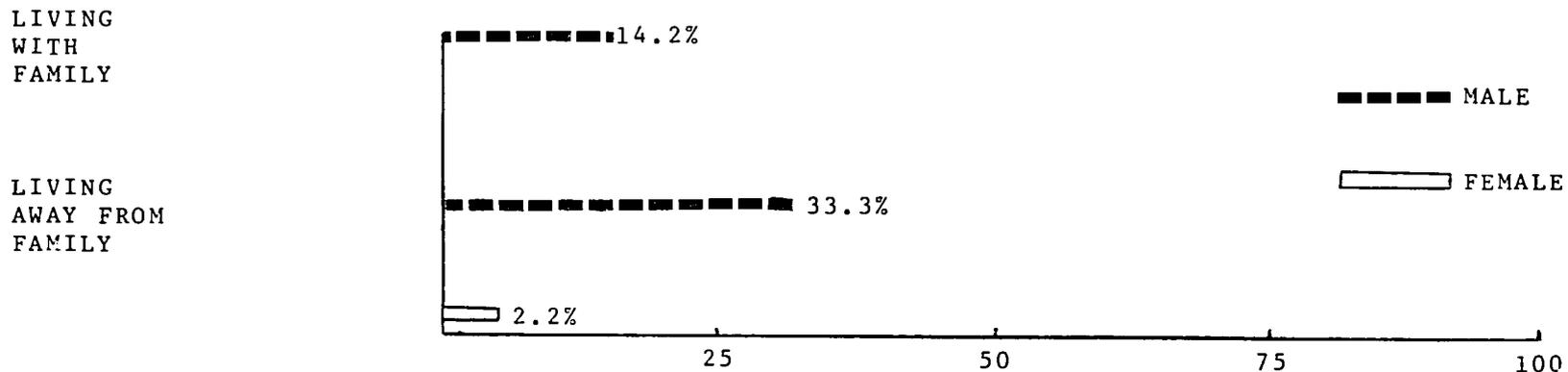


FIGURE III.

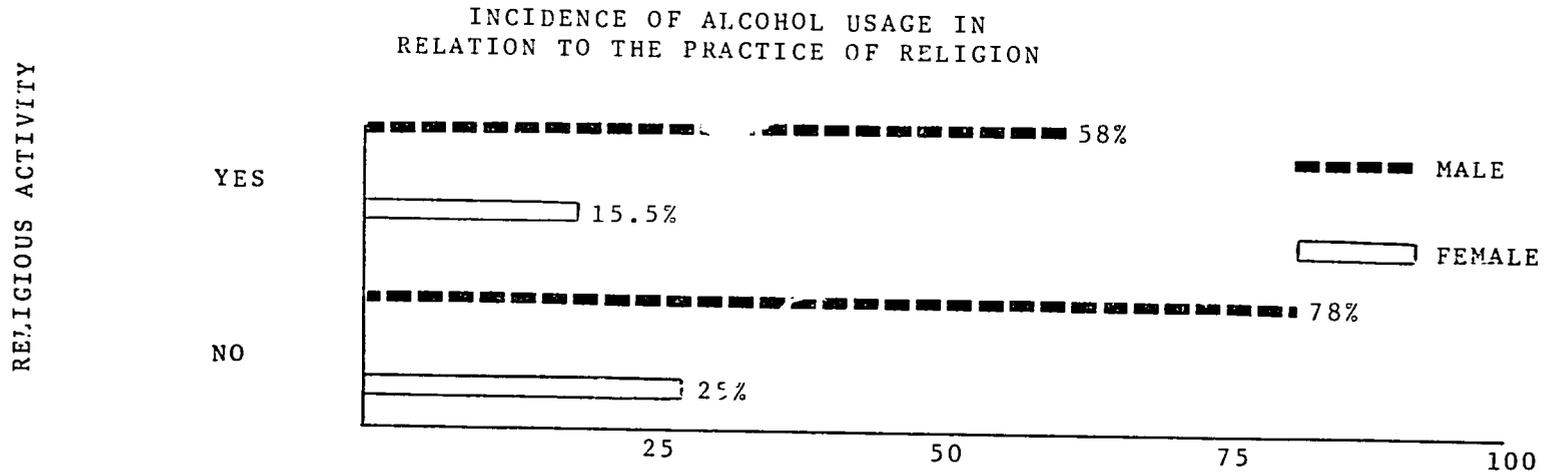
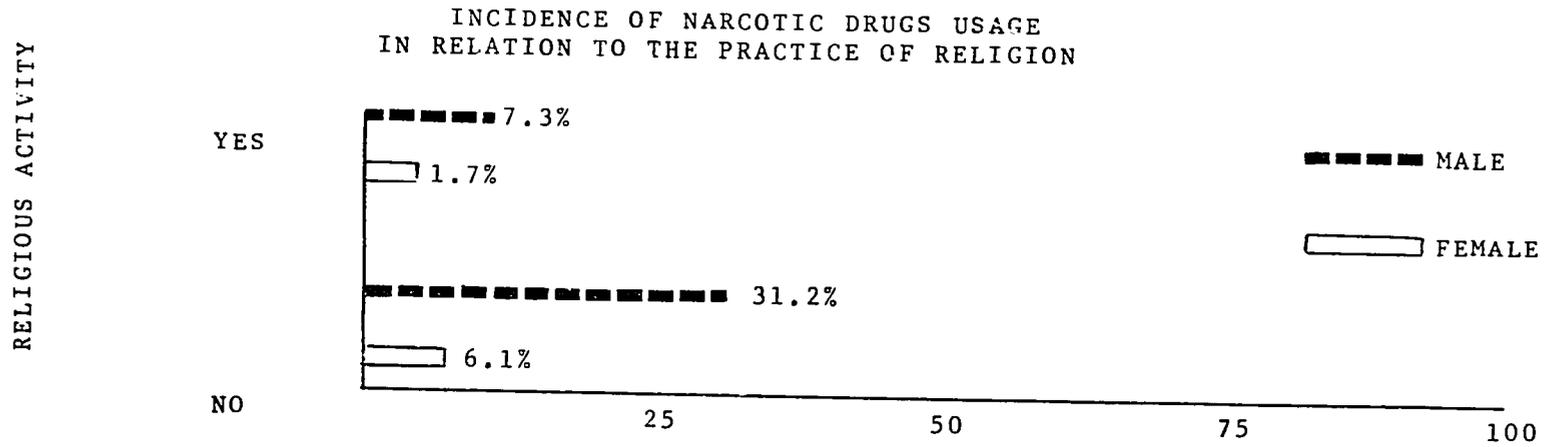


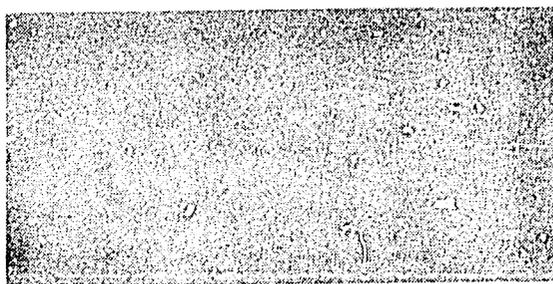
FIGURE IV.



Psychodynamics of Addiction in Regard to the Psycho-Social Conditions in Turkey

by

Prof. Dr. Günsel Koptagel-İlal



In any kind of addiction, there are two factors necessary for the development of this phenomenon: The addicted individual and the object of addiction. The reasons of addiction are related to the personality structure of the individual and the availability, the way of presentation or offer of the substance of addiction.

From the psychoanalytical point of view, the psychological development of the human being begins in the foetal period. If we describe omnipotency as the instant satisfaction of the individual's desires, the human being experiences this feeling during intrauterine existence. With the event of birth, the baby is deprived of this feeling of complete happiness which is achieved through the immediate satisfaction of instinctive drives and which, according to Freud, is the "pleasure principle." Although a baby's physiological and psychological dependency on the mother helps to

Professor Dr. Koptagel-İlal is with the Psychiatry Clinic of the Cerrahpaşa Faculty of Medicine at Istanbul University.

continue this feeling for a certain time, in his existence in the outside world, he has to face reality and suffer certain frustrations in the maintenance of the pleasure principle. The ego of the young individual begins to develop upon this pleasure principle and lives through a struggle between the satisfaction of its instinctive desires and sacrificing them for the requirements of the objective world of reality. We may call this in other, psychoanalytic technical words, the struggle, or the conflict between the Id and the Superego. The ego, in the first primitive stages of development is identified with the mother figure and gets physiological as well as a psychological support from this as he is faced with the requirements of the reality principle and gets to know and conceive of the objective world. The development of the Superego, which we may as well recognize as the representative of the requirements of the world of reality, takes place gradually and will first be experienced through the figures in the nearest environment, which usually is the family environment. The Superego structure of the individuals may show certain differences of concepts from one individual to the other and from one social group to the other. Yet, there is one common feature in all of them which is the demand from the ego to control the instinctive drives of the Id, according to the requirements of the Superego.

The first worldly environment of the child is, therefore, of great importance in the formation of its Ego. In the optimal way, the child is taught to recognize his limits according to the requirements of this environmental world in which he is living, in such a fashion that he will learn to accept and obey them without being strongly frustrated. The act of sublimation, that is learning to satisfy the primitive instinctive drives on a higher level and in a socially accepted form, without causing the dissent of the Superego, belongs here. Living creatures all have the yearning to achieve those objects which give them pleasure and thus serve to realize the pleasure principle, but as already mentioned, this is met with the taboos or restrictions of the reality principle. A person with a well-developed ego is usually able to achieve and maintain the equilibrium between the two principles and does not fall into great conflict situations between the Superego and the Id. In cases where this is not achieved, neurotic disturbances occur, which manifest themselves in various forms of behaviour deviations. Every living creature is in a continuous search for the ultimate satisfaction which it had experienced in the first days of its existence, but had to give up during the later stages of its life in the external world of reality. When a person is frustrated in the achievement of pleasure, he tends to regress to those first stages of development where he had experienced this feeling, unless his personality is so well developed that he can overcome these frustrations in an optimal way, or is able to harmonize his subjective and instinctive drives with the requirements of a soci-

al life or the objective world of reality. Neurotic and psychosomatic disturbances are a result of such regressions where the regressed object manifests itself in form of various symbolic behaviour patterns and organ dysfunctions.

Although it may seem that the structural features of the individual's ego are the deciding factors here, we must not forget that the features of the Superego and the conditions of the social environment contributing to the formation of this Superego are also of importance here. Since nothing in nature is static, both the human being and the social environment undergo a dynamic change and stand in a dynamic relationship to one another. The changes in time provoke changes in the concepts of both the individual and the society in which they live. If these two elements are not in harmony with one another in the acceptance and adoption of these concepts, discordances between them are due to appear, resulting in disturbances affecting both. This is always more apparent in younger generations where conflicts appear between them and the older generations who are the effective representatives of the social regulations and who are more likely to wish to keep the status quo alive, being settled down and having achieved their equilibrious harmony within these conditions.

The younger individual is in continuous psychological development where he is confronted with inner conflict-situations from time to time during certain periods. The problem of identity is of great importance here and the young person searches for an ideal model to identify himself with. This is true for the single individual in his personal development as well as for the whole group or generation of young people in a society. In the case of the single individual, the first natural identification figures are sought in the family environment. In the case of the group or generation, this will be sought in the whole social environment.

If the young person is provided with good possibilities of developing his personality and placing his object relationships with the external world on a harmonious basis, in its first, small circle of family environment, he will be able to develop a strong ego structure with enough self-confidence to gradually continue his relationships with the next, broader circles of social environment in the optimal way. Yet, it must not be forgotten again, that all those relationships are inter-personal relationships based upon an action-reaction formula where the other side of the equation, that is, the social environment, also has to possess positive features to help in this harmony. Otherwise, various disturbances of behaviour will occur, which may range from light protest reactions and deviations to stronger and extremely disturbed behaviour patterns. This shows us that the social and moral attributes of a society are of undenia-

able importance here and should possess qualities that will answer the moral, psychological as well as social demands of its members.

When the young person fails to find the adequate responses to his questions and demands, he is apt to fulfill this need through deviated substitutes. It is a sort of inner emptiness which will try to be filled through momentary means that are neither constructive, nor lasting, but serve the immediate purpose of satisfaction. With the accumulated and surplus energy of youth, this may lead to strong reactions of hard protest and actions that may manifest themselves individually in a small circle or in larger groups. It may bring about movements where youth groups engage in certain actions causing the dissent of the older generations. The destructive youth movements of the last years which manifested themselves mainly in the western, developed countries is a good example of this behaviour pattern. Being unsatisfied with the identification patterns offered to them by the society, the youth started on a search for other ideals and divided into certain groups of action through which they sought to discharge their accumulated and unsatisfied aggressive emotions. In some groups, these were manifest aggressions directed through active protests and in others it took the form of a passive revolt with a complete turn to the pleasure principle where a social, and psychologically intentional regression could be observed. Addiction belongs to this sort of a revolt. In individual cases, we see an individual neurosis and a resort or flight into the pleasure principle through drugs which nurtures within itself also an aggression and revolt. In cases of social subgroups, the use of drugs takes the form of a more manifest aggression and revolt, as well as a flight as in the case of the Yippies in the United States. There are, nevertheless, also other points to the addiction problem of youth groups in the western world: As H.E. Richter in his book "The Group" puts it, the suffering youth, whose trust in the older generations is so weakened that it does not wish to ask for medical or therapeutic help from these elder people, flees to the help of drugs. In this sense, the use of drugs, although an irrational and mistaken way, is an effort of self-cure for these groups. It is not the source, but the result of the suffering. The whole vertigo of medicine over the problem of drug addiction, rises only partly from the destructive effect of these substances, but mainly from the helplessness to cure the basic illness. One does not have the slightest idea of how one can rescue these helpless young people from the gloomy hopelessness out of which they flee into the deceptive and momentary consolation of drugs. This is a matter of the recognition and adoption of the basic values of a society. In such societies, the youth groups do not accept the basic values of their societies, and are at a loss, trying to find a way out, which they cannot efficiently achieve and turn into deviated, feigned substitutes. These substitutes

will be chosen out of objects which will be somewhat foreign to their societies and evoke a shock effect upon them. Where order and cleanliness, welfare and social security are accepted and achieved standards of a society, this is denied and revolted against. So, as Jerry Rubin and the Yippies say, "Walk on red lights, don't walk on green lights!-Don't pay the toilets, shit on the floor!-Kids should steal money from their parents, because that is true liberation from the money ethics: true family.-Money means: Work today so you can enjoy "tomorrow." Which never comes. Money causes unnecessary discipline, boredom, suffering, pain." This behaviour pattern of a whole group of young people brings with itself certain modes of life which are manifested through music, arts, fashion and habits that will then be adopted by larger groups of young people.

This situation, true for the developed, western countries, is not true for Turkey, which, at the moment, is yet a country in development and possesses the features of a transitional society. As is the case with such transitional societies, the whole population of Turkey is not settled upon an homogeneous basis from the point of view of intellectual, cultural and economical development. The differences of these attributes cause the existence of different social class levels. A strain arises in the whole society from these differences. The lower classes aspire to achieve a higher level and the higher classes get uncomfortable, being conscious of the existence of the others. This brings about a dynamism in the whole social structure directed to the object of achieving a homogeneous level. There are, of course, infiltrations and migrations from the lower classes to the upper classes in individual forms as well as in groups. This brings with itself a great deal of adaptational problems which also exert a strain. Conflict situations arise out of these, but since there is a common goal to achieve which is not inhibited, but on the contrary, approved of and encouraged by the moral Superego, they do not undergo a regression or a deviation through frustration, but find instead, a sublimated way of discharge through the building up and adoption of a moral ideal. This discharge may sometimes exhibit itself in aggressive forms, as had been observed some years ago, but it was never in the form of a passive regression to the more primitive levels of the pleasure principle, or a passive revolt through a parasitic way of existence or a flight as in the case of addiction. This pertains to the majority. There are of course individual cases who are not capable of overcoming their conflict situations through adequate sublimations and find shelter in regressive forms of neurotic behaviour. Yet, these are again manifested more in the form of psychoneurotic and psychosomatic clinical symptoms rather than deviated flight reactions into addiction or the like. This shows a dissimilarity with the present situation in the western world where as Richter again puts it, the number of classical psychoneuroses has not increased,

but decreased lately, being replaced by a new form of psychic suffering with vague complaints which more and more washes away the borders between normality and neurosis and a disease. This results in the accumulation of lost, helpless people who have lost the capacity of organizing their psychic sufferings as an unequivocal disease. Muller-Eckhardt has stamped it as the illness of not being able to be ill. This hopelessness and feeling of boredom or being lost, encountered within the socially well-to-do countries, are considered by many other authors, too, as the cause of the dissent of youth with the present constitution as a result of which they seek other outlets or refuges, since everything which had to be achieved materially has been achieved by the former generation. In a society where there are still many material goals to be achieved, such a boredom cannot be a matter of question. Therefore, the dissent of the Turkish youth is not manifested in this way. The rare and exceptional cases of addiction which are met with in the younger generation are far from being group reactions or representatives of the whole generation. They remain only as individual cases. These are usually children of the upper classes which are widely open to the western style of life and the influences of western culture. Here, the psychopathological demonstration is, for the greatest part, a result of imitation, being only a transitional fad, dying out after a short time without permanent effects. A closer study of these cases reveals very often a great number of psychotic disturbances lying underneath the apparent picture. The Turkish society, as mentioned above, is in continuous development where optimal socio-economical and cultural levels have not yet been completely achieved. This brings about a certain alienation between the different social groups with the result of the accumulation of minority groups where inter-personal relationships and mutual support within these groups are strongly maintained so that the individual or the group of young people do not lack the emotional support and fall into a feeling of loneliness. These familial and environmental bonds and support go together with the maintenance of the good traditions and behavioural features which, in turn, will be demanded of the youth. The youth, on the other hand, feeling the tolerant comfort of this protection and support, will find it agreeable and will not feel the need of revolting against it in the passive, rejective way of addiction.

The substance of addiction is also effective in the protest behaviour of the young people. For the western world, hashish and opium are known only by their narcotic and destructive qualities and thus evoke a shock and panic effect in the elder generation of parents, thus serving the contradictory purposes of the young people. In their local producing countries such as Turkey, they are very well-known amongst the whole population with all their positive and negative qualities and the children are educated and conditioned from very early ages onwards sublimely against their

use in the negative sense. These substances being of common usage for healing purposes in homeopathic treatments, are, for the young people, uninteresting tools for purposes of revolt.

Therefore, in regard to the whole dynamics of the problem of addiction in the world today, it is the structure and the attitude of the social environment that is unable to have an adequate insight and answers to the problems and questions of its young members, which should be held responsible in the first place, and measures should be sought to establish a mutual communication and understanding between them.

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Drug Dependence Problem & Social Values Among Medical Students

by

Dr. Özcan Köknel MD

&

Dr. Kurban Özüğurlu MD



According to the general conception, drug dependence problems arise from three important factors:

(1) The type of drugs which are potentially dependence-producing in society and the psychopharmacological effect of drugs.

(2) The personality of drug users.

(3) The social environment of the drug users and the social values of this society on social issues and drug users.

We believe that the most important points of these three factors are psycho-social. For this reason, the type of drug and its psychopharmacological effects are less important than the other two factors.

Professor Dr. Köknel is with the Psychiatric Clinic of the Medical Faculty of the University of İstanbul in Çapa.

It is our impression that much attention has recently been focused on the misuse of drugs. Substantial evidence exists concerning the chemical, psychopharmacological, psychological and economical parameters of drug dependence problems. But we have little knowledge about the social values of drug dependence problems in society.

We surveyed the attitudes of medical students and compared their attitudes regarding the values of basic social issues.

Our studies focused on the following questions:

- (1) What are the opinions of the medical students on the values of drug dependence problems in the society?
- (2) What are their values of basic social issues?
- (3) What is the correlation between the social values of drug dependence problems and basic social issues?

METHOD

We surveyed 46 women and 114 men, aged 21 to 24 years, from April 1972 to September 1972, who came to our clinic for psychiatric training. This study was a social psychological field survey and we used a social enquiry method based on a set of questionnaire forms prepared by our clinic.

It was our impression that the students were honest and serious in their responses. Nearly every item was answered and a reason was usually given for the occasional omission that occurred.

The questions were divided into four main groups of questions dealing with:

- (1) the personality structure and the general mood of the subject;
- (2) the subject's views and values about basic social issues (i.e. family, conventions, customs, school);
- (3) the family structure and the socio-economic standards of the subjects; and
- (4) the social values of drug dependence problems.

We insisted particularly on the value of their ideas about their future expectations.

We evaluated these subjects from the viewpoint of social values related to family, conventions, customs and school, and scoring was done according to a "Likert scale" ranging from 0 to 3 as shown below:

- 0- for those who have not attached any value to the social structure, who have not answered to the questions and refrained from explaining their social relationships and attitudes.
- 1- for those who have a negative attitude to the social structure and social values, and who are hopeless about their future.
- 2- for those whose approaches are equal for the social structure and values and who have a positive attitude about their future expectations.
- 3- for those who were respectful to social structure and values.

Results

- 1- Average age was 22.
- 2- We have never observed any drug users in the group, except for three who occasionally used amphetamines during examination periods. We accepted that all subject groups were non-drug users.
- 3- The socio-economical backgrounds of the students were primarily middle level.
- 4- 56 of them were born and lived in Istanbul, 104 of them had been in Istanbul for educational purposes for 5 years.

Tables 1 through 5 can be found at the end of this paper.

PROBLEMS

Defective social pressures, weakness of will, personality defects and unpleasant situations are negative values. Need, desire, enjoyment, stimulation and good sensations are positive values about drug dependence problems.

DISCUSSION

According to our results, we can conclude that, pos-

itive values or drug dependence problems among medical faculty students correspond with their negative attitudes on basic social issues and their future expectations.

Lipp (6) questioned 1063 future physicians at four medical schools in different regions of the United States concerning their attitudes toward marijuana and its use.

Their results indicated that past use of cannabis ranged from 17 percent of the students at one school to 70 percent at another.

The results of this study indicated that there is a vast gulf between the position of the medical profession and the position of medical students. In addition, medical opinions of marijuana varied geographically to correspond with different social values.

Robbins (8) surveyed the medical and drug use patterns among students at two colleges and revealed that the majority of functioning students were not involved in the use of illicit drugs. Those who were taking illicit drugs at the time of the survey represented 17 percent of the sample, and an additional six percent had used them at some time in the past.

The authors suggest that the drug users may have responded to these self-ratings in terms of quite different norms from those of their classmates.

The students who used drugs described themselves as being moody and unhappy significantly more often than did non-users.

Lombillo (7) reported the results of their questionnaire survey on drug use among high school students in southwestern Florida.

They found that 24 percent of the students had used an illegal drug at least once, that certain types of drugs are used more often than others and that boys and girls differ in the types of drugs they use.

The identification of personal and attitudinal variables that related to the two basic patterns of drug use is an important part of understanding the problems of drug abuse.

Janus (3) surveyed a group of 745 public school teachers and compared them with college seniors in regard to a number of topics of concern to society today. They found that the use of drugs was more widespread among teachers than expected and that there was a close similarity between college seniors and teachers under age 30 in all areas exam-

ined. There are very close similarities in the extent of drug use, sexual attitudes, political radicalization and religious practices. As a result the pervasiveness of the values of the "drug culture" is also very obvious.

Black (1) studied 5482 enlisted men on active duty: Twenty-seven percent of the subjects reported having used marijuana, amphetamines, LSD or heroin.

The most important fact drawn from the data of this study involves total drug incidence and leads one to question the popular assumption that there is a connection between drugs and higher education.

Davidson (2) insisted the main reasons for beginning to use drugs and the effects sought were curiosity, desire for escape, desire to experience, reputed effects, group pressure, need for assurance, defiance of society, better self-knowledge, desire for artistic creativity, and increase of sexual appetite.

The results of this survey point to certain factors which would seem to be important such as past family and particularly maternal relations and the degree of integration of the individual in his immediate or more distant social environment.

Kosviner (4) estimated the prevalence of cannabis smoking in British University populations have ranged from approximately 2% to 50% depending on the year and type of the survey, the location of college and the type of student. The findings of this study reported three main areas caused cannabis use:

- 1) Demographic and background factors (including social, family, educational and personal background factors);
- 2) Some broad attitudinal, behavioural and personality indices; and
- 3) "Conventional" drug use and some attitudes to drug use generally.

According to our results and literature review we can conclude that the young students choose their values about drug dependence problems to correspond with the environmental social values. On the other hand, young students accept these values as a "value model".

Unhappiness, insecurity, loss of goals and uneasiness due to basic social issues and structure cause positive attitudes to drug dependence problems. This attitude came from "Anomia" or the "devaluing of all values." (5., 9)

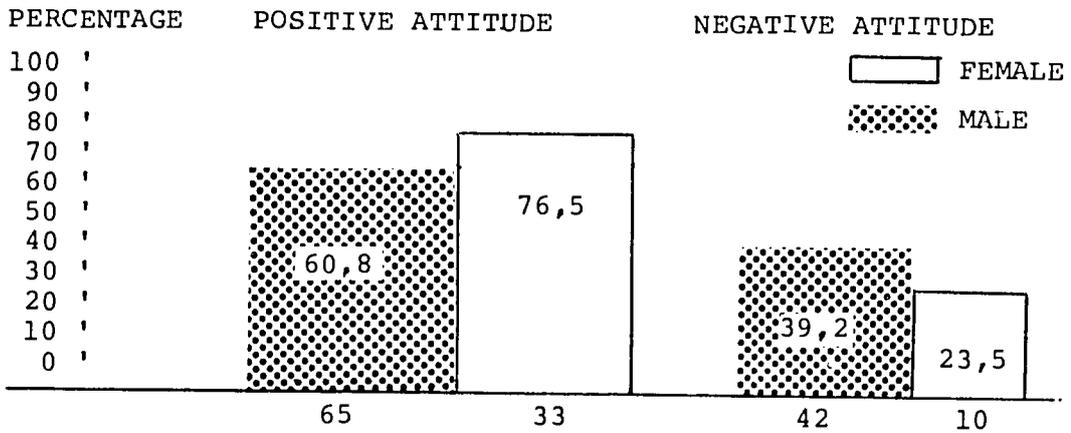
TABLE 1.

The attitudes on basic social issues of the students

Basic Social Issues	Positive Attitude	Negative Attitude	Chance	Equal
Family	128	10	9	13
School	116	20	5	19
Conventions/ Customs	66	58	20	16

TABLE 2.

The percentage of the student attitudes about basic social issues



Total 160 — 98 + 52+10 without and values

TABLE 3.

The attitudes of students about their future expectation

	Positive Attitude	Negative Attitude	Chance	Equal
Expectations of themselves	86	27	27	20
Expectations of society	31	75	24	30

TABLE 4.

The social attitude and values of students about drug dependence problems

Defective Social Problems	Weakness of Will	Personal Defects	Unpleasant situations	Need, Desire enjoyment, Stimulation, Good Sensations	Without any Attitude and Value
23	37	37	18	17	28

TABLE 5.

The comparison of the total points (Scores) and the average points (Scores) between the attitudes on basic social issues (family, school, convention, custom) and their future expectation; along with their positive and negative attitudes.

	Number of Subject	Family	School	Conventions/ Custom	Expectations of themselves	Expectations of Society
POSITIVE ATTITUDE	98 T.P.	256	236	194	228	154
	Average Point	2.61	2.40	2	2.32	1.57
NEGATIVE ATTITUDE	52 T.P.	126	112	86	90	63
	Average Point	2.44	2.14	1.64	1.73	1.21

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DISCUSSION

In the general discussion which followed reading of these papers, the Delegate of the United States opened the debate by referring to the use of terms such as significance, incidence and prevalence noting that these terms had special definitions and the studies presented were studies of prevalence and not incidence. In relation to the term significance he noted that it would be assumed that statistical tests had demonstrated such significance.

A Delegate of Turkey noted the use of the Chi Squared Test in her work with a 0.05 level as the upper level of confidence and many test being at the 0.01 or 0.001 level. Discussion ensued as to whether other tests such as Fishers Exact Test might have been helpful.

A Delegate of the United States stressed the value of the objective data obtained in the studies presented and another delegate from the United States stressed the similarity between the patterns of drug use shown in the two studies and those shown in American studies, noting also, that many useful descriptive studies had been carried out in the U.S.A. without analysing the data by statistical methods.

The Delegate of Turkey agreed that her findings were similar to those reported from the United States and the delegate of the United States stressed that both her study and the Iranian study had been well conducted and presented. He noted, however, that the Iranian study showed higher opium than hashish use, this being different from the pattern in most opium-using countries. He thought that in the student population in High School one would expect high hashish use and low opium use. He wondered whether this might come about by changes in the upper and middle class patterns in relation to drug use.

The Delegates of Iran did not have objective data on this point, but stressed long-standing attitudes towards opium use in Iran and the possible influence of these in choice of drug use in young people. He then went on to describe in detail the questionnaire items concerning family relations occurring between children and their parents and between parents themselves on a four point scale of 'excellent', 'good', 'variable' and 'bad'.

The Delegate of Turkey stressed the influence of social class on attitudes to drugs noting that if lower classes used marihuana, charas and bhang the upper classes might reject these but take hashish.

The Delegate of the United Kingdom asked whether there were any subjects who used hashish alone and was told by the Iranian Delegate that there were not.

A Delegate of the United States asked about the reference to, and definition of, non-medical use of drugs and the Delegate of Iran described how he, personally, gave the questionnaires and explained the reasons for the collection of data covering this very point and including, also, a clear statement that the questionnaire data was strictly private and confidential. He stressed the need to carry out follow up studies on medical and non-medical (illicit and not by prescription) use of drugs.

In response to a question from a Turkish Delegate the author of the paper, another Turkish Delegate, noted that questions on amphetamines were confined to whether or not these drugs had been used to stay up at night or study and how often they were used for this purpose.

A Delegate of Pakistan asked for an English translation of the questionnaires used and the Delegate of the United Kingdom urged that English translations of these and other questionnaires used in studies presented at this Seminar, be included in the published proceedings of the Seminar.

A Delegate of the United States asked the Turkish Delegate who had presented the paper on psychoanalytical aspects of drug dependence, for further clarification of the theory relating to differences between different countries. The Turkish Delegate responded by stressing differences between developing countries and those in which material achievements had been so great that some individuals looked elsewhere for expression of drive, frustration and aggression. A Delegate from Pakistan stressed similar dynamics but less drug abuse in the developing countries of CENTO.

Discussion then centered on the concept of boredom, its definition, and the possible relationships between boredom and depression. Whatever the definition, and any definition was difficult, boredom was complained of by many young people in America and elsewhere. It was stressed by the Delegate of the United States that activists only represented a small minority of drug use populations. The Delegate of Turkey agreed but stressed the influence of this small minority on various aspects of the life of young people, such as clothes and fashions, and pop music. The Turkish society was not homogenous and was changing rapidly. The Delegate

of Iran stressed the influence of young teachers on attitudes to drug use, and that many other factors operated to influence attitudes to drug use. Another Turkish Delegate stressed the uniqueness of communities and psycho-social factors throughout the world.

Referring to the paper of the Delegate of Iran, one of his colleagues emphasized the different groups of drug takers and referred to traditional drug use, new drugs introduced into different groups in which the pattern of use depended upon psychological make up of the group and on socio-cultural factors and the importance of a close family unit.

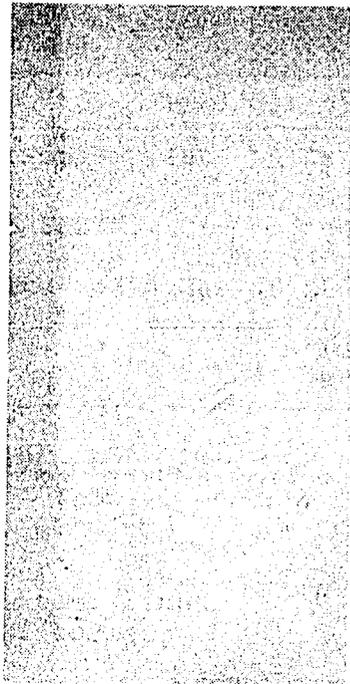
The Delegate of the United Kingdom drew an analogy with the Japanese experience in which the splitting up of close family units had been thought to be an important feature in the development of the drug problem and the situation in Hong Kong, where the closeness of the family units until the age of 25 years had been reached may have been a feature in limiting the numbers of drug users under the age of 25.

A Delegate of the United States noted that in American studies it had been shown that parents and children do not use the same drugs but there was correspondence between illicit drug use in children and identical use of drugs by parents. This raised the question as to whether they should disapprove of the drugs they themselves took for medical reasons, in their education of their children.

A Delegate of Iran responded by drawing attention to the fact that Iranian parents and grandparents would smoke opium in a room to which children were not admitted and would educate their children strongly against the use of opium.

The Delegate of Iran also stressed the difference between any use in old people and that in young persons. He stressed that in cities alcohol, forbidden by religion, and hashish were beginning to be accepted by some groups and that this was likely to continue and increase.

A Delegate of the United States stressed the need to have data on the age distribution of drug use and also the need for data on duration of use.



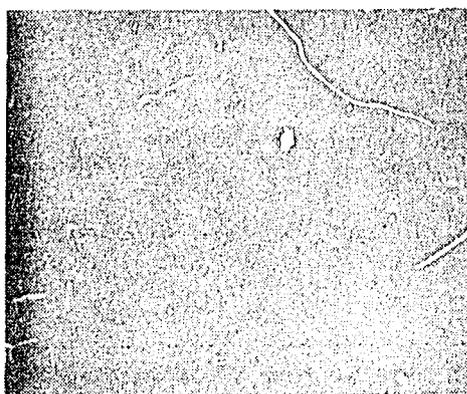
Topic 3

The Impact of Policy Changes on Opium Use in Iran

The Opium Maintenance System in Iran

by

Dr. Manucher Saba MD



The opium maintenance system was brought into effect in Iran in September, 1969. The historical aspects of Iran's drug problem and the events leading up to the introduction of the system are dealt with in the papers being submitted by my colleagues from Iran.

The legislation providing for the maintenance system sets out the procedure to be followed by addicts for registration, and the means by which they will obtain a ration of opium. Addicts over the age of 60 years and those certified by a panel of government medical practitioners as being in too weak a state to be safely withdrawn, are eligible for registration. An addict coming into these categories will report to a special centre of the Ministry of Health where he will be examined and questioned by an authorized physician. A special form will be completed containing full de-

Dr. Saba is the Director General of the Narcotics Control Administration in the Ministry of Health.

tails of the applicant and his addiction history. This form will then be subject to examination by a panel of Ministry of Health doctors and if the application is approved, a ration card will be issued to the applicant bearing his photograph, personal particulars, the amount of opium which he is permitted to purchase, the pharmacy from which he will obtain it, and the period of validity, which in any event, will not exceed six months. The applicant will also have to undergo a urine test as part of the registration procedure.

Efforts have been made to evaluate the effects which the maintenance system has had on the general problem of the illicit traffic and drug abuse in Iran but it is considered that further study and analysis will be needed before one is able to offer any firm conclusions.

After the rationing system had been in operation for some months, it was found that there was difficulty in deciding which applicants under 60 years of age really had a medical or psychological need for a daily ration of opium. Another difficulty was in assessing just how much opium should be allowed each person who was registered. Inevitably, it was considered that some persons who had been accepted into the system had no valid reason for taking opium, and secondly, it was also found that many were receiving a bigger ration than they really needed. The result was that the excess opium received by some addicts found its way into the black market. Efforts were therefore taken to tighten up the registration procedure and also to limit to the minimum the amount of opium which ration card holders were permitted to purchase. From latest figures it seems that these efforts are meeting with some success.

One of the objects of the introduction of the opium maintenance system was to reduce the demand for illicit drugs, which, in turn, would lead to a reduction in the illicit traffic and consequently a drop in seizures. The following shows the total quantities of narcotics seized by the enforcement authorities for the years 1969-1973, plus the first 8 months of 1974.

Year	Opium Kgs.	Morphine Kgs.	Heroin Kgs.	Cannabis Kgs.
1969	18,560	13	35	92
1970	13,447	2	39	637
1971	13,189	58	32	2,407
1972	9,694	58	26	1,706
1973	20,423	104	94	5,054
1974 (first 8 months)	1,486	23	29	1,031

Fluctuations in drug seizures occur for many reasons. High seizures could mean the enforcement authorities have been more successful in their operation; conversely they could indicate an increase in the illicit traffic. The reasons for the above fluctuations are therefore difficult to assess. With regard to cannabis, it can be said that the substantial rise in yearly seizures is due mainly to the growing international cannabis traffic which passes through Iran towards countries in the west, rather than to any excessive in cannabis use in Iran.

At the time of writing this paper there were 153,613 persons registered under the maintenance system. Of these 68,518 are under 60 years of age. Stricter supervision over new registrations which has been exercised over the past months has, in fact, led to a reduction in the number of persons under 60 years of age who now hold a ration card. Precautions have also been taken in respect to the amounts of opium which are allowed to them. A ration will be between 2 grams per day for those taking it orally and up to 5 grams per day for those who smoke it, irrespective of what amount an addict may say he is used to. Other statistics studied in connection with an attempt to assess the effects of the system included those relating to the numbers of persons who have been arrested for drug offenses since 1969. The following shows the total of persons arrested for the years 1969-1973 and part of 1974:

Year	Number of persons arrested
1969	18,882
1970	11,616
1971	11,805
1972	11,488
1973	14,036
1974 (First 8 months)	7,551

Rationed opium is of two kinds, that produced by the Government from its limited cultivation of the opium poppy and that which is taken and used from seizures made from the illicit traffic. The price to registered addicts of the former is 17 1/2 rials per gram and the latter, 6 rials per gram.

OBSERVATIONS

The following observations are put forward for consideration in the light of the enquiry which has been made

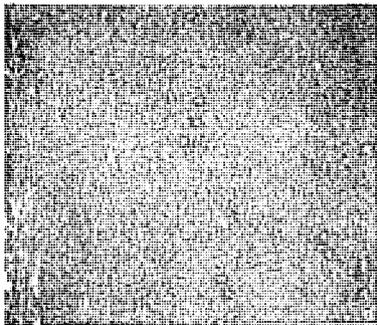
and the statistics which are presently available:

- a) Despite the efforts of the government of Iran against the illicit traffic and abuse of narcotics, and the facilities offered under the opium maintenance system, there are indications that the mis-use of illicit opium and heroin has risen over the past years.
- b) Strict control must be exercised during the registration procedures to ensure firstly, that only those with a real medical or psychological need for opium are accepted into the system; and secondly, it is essential that the amount of opium which addicts are permitted to purchase is carefully calculated to ensure that none are given more than they really need.
- c) The public must be made aware of the reasons for the introduction of such a rationing system, to eliminate any possibility of persons mistakenly believing that the Government condones the free use of opium by the public generally.
- d) On the assumption that there are some 300,000 persons consuming opium in Iran, about half are registered under the rationing system.
- e) Further study is necessary before any firm conclusions can be made.

Addiction and Mental Health in Iran

by

Dr. Ali A. Tavassoli



Any form of addiction, regardless of its cause, is considered to be a psychological disorder or a disturbance of personality. Thus, addiction is a problem which certainly lies within the domain of psychiatry.

The most important responsibility of mental health, as it concerns addiction, is similar to other types of mental and psychological disturbances. This responsibility includes the presentation of constructive and feasible suggestions, planning, and the administration of programs aimed toward the improvement of psychological conditions in order to provide the needed possibilities for every member of society to benefit from the values of the sanitation of mental environment.

Dr. Tavassoli is a neuro-psychiatrist and Director of the Mental Health Section of the Ministry of Health in Tehran.

In order to achieve this major goal, mental health is forced to administer certain programs which in turn leads to three minor goals:

1. Prevention;
2. Treatment; and
3. Rehabilitation.

PREVENTION

Prevention includes all the activities which forestall the appearance and the increase of addiction within a community. Through the recognition of all causative elements, the etiological factors can be eradicated and their impact and influence decreased.

Preventive activities may take place in three directions:

1. Prevention of the appearance of addiction;
2. prevention of side effects caused by this habit; and
3. prevention of its relapse.

TREATMENT

It has been recognized that treatment in itself has a preventive role and is considered to be a part of health activities. The process of treatment includes the following steps:

1. Basic treatment of addiction aiming at the elimination of the habit and its maladaptive or pathological symptoms.
2. After-care treatment of the patient in order to maintain the healthy state of the cured patient and preventing the relapse of the habit.
3. Individual and group psychotherapy.

REHABILITATION

The goal of rehabilitation is to provide the patient

with the possibility of returning to his original society and take on an active role within his community. He should feel both affiliated and responsible toward his family and other members of his society. Rehabilitation also includes the three following steps:

1. work-therapy;
2. finding jobs and social security; and
3. legal protection of both personal and social rights of the addict.

Thus, in fighting against addiction, mental health programs should consider the following points:

1. The epidemiological investigation of addiction
2. The etiological investigation of addiction
3. Investigation of various forms of addiction
4. The examination of individual and social relations of the addict in human relationship.
5. Conduction of research activities connected with physical, physiological, and psychological aspects of addiction.
6. Expansion and establishment of treatment centers for addicts throughout the country.
7. Establishment and expansion of community health centers, transitory hostels, and homes designed to take care of those patients whose return to their original community has caused the reform of the habit and no other significant social or emotional action can be taken toward the alleviation of these causative factors.
8. The evaluation of existing possibilities in connection with human power, facilities, budget, and its comparison with our basic needs in universal standards.
9. Attempting to reach various standards as it relates to human power, health and treatment services and any other activity against addiction.
10. Public education and arrangement of educational programs in order to increase and expand the knowledge of the community and profit from a healthier mental state and avoidance of any factor which contributes to the appearance of addiction.

Thus, the responsibilities of mental health organization as it concerns addiction can be summarized as follows:

1. counselling and guidance;
2. treatment;
3. research;
4. training; and
5. education.

Who are the people who must carry out the responsibilities of the above-mentioned programs?

It is clear that the problem of addiction on one hand is a universal affair and it concerns all the members of a society regardless of their socio-economic status, and on the other hand, in more developed societies the increasing problems of addiction are the current issue and directly related to the increase of social and emotional stress. Therefore, all members of a community in one way or another are responsible for their society and should participate in practising of all mental health programs.

Considering the fact that in most communities, addiction is in a state of rapid increase and the human power required for its prevention is not growing at the same rate, mental health---in order to compensate for this shortage, in its battle against addiction and the administration of plans aimed toward the eradication of causative factors---is forced to require the assistance of every member of the community and considers every person responsible in this endeavour.

In this perspective the human resources of any community, in the fight against addiction are divided into three groups:

1. Professional Power

This group includes psychiatrists, general and public health specialists, physicians, nurses and health education instructors.

2. Para-professional Power

This group consists of psychologists, sociologists, social workers, occupational therapists, etc.

3. Non-professional Power

This group includes all members of the community from various social and occupational classes and

the most important among this group are teachers, instructors, religious leaders and preachers, speakers, writers, the people who can reach the public through mass media, and finally all the members of the community whose professional duties require them to be in contact with the community at large--such as public places, educational institutions, factories, and so on.

In more developed communities, the rapid increase of addiction has made the shortage of human resources more apparent. In these communities sometimes the cured patients take an active role in the fight against addiction and their past experiences can be of great benefit to others. This method is mainly used in group psychotherapy and educational programs aimed toward public enlightenment.

In order to investigate the etiology of addiction the causative factors may be divided in two categories:

1. Personal factors which include constitutional and physical conditions.
2. Environmental factors which includes social, economical, and geographical conditions.

It is obvious that the two factors are intimately related and in their close interaction they may enforce, debilitate, or even inhibit one another.

The preventive method of addiction, which, according to all scientific views, are considered a form of mental disorder and are included in the domain of psychiatry and mental health, are diverse and include various aspects of addiction.

Regardless of some social and geographical factors which may help to make addiction a more acceptable and normal behavior, a few points should always be considered in regard to addiction:

1. Addiction as a way of escape from social stress and the related anxiety. In this case addiction has a psychotherapeutic role.

2. Addiction as a way of preventing painful states caused by physical illness. In this case addiction has a pharma-therapeutic significance.

3. Addiction as a symptom of a mental illness, a constitutional predisposition. In this case addiction is one of the signs of a mental disturbance.

4. Addiction as a way of distorting the basic ele-

ments of human relations and overshadowing the psychological and emotional atmosphere of the family which may be the cause for the appearance of many psychological reactions, including addictive habits.

5. Addiction as an etiological factor which due to its chronic intoxication may cause brain damage and functional disorder resulting in mental disturbance.

Considering the five points mentioned in regard to addiction, every psychiatrist or expert on addiction must view the problem from various dimensions and search for different solutions. He should also be aware that prevention, after-care, and education in various cases are not similar and in fact they may take different forms.

It should be considered that prevention and treatment are two simultaneous affairs and as it was mentioned before, treatment in itself is a part of health movement. In the case of acute intoxication preventive measures are the same as the treatment of urgent intoxication and in case psychological symptoms are also present in the patient, suitable methods of psychiatric prevention should be applied.

However, in case of chronic intoxication or addiction, the co-operation of psychiatrists, psychologists, physicians, nurses, social workers, and public health instructors are imperative. The various aspects of addiction such as social, emotional, and physical factors must be investigated and the most convenient method of prevention and treatment applied.

The standard rate of addiction is not really known. There are some people who use addictive drugs on occasion. These people are not usually considered addicts and they require no treatment, particularly since in many of them no sign of mental disorder is observed. Although in the opinion of most psychiatrists and psychologists any form of addiction is caused by some personality constitution and the habit should be considered as a symptom of an immaturity or disorder in personality development which is usually not apparent, the individual factors are partly influenced by social factors or childhood experiences which facilitate addictive tendencies.

Considering the social status within a society, addiction does not belong to a particular class and it is equally observed in any social class.

Poverty, ignorance, and wisdom are not the factors which can be regarded as causative elements. However, geographical conditions, social traditions, and religious beliefs have a significant role in the prevalence of addic-

tion.

As it was pointed out, some addicts use of drugs because of their personal or physical needs. In some others, the use of drugs can temporarily relieve the patient from social stress and help him to forget his problems for a short time. This superficial effect may increase his tendency toward addiction. On the other hand, since any drug, after its usage over time, may lose some of its effectiveness, the addict is forced to increase the dosage and eventually develop the habit.

If an addict could have chosen other forms of compensatory outlets for his social stress or had been referred to an expert, he might have not formed the habit, and escaped the psychological disturbances caused by chronic intoxication. The main cause of addiction in this group is the inability or lack of adequate experience in social interaction and confrontation with usual problems of life and the inability to choose a proper manner of conduct in this respect.

Compensatory addiction may be regarded as the most usual form of this habit caused by a psychological disturbance, a social stress, or a feeling of inferiority, which unconsciously drives the individual toward addiction.

In the majority of these cases, pharmo-therapeutic methods of treatment are not successful. Lack of sufficient attention to psychological and emotional aspects of personality, which are the very cause of addiction, will make the relapse of cured patients almost inevitable.

As the psychotherapeutic method involves the investigation and analysis of motives behind addictive behaviour, during the course of treatment the patient will gain some insight into the cause of his symptoms and alternative means or defenses are revealed to the patient among which he may choose the most appropriate patterns.

This is the most effective method of treatment and the patient who is treated in this manner, upon returning to his community, has no motivation to resort to the habit.

The most important disadvantages detected in individual psychotherapy are the shortage of trained human power, heavy expenses, and the extensive time consumed. In order to solve this difficulty, individual therapy has given its place to group therapy. In group therapy a psychiatrist or a social worker sees the patients in groups and examines their problems individually. The participation of addicts as their co-operation in knowing the problems of others speeds the course of treatment. In more advanced situations, addicts who have already been treated, may take on the role of

an instructor and by reporting their past experiences, they may set the example for others. This method may also create a particular condition, in which the treated person becomes ethically forced to inhibit his tendencies as long as he has the role of the leader in the group.

Hospitalization of any addict requires the consideration of the type of habit and the causative factors involved. Many patients who do not show signs of mental disorder should be hospitalized and treated in general hospitals where they can profit from all existing facilities and be given the chance of communication and interaction with others, which in turn may improve their adaptation and identification with environment. However, patients who show advance symptoms of mental disorder should receive psychiatric treatment.

It would be of considerable advantage if we could establish some "transitory hostels" where cured patients for rehabilitation and identification with a normal way of life reside in these hostels for a short period of time. This would be of particular help to those patients who lack adequate facilities in their own homes.

Health centers also have a basic role in prevention, treatment, and the rehabilitation of addicts, particularly in regard to after-care and prevention of relapse.

Educational programs designed for preventive goals and promotion of public knowledge regarding health is one of the chief goals in the fight against addiction. Educational programs must be carried out by health instructors and through the mass media and more importantly they should be free from biased views and overwhelming exaggerations.

Societies for the protection of addicts is a valuable step which can have impressive results in the advancement of mental health programs and maintaining the legal and social right of the addict.

The role of general physicians, particularly in cases where addictive drugs are prescribed, is of considerable importance and any form of carelessness on the part of physician may result in the formation of physical addiction. Thus, it is the responsibility of every physician to make the most appropriate decision and choose the best method of treatment whenever confronted with such cases.

DISCUSSION

The Delegate of the United Kingdom raised the question of how the opium maintenance programme is administered. Its large size (150 registrants) and the wide screening tests suggest that there must be many administrative problems to overcome.

A Delegate of Iran explained that the programme operates in a number of locations all over the country, with as many as 100 in others. There may be some small error in providing licenses to those who do not qualify. Urine testing is carried out every six months when cards are issued, and only for new registrants. Laboratories can process 200 tests a day. But the urine testing is not relied on as the only criterion since some addicts will use opium the preceding day in order to produce a positive test. The examination and judgement of the licenses is more important as the basis for issuing cards. He went on to explain that any addict should present a certificate from his family doctor certifying that he is addicted to opium and with regard to his health, cannot be withdrawn for a limited time. It is difficult if not impossible to determine the correct dosages for addicts and some opium inevitably finds its way into the hands of others.

The discussion of licensing and urine testing continued. The Delegate of Iran reported that about 30,000 new registrants a year come for a licence. These are not necessarily new addicts, but represent the initial reluctance of many addicts to join the system.

The Delegate of the United States mentioned a report that one half of the registrants were from Tehran and inquired if it was easier to be registered in Tehran.

The Delegate of Iran surmised that at the Eastern border there was less interest in registering because the price of illicit opium there is cheaper and they may not want licences.

The Delegate of the United Kingdom also asked about the retention of records at a central location. The reply

from the Iranian delegate was that two copies of the licence are made at the time of registration. One is retained locally and the other is sent to Tehran.

The Delegate of the United States inquired about the kinds of information included on the copy of the permit, mentioning that age, employment, motivation, and length of use had been seen on a form. The Delegate of Iran confirmed this and said that the information could not be completely trusted. Age is the only requirement for a user or addict (over 60) to obtain a licence and a birth certificate is required. If under 60, the person needs to demonstrate that he has a disease that requires opium. This is a way of restricting licences and preventing too much licensing.

The Delegate of Iran continued with details about licensing. The amount allowable to each individual must be obtained from only one pharmacy and after 6 months the permit is not valid. The amount needed for 1 week is dispensed at one time, although someone from out of town could obtain 1 month's supply. If a person moves from one village to another, for example, he cannot go to the pharmacy daily. Both smokers and eaters are registered; this form is dispensed for smokers, but it can also be eaten. The dosage is reduced if the physician can convince him to take a smaller dose. But there was danger of diversion. The Delegate from Iran replied that if the user was very poor, he could not buy opium, and he would be withdrawn from it. If he has enough money, he can get a month's supply. Some kind of income seems necessary in order to buy it. In the Vanek Hospital, about 95% of the addicts were employed, most of those over 60 are dependent on younger persons. There are no break-ins. Pharmacists themselves may profit by selling leftover (unclaimed) opium to others.

The Delegate of the United States commented that it would have been valuable to obtain data before and after the policy change, to assess the effect. The registration form is an excellent source of incidence and prevalence data plus geographic distribution. A few questions could be added such as age of on-set of drug use and individual identification. The Delegate from the United States also added that there were real safeguards to prevent the non-addicted from becoming addicted, and suggested a naloxone "challenge" for screening non-dependent persons.

A Delegate of Iran commented that the Government could not supply a place for everyone to do this. If Iran really wanted full control, unusual measures would have to be taken as there is the opportunity to obtain opium apart from the Government supply. There are many errors in the system, but the main problem was to stop heroin, which was growing in incidence. The errors will be corrected if and when they occur. The Iranians also commented that they do

want to take more time on the first examination; they also considered the possibility of requiring opium eaters to take one dose at the dispensing place and take only one home (But the large majority are smokers).

The Delegate of the United Kingdom commented that the Naloxone challenge can in some cases create unnecessary pain in unanticipated withdrawal.

A Delegate of the United States asked two questions, one about the ability of foreigners to take advantage of this system, and the other about the satisfaction heroin smoker addicts have with a new opiate (opium). The Delegate of Iran replied that only Iranian citizens are allowed to register. Heroin addicts have to switch to opium or become sick.

The situation of shireh use was mentioned by an Iranian Delegate. It is probably more effective than opium and is usually smoked by poor people in poor areas. The smoker lies down, has a pipe put in his mouth (by someone else) and lies by a lamp. It is psychological, a group practice. There are no obvious differences in effect between shireh and opium. The Iranian Delegate went on to describe the typical problem of the use of shireh. It is made from the residue of smoked opium, and about 30-40% of opium is residue. It would be impossible to collect the residue of all opium smoked by all addicts in the country and enforce any restriction on it.

The Delegate of Iran commented on the rationale for this new policy. The former situation was creating 14,000 dossiers to criminal justice a year. In each of these there were possibly 3 others-40,000 in jail each year. The prisons would be full. The best solution is the prohibition of poppy cultivation, but the region of traditional cultivation cannot be changed. The Ministry of Justice was paralyzed and a new policy was necessary.

A Delegate of Turkey asked to hear about other forms of maintenance-heroin and methadone. For example, what about long-acting methadone and narcotic antagonists?

The Delegate of the United Kingdom commented that a report by Coldstein in a WHO Report indicated that although there are problems, there does seem to be social benefit from methadone maintenance. These do not seem to be as great as those described in the original Dole Series.

A Delegate of the United States commented that there are currently clinical trials of LAAM and Naltexone underway

in the United States but it is too soon for any results, even preliminary.

A Delegate of Iran commented that opium maintenance has the advantage of facilitating the obtaining of treatment. It reduces the guilt regarding drug use and makes it easier to seek treatment.

Topic 4

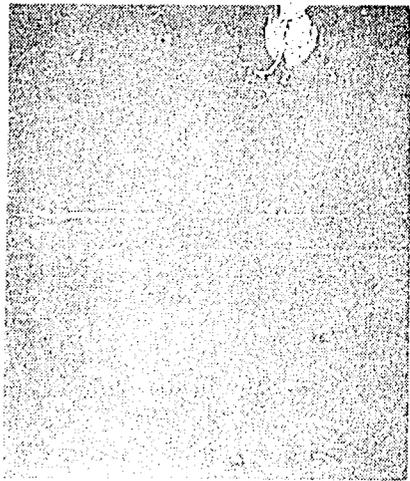
General Papers



Poppy Cultivation & Opium Distribution in Pakistan

by Dr.

Siraj-ul-Haq Mahmud



Before the achievement of independence in 1947, Pakistan appears to have relied on India for the supply of opium which was required for quasi-medical purposes. There is no recent record of licit production of opium producing capacity since 1950.

Dr. Mahmud is Chief of the Health Section of the Planning Commission in Islamabad.

Production, Consumption and Imports of Opium
in Pakistan since 1947

Year	Production of Opium (kgs)	Consumption of Opium (kgs)	Imports of Opium (kgs)
1949	-	16,794	16,423
1950	274	15,857	18,023
1951	571	15,406	11,167
1952	165	15,149	30,645
1953	3,230	14,860	6,095
1954	4,600	14,125	14,820
1955	2,483	16,151	6,725
1956	6,787	13,208	5,943
1957	5,345	14,397	1,396
1958	5,564	12,751	6,812
1959	5,074	9,630	60
1960	6,091	13,028	2,123
1961	11,011	9,078	2,164
1962	8,239	8,731	51
1963	9,368	8,064	-
1964	17,377	8,037	-
1965	3,947	6,957	-
1966	1,908	7,013	-
1967	1,347	6,538	-
1968	1,414	5,520	-
1969	7,760	7,489	-
1970	6,162	5,057	-
1971	4,897	7,272	-
1972	4,570	5,314	-

It will be observed from the above table that from a reported production of 274 kgs. in 1950, the peak production was 17,377 kgs. in 1964. Since then there has been considerable range in production from a reported 1,347 kgs. in 1967 to 7,760 kgs. in 1969. Four tehsils in 2 districts of the Punjab Province were reported to be under cultivation of poppy in 1950-51. NWFP started cultivation in 1952-53. This

number has risen to 26 tehsils in 11 districts of the Punjab and NWFP in 1956-57. Since 1963 there have been no imports of opium. Out of the 11 districts mentioned above 6 districts with 14 tehsils were under licensed poppy production in the Province of the Punjab. At present no place in Punjab cultivates the poppy. The poppy is now being cultivated only in the NWFP of Pakistan.

AREAS OF CULTIVATION

Poppy cultivation in Pakistan is almost entirely concentrated in the North West Frontier Province (NWFP). It will, perhaps, be better to give a brief description of the administrative division of NWFP before describing the areas under cultivation.

There are two different administrative divisions within the NWFP Province characterised by the extent to which Central and Provincial Laws apply and the relative closeness of the administration:

1. Federally Administered Tribal Areas
2. Provincially Administered Areas
 - a) Settled Areas
 - b) Merged Areas

Settled and merged areas are the primary responsibility of the Provincial Governments but each at the different stages of national integration; it also contains the tribal areas directly administered by the Federal Government. The methods of administration vary with differences of the types of areas in the NWFP. In the tribal areas, civil and criminal matters are generally settled by Tribal Customary Laws though the Officials' Secrets Act and Defence of Pakistan's Rules which apply throughout the tribal areas. Generally, the Panel Court and Criminal Procedure Codes do not apply. Local crimes are tried by the "Jirgas" (Council of Elders). Thus normal national and provincial laws do not apply and the tribes live under their own laws.

The merged areas are in the process of transition from the category of tribal to that of settled areas. The major parts of the criminal and civil laws are in the process of application to the merged areas though the excise laws which are essential for the control of opium production and are not yet effective in the merged areas. Thus merged areas are in a state of gradual, temporary transition for virtually all purposes.

Settled areas are totally integrated into the normal structure and are subject to similar laws of administration

as are applicable for the rest of the country. The NWFP has the monopoly of production of licit and illicit opium within Pakistan.

The heaviest known concentration of poppy cultivation in NWFP is in the Swabi Tehsil of the Mardan district, Tehsil Haripur of district Hazara, and the Buner sub-Division of district Swat. Heavy concentration is also reported in the Tirah tribal belt in the Khyber Agency.

Poppy cultivation with relatively lesser concentration is reported in following areas:

- (i) Merged districts (formerly states) of Dir, Chitral, and Swat.
- (ii) The Tribal belt and various Agencies maintaining semi-independence covering Bajour, Malakand, Mohmand, Khyber, Kurram, North Waziristan, and South Waziristan.
- (iii) Spotty poppy cultivation is reported in the settled districts of Kohat, Peshawar and Mardan.

Swabi Tehsil

The heaviest cultivation is in Tehsil Swabi of District Mardan. Within this tehsil the area of concentration is Gadoon Circle which is on the right bank of the Indus river near Tarbela Dam and borders South Swat (Buner area). Gadoon Circle did not enjoy the regular laws of the country until it was merged with the rest of the settled district of Mardan in the 1950s after which the normal laws of the country, except excise and taxation laws governing cultivation and sale of opium, were applied to this region.

The areas under poppy cultivation in Gadoon area have never been reported to the Excise and Taxation Department and, therefore, the official estimates on legal opium productions for the country exclude the Gadoon area production. However, the revenue records of the Agriculture Department do show Gadoon Circle's area under opium cultivation.

Topi Circle has the second highest concentration of poppy cultivation in Swabi Tehsil. Topi Circle is a settled area where narcotic and all other laws of the country are enforced. Ethnic, political and economic conditions of Topi and Gadoon are similar. However, the topographic conditions are different. Gadoon Circle is a barani area with a hilly terrain precluding extensive cultivation of other cash crops like tobacco and sugar cane. As against this, Topi Circle

has a good irrigation system. The area is primarily under tobacco and sugar cane cultivation. The terrain is flat and has easy road accessibility.

Koh-Damin Circle in Swabi Tehsil reports poppy cultivation on a limited scale. This area is primarily a barani area with little possibility of other cash crop substitution. The area has little road accessibility and is extremely poverty stricken.

The villages of Kiya Kabal and Gandab in the Gadoon area are the opium trading centres. Traders from these two villages travel to all other poppy cultivation areas of NWFP and the tribal agencies to purchase opium.

Haripur Tehsil

Poppy cultivation in Tehsil Haripur is extensive and primarily concentrated in the Darband area on the left bank of the Indus river near Tarbela Dam. Some cultivation is also reported in the tribal areas of Dabrai, not far from Darband. It may be noted that Darband is a settled area where all laws of the country including excise laws are enforced. Despite the application of excise laws controlling poppy cultivation, illegal cultivation has been reported. The Dabrai area does not come under the normal enforcement of the laws of the country. Both the areas are traditionally poppy areas.

Part of the poppy growing area was in the former Amb State near Tarbela Dam. This area will get submerged into water after the Tarbela dam is completed. Even here the normal laws of the country were not enforced in full.

Buner (Swat)

Poppy cultivation in Swat is primarily undertaken in the Buner sub-division in the southern area.

Swat State was recently merged with the settled areas. It will take a number of years before the regular laws of the country are fully applied in this region, and in practice a status quo is being maintained in that the legal proceedings are based on "customary" law and not the regular law of the country.

In Buner the concentration is in the Chamla region followed by Amazee, Khudukhel, and Totali regions. The other regions of the Buner sub-division have scattered poppy cultivation. In the main Swat Valley poppy cultivation on a limited scale is confined to the Shimozee area.

The Buner sub-division is the poorest region of Swat. The entire region, except for a few persian wells, is barani. The lands are not as fertile as in the main Swat Valley. There are no land records in District Swat and it will be years before land records are made to determine the screage under various crops. Buner sub-division does not have easy road accessibility like the main Swat Valley. Electrification has been undertaken on a very limited scale precluding the possibility of tube-wells for irrigation and crop substitution requiring high doses of water.

Other Regions

The entire tribal belt bordering Afghanistan and NWFP has poppy cultivation subject to soil conditions and climate. As noted earlier, these areas include: Khyber, Mohmand, Bajaur, Dir, Bara, Tirah, Chitral, Malakand, North Waziristan, and South Waziristan. These tribal areas maintain almost total independence. Despite the fact that Dir and Chitral were recently merged with the settled regions, it will take a long time to "settle" these areas. The road accessibility is limited and the local population is suspicious of any newcomers. Most feuds are settled at gun point. The most sensitive area in terms of accessibility are Tirah and Waziristan. Tirah tribes have refused to cooperate with the Government in all development efforts. The building of free hospitals, roads, and schools has not been allowed by the tribes. Entry of strangers in Tirah and Waziristan is hazardous unless accompanied by someone who belongs to the locam tribes.

These areas are mostly barani with a mountainous terrain, and are poverty stricken. Before independence the British Raj was able to subdue the entire sub-continent except these tribes. Since independence these tribes are relatively less troublesome because of the various "economic incentives" granted to them by the Government. The status quo requires extremely delicate handling of the tribes. The cardinal principle is the least involvement in tribal affairs by the Government.

APPLICATION OF GOVERNMENT LAWS

The laws of the country are applied in most of the settled areas of NWFP. In settled areas where poppy cultivation is undertaken, opium production and sales are regulated by the excise and taxation laws¹. Farmers desirous of poppy

¹The only exception to this is Gadoon area. All laws of the country, except excise and taxation laws, are enforced in this area. Further, the recently settled districts of Dir, Chitral and Swat will take some time before the normal laws of the country can be enforced.

cultivation have to seek poppy cultivation licenses from the Excise and Taxation Department.

Once the opium crop is harvested, the licensed farmers are supposed to sell their entire production to the Excise and Taxation Department at prices determined by the Department. In other words, the entire production of opium in the settled areas must pass on to the Government. The data on licensed areas and the opium recovered by the Excise and Taxation Department are reported to the International Narcotics Control Board.

The non-settled areas of the NWFP, including the entire tribal belt and the special area of Gilgit, are not covered by the laws of the country. For these areas the Government does not have any control on the production and disposal of opium.

In District Swat which was recently merged with the settled areas, there are no land records. For all practical purposes the new administration is still applying the "Customary" law. The Excise and Taxation Department has opened an office in Swat but cannot enforce the laws regulating production and sale of opium.

Under the "Customary" Law, the land revenue in kind is auctioned every year at the tehsil level. The highest bidder collects the land revenue in kind from the farmers at 1/10th of the total produce of each crop². After paying the Government the quantity auction bid auction in kind, the revenue contractor is left with his profits. The poppy harvest collected by the Government as land revenue is handed over to the Excise and Taxation Officers of the district. It may be noted that the Excise and Taxation Department does not have any direct access to the poppy growing farmers.

OPIUM ACREAGE AND YIELDS

Acreage

The official estimates on poppy acreage and the yields per acre are prepared by the Excise and Taxation Department. These estimates reflect the acres licensed and the opium purchased by the Government from the farmers. The poppy areas where excise and taxation laws are not enforced remain unaccounted for in the official estimates. The opium recovery from the licensed farmers by the Government is

²The land revenue of 1/10th of total produce in kind is called "Usher".

significantly below the actual production. The under-reported yields and acreage of poppy can be appreciated by the fact that as against a reported opium production estimate of 6-7 metric tons for the whole country for 1972, the estimated production is about 50 metric tons. The areas planted under licence and reporting opium production, 1964-72 appear below:

Year	Area Planted (Acres)	Reported Yield
1964	1,720	17,377
1965	848	3,947
1966	850	1,908
1967	830	1,347
1968	830	1,414
1969	2,890	7,760
1970	1,600	6,162
1971	1,470	4,897
1972	2,613	4,570
1973	3,322	N.A.

Consolidated acreage estimates of the relatively known areas, licensed and unlicensed, appear below:

1. Tehsil Swabi	5,000 acres
2. Tehsil Haripur	1,000 acres
3. Peshawar District	298 acres
4. Kohat District	19 acres
	Total
	6,317 acres

Yield

The opium yield reported by the Government to the INCB is 2.3 Kg/acre. On the other hand the actual yields as reported by the farmers range from 6.0 Kg/acre for barani lands to 10.0 Kg/acre for irrigated lands.

It may be noted that a major determinant of opium yield is the water availability. The other determinants are: soil, climate, and fertilizers. Acreage under opium is influenced by the prices of alternate crops competing for land during the same season. Poppy seeds are the byproduct and each acre yields about 3 pucca maunds.

OPIUM PRODUCTION

As noted above at least 6317 acres were under poppy cultivation in areas for which 1972 acreage figures are available. Assuming that 8 Kg. is the yield/acre, $6317 \times 8 = 50536$ Kg. of opium was produced in the settled areas of relatively known acreage.

If it is assumed, although with some reservations, that 30 per cent of the total opium production is undertaken in the tribal agencies and special areas, the total annual production for Pakistan is about 70 metric tons.

OPIUM PRICES AND SALES PRACTICES

The Excise and Taxation Department pays prices ranging from Rs.67/- Kg. to Rs.134/- Kg. to the licensed farmers who are supposed to sell their entire output to this department. The Excise and Taxation Department has its own gradings for this purpose which range from grade 6 (lowest quality) to grade 1 (best quality).

On the other hand, the farm gate price paid by the dealers at the farm is Rs.400/- Kg. for unadulterated dry opium.

It is this significant price difference which induces the farmers to report small opium yields. In areas where excise laws are enforced it is likely that some poppy cultivators do not even apply for poppy cultivation licenses as it would bind them to sell some portion of their output to the Excise and Taxation Department at prices much below the open market prices.

COSTS AND RETURNS ON OPIUM

The information collected on costs and return on

* One pucca maund = 46.7 Kg.

opium did not deviate significantly from one farmer to the other. The only exception to this was land rentals and for this an average value is used. This information is shown in the table below:

(a) <u>Costs per acre</u>	<u>(Rs.)</u>
Rent	300
Seed	4
Fertilizer DAP	37
Preparing and sowing	24
Hoeing and weeding	48
Harvesting and Miscellaneous	<u>200</u>
Total cost/acre (Rs.)	613
 (b) <u>Return/acre</u>	
Opium yield 6-10 Kg. (average 8) @Rs.400/- per kg.	3,200
Poppy seed yield 3 pucca maunds @Rs.100/- pucca maund.	300
	<u> </u>
Total returns	<u>3,500</u>
 (c) Net return/acres (Rs.)	<u>2,887</u>

ALTERNATE CROPS

In barani areas with limited rains there are no cash crops which can substitute for opium. However, in irrigated and barani areas with goods rains there are cash crops which can substitute for opium.

Tobacco is the major cash crop in irrigated areas but its cultivation is being reduced because of the earlier mentioned price decline. Tobacco lands are being largely converted into sugarcane lands. There is some conversion into poppy lands as well.

Barani lands with high rain falls can grow tomatoes which have high returns. Conversion of such lands into tomato plantations depends upon their approximation to urban areas and road accessibility.

The low value cash crops which can be "technically" substituted for poppies are: oil seeds and barley. The only non-cash crop which can substitute for opium is wheat.

COSTS AND RETURNS ON ALTERNATE CROPS

No crop is as profitable as opium. The closest runner is the tomato crop followed by tobacco. Costs and returns on virginia tobacco (wet) are noted below:

a. Costs/acre

1. Rent/acre	200
2. Other costs	250
	<hr/>
Total	450

b. Returns/acre

80 pucca maunds at Rs.12/md = Rs.960

c. Net returns = 510

Gross returns on barani wheat/acre are Rs.400 to Rs.500.

Gross return on a tomato farm reported by one farmer in Swat, who had planted a little over an acre, are Rs. 2,500/-.

PREVENTIVE MEASURES

The Excise & Taxation Department is supposed to purchase all the opium grown in the country. After processing it at the Lahore Opium Factory, part of it is sold to the pharmaceutical industry, and the rest of it is sold to opium addicts through licensed shops.

This procedure works for only 5 to 7 metric tons out of a total production of over 100 metric tons. The rest of the production is illegally disposed of. The illegal stocks are partly consumed within the country and partly smuggled out of the country. It is difficult to find out the quantities of illegal domestic consumption and the smuggling

abroad. The reported destination of smuggled opium are India, Afghanistan, Iran, and abroad through Karachi.

System of Supply of Opium

Licit opium is purchased from the licensed cultivators and is processed in the opium factory into homogeneous opium of 9 to 10% morphine content. It is issued from the factory in one seer cakes of 90 degree consistency for retail sale to users through a number of licensed opium vendors. The current annual scale of the opium supply in Pakistan both for medicinal and quasi-medical purposes is about 6,000 kg. The number of licensed vendors from which it is sold is about 300 throughout the country. Province-wise, the break-up is as follows:

Province	No. of vendors	Quota of Opium
Punjab	205	3797.3 kgs.
Sind	94	1245.6 kgs.
NWFP	20	296.7 kgs.
Baluchistan	13	203.4 kgs.
Total	332	5543.0 kgs.

The opium vendors are situated at specified places. The annual quota of opium, the issue price and other conditions concerned are announced each year in May or June and the right of vend from each shop on a monopoly basis is put to auction. Thus annually a revenue of about Rs. 16 million is drawn from such auction. The bulk of the revenue is in the Punjab Province where it amounted to about Rs. 13 million in the year 1972-73. Other salient features of the present scheme of supply and scale of opium are the following:

- a) There is no restriction on the purchase of opium up to 2 tolas (23.32 grammes) from a licensed opium vender.
- b) The opium users are not required to get themselves registered. Every one is free to buy and possess licit opium up to two tolas (23.32 grammes).
- c) The licit opium supplied to the opium vendors falls short of the demand for opium. It is estimated that the demands is much larger than the supply of licit opium.

- d) Disposal of licensed opium venders by auction raises the price to such a level that in order to save himself from a loss the licensee is constrained to indulge in several abuses.
- e) On account of easy availability of contraband opium from large scale unregulated opium poppy cultivation in the tribal territories and the gap between the demand and supply of licit opium, the existing opium situation and, for that matter, the working opium policy is not a good one. Most of the licensed opium venders indulge in the sale of contraband opium to meet the difference between the demand and aforesaid inadequate quantity of licit opium supplied to them.

It is difficult to uphold existing opium venders which have degenerated into cesspools of malpractices but at the same time the situation is otherwise such that a feasible alternative scheme free from the same defects is also not easily conceivable. One of the new schemes of sales and supply of opium tentatively under consideration with Pakistan Narcotics Control Board is that licensed venders may be abolished and the sale of opium to the addicts may be made through chemists shops.

AN ALTERNATE PROPOSAL FOR DISTRIBUTION OF OPIUM

The main objective of the alternate scheme under consideration is that the addicts will be supplied the minimum daily requirement of opiate drugs through a government controlled system. The outline of the proposed scheme under consideration is as follows:

(i) Registration of opium addicts

Registration will be developed and maintained by each provincial Health Departments. All addicts will be examined by a team of experts and this examination will include the physical state, the laboratory examination of urine and/or blood and a psychological assessment. The problem of drug-abuse being mainly urban, such facilities will be made available in the psychiatric units/clinics of the district and tehsil hospitals. These clinics will categorise the addicts in three different groups, viz., White/Grade I, Grey/Grade II and Black/Grade III, on the basis of the quantity of opiate drug being consumed daily, the duration of drug-abuse, the psychological build and the

circumstances which led to the abuse. Those categorised as Grade III will be for maintenance. Grade II will be treated by detoxification and rehabilitation and Grade I by rehabilitation only.

All the confirmed addicts will be entered in the register on the recommendation of the above-mentioned clinics. Each will be issued a registration card indicating the category of the addict, the name and quantity of the drug consumed. The recommended daily allowance shall also be indicated on these registration cards.

(ii) System of Issuance of Drugs

It is proposed that the opiates will not be handled by the licensed venders. Status quo has been recommended for some of the drugs which are already being handled by the chemist. The opiates for issuance to the addicts will be handled by the State-owned health institutions and/or chemists and each addict will be required to get himself registered with a particular health institution of the area. The addicts will be given the drug as per recommended requirement on the production of the registration card from the health institution and/or chemist of his area and an entry shall be made to that effect on his card. In case of unforeseen situations, he may draw the drug from any institution and/or chemist.

All these registered addicts will be required to report to the clinics every three months where they will be examined and the results of such examinations shall be entered on their cards. Further issuance of drugs after three months will be subject to such examinations.

The following points are to be kept in view before any alternative proposal is implemented:

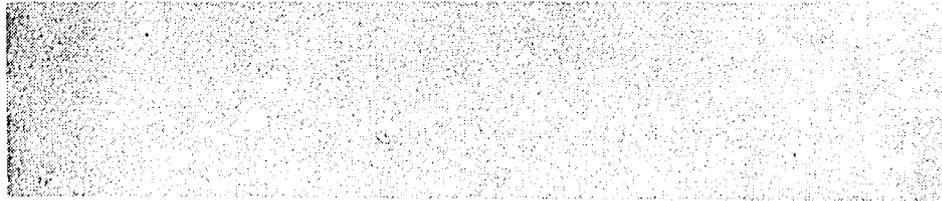
- (a) To quantify the number of addicts, particularly the hard-core addicts, after a full coverage survey. At present the number of addicts are not known. On the assumption that hard-core addicts have to be provided for, for sometimes the experts may work out the minimum quantity of opium required daily for an addict. The suggestion made by those having working experience in the field is that each addict would require about 1.0 gramme of opium daily. A suitable estimate

- of hard-core addicts may be adopted to start with and the requisite quota of opium may be accordingly worked out.
- (b) The Provincial Governments should be asked to forego existing revenues from the retail sale of opium and for the future they should be persuaded to adopt a working policy of not deriving any revenue from the manufacture, retail sale and consumption of opium.
 - (c) For the first year, the addicts should be free to get themselves registered at stations to be set up at appropriate places. Thereafter, no new registration without a medical certificate should be permissible. The Law should be amended to prohibit possession and dispensation of opium without registration card or permit.
 - (d) Subject to medical advice to the contrary, a registered addict should not be entitled to more than 1.00 gramme of opium per day. He should not be allowed to purchase more than 2 weeks requirements at a time so that the maximum limit of possession and retail sale may be fixed by law at about 14 grammes.
 - (e) Selected chemists may be licensed to sell opium to the registered addicts. Selection criterion may be clearly laid down. Such licensed chemists should correspond to each of the existing opium venders and should be in the same neighbourhood.
 - (f) If a successful scheme to supply opium in tablets to chemists could be made, opium should be supplied in tablet form by the factories authorised by the Government.
 - (g) The quota of opium of each licensed chemist may be fixed on an adhoc basis in the first instance to be the same as that of a corresponding opium vender. This quota may be enlarged or reduced according to the position of registered addicts.
 - (h) Retail sale price should be controlled by law to be the minimum one so that contraband opium does not hit against the scheme. In fixing such a retail sale price. It may be ensured that the licensed chemists get a profit of about 15%. The administrative department should be competent to fix such a sale price.
 - (i) Amendments of the statutory provision of the Act and Rules may be made to facilitate the implementation of the approved scheme.

The Pattern of Drug Abuse Among Hospitalized Patients in the Province of Punjab

by

Dr. Ijaz Haider, BA, B Sc, BS, MRC Psych, DPM, Ph D



The subject of drug addiction has for many years been the subject of investigation in western countries (Hinton, 1961; Kessel, 1962; Lasagna, 1962) but little attention has been paid to this problem in Pakistan until recently. Drug dependence as defined by W.H.O. (1964) is considered to be present when there is or has been evidence of increasing tolerance to the drug from the use of increasing quantities, along with psychic and physical dependence on the drug.

The aim of the present investigation was to study drug addicts who are admitted to the Government Mental Hospital, Lahore and was undertaken firstly to define the extent of this problem in the hospital patients, secondly to investigate the origin of the 'pleasure drug' habit, and thirdly to assess the degree of dependence which developed in these patients.

Dr. Haider is a psychiatrist with the Government Mental Hospital of Punjab in Lahore.

Table I shows the number of admissions of drug addicts to the Hospital in proportion to total admissions for the period 1968-73. There is gradual increase in the admission rate of drug addicts from 2.6 percent of all admissions in 1968 to 7.5 percent of all admissions in 1973.

METHODOLOGY

One hundred out of 127 drug addicts admitted to this hospital in 1973, were included in the study. Twenty-seven were re-admissions who are not included in this study. No other criteria were used at the time of their first admission to Hospital, patients had been taking various drugs such as 'charas', 'Bhang', amphetamines, 'Ritalin', 'Dexedrine', barbiturates, opiates and alcohol (Table II).

AGE

The ages of the addicts on first admission to the hospital were reviewed. The majority were young (Table III). Their treatment consisted of detoxification, withdrawal of all drugs and the use of usual methods available in this mental hospital. There are no special facilities for treating addicts in the Hospital. There were ninety-six males and four females included in this study (Table IV).

EDUCATIONAL STANDARD

Patients were asked about their education (Table V) and occupation. The drugs commonly used by un-educated and under-matrices, were 'charas', 'Bhang' and opium, whereas others took to 'barbiturates', amphetamines, injection Pethedine, Dexedrine and 'Ritalin' and a mixture of drugs. Uneducated patients include taxi-drivers, rikshaw-drivers, tonga-drivers, truck-drivers, factory workers; undergraduates included un-employed and people in small trades. Post-graduate and professionals included doctors and paramedical staff.

SOCIAL CLASS OF PATIENTS

Where reliable information was available the social

status of patients was placed in three categories (Table VI). The high social class included professionals, intermediate and skilled persons with monthly incomes above Rs.500/-. Middle class or semi-skilled with incomes of Rs.200-500 per month, and lower social class (un-skilled) with monthly incomes of less than Rs.200/-. The majority came from the lower social class.

Table I
Number and Percentage of drug addicts admitted in Government Mental Hospital, Lahore, during 1968-73.

Year	Total Admissions	No. of Drug Addicts admitted	Percentage of addicts
1968	1347	34	2.6
1969	1419	45	3.2
1970	1587	56	3.8
1971	1458	63	4.3
1972	1540	105	6.8
1973	1660	127	7.5

Table II
Drug first used by addicts

Type of Drug	Number of Addicts
Cannabis (Marijuana) - Charas	24
"Bhang"	10
Opiates:	
(i) Opium	20
(ii) Injection Pethedine	7
(iii) Injection Morphine	4
Amphetamines	6
Methyl Phenidate	4
Dexamphetamine	4
Barbiturates	3
Non-barbiturates hypnotics	2
(i) "Doriden"	2
(ii) "Mandrax"	3
No. of other drugs	1 2 3 4 or more Total
No. of patients	5 4 3 2 14

Table III

Age Incidence of patients on their first admission to Government Mental Hospital, Lahore, Pakistan

Age in years	YEAR					
	1968	1969	1970	1971	1972	1973
20 or less	8	13	16	20	27	36
21 - 30	11	16	17	22	34	38
31 - 40	7	10	12	13	22	28
41 - 50	6	5	8	6	14	15
Above 50	2	1	3	2	8	10
TOTAL	34	45	56	63	105	127

Table IV

Sex and Marital Status of patients included in the study

Marital Status	Males	Females	Total
Single	47	1	48
Married	31	1	32
Separated	10	2	12
Divorced	5	-	5
Widowed	3	-	3
TOTAL	96	4	100

Table V

Educational Standard

Education	Number
1. Uneducated	54
2. Under-Matric	32
3. Graduates	6
4. Post-graduates	3
5. Professionals	5
TOTAL	100

Table VI

Social Status of Patients

I. Upper Class -	
(i) Professionals	3
(ii) Intermediate	8
(iii) Skilled	16
II. Middle Class (Semi-skilled)	30
III. Lower Class (Unskilled)	43
	100

ADMISSION TO HOSPITAL

The majority of the patients had been brought to hospital only when they became a problem to the community in the form of disturbed behaviour while others were brought in by the relatives for being a nuisance or not doing their job or not looking after their families. The mean length of duration of taking drugs before being admitted to the hospital for the first time was twelve months. The mean length of stay in hospital was 22 days. Two patients stayed less than one week.

REASONS FOR TAKING DRUGS

Table VII shows the various reasons given for drug

use. Most youthful drug users stated that they started with experimentation to enjoy meeting challenges and facing risks. Many were motivated by rebellion or hostility which they experience by breaking rules. Some used drugs consistently since they found the "drugged state" of mind a pleasant respite from the stresses of the world. Fifteen others became addicted due to peer group pressure and eleven were led into drug-taking by friends/drug peddlers.

Ten patients took drugs to bring about a basic change in their personality. They felt compelled to continue drugs and to escalate dosage as their disappointments and frustrations mounted. Fifteen felt they were sexually abnormal and taking of drugs would enable them to engage in more satisfactory sexual relationships. Another 15 used drugs to escape from reality and expected a high equilibrium through the continuous use of drugs.

SOURCE OF DRUGS

In Pakistan one can purchase drugs without any prescription from a chemist shop. The drugs which are usually prescribed are barbiturates, 'Mandrax', amphetamines, Injection Morphine and Injection Pethedine. Exise opium is available through venders. Patients, on questioning, regarding the start and source of their first dose, gave various sources (Table VIII). Nineteen got it from their friends and 15 from the chemists. Shrines and the "vend" system were in fact the main source of introduction. Similarly, addicts sold drugs to other people to make profit for their own daily dose. The mean duration of taking drugs was 5-6 years.

INCIDENCE AND TYPE OF PSYCHIATRIC DISORDER AMONG DRUG DEPENDENTS

Of the 100 patients, 33 had a psychiatric disorder, and this was of a sociopathic personality type in 19 (Table-IX). Twenty-one of them had been treated outside the hospital of which 12 were treated in the Government Mental Hospital in Lahore.

DRUGS TAKEN ILLICITLY IN HOSPITAL

Thirty patients (Table X) were found to have taken drugs illicitly while they were admitted in the hospital for treatment. Fifteen took 'charas'. Four patients were found in possession of opium while under treatment. One of the patients was on parole and two were in-patients. This was recovered when patients returned from parole under the influence of or possession of drugs. Information was occasionally received from other patients. It was mostly the families who tried to sympathize with them during the withdrawal phase.

Table VII

Reasons given for taking drugs

<u>Reasons</u>	<u>Number</u>
1. For experience sake	12
2. For pleasure sake	26
3. To change personality	10
4. Introduced by a friend/peddler	11
5. To escape from reality	15
6. "Peer Group" pressure	11
7. To increase sexual potency	15
	<u>100</u>

Table VIII

Initial and present source of drug addiction

<u>SOURCE</u>	<u>Initial</u>	<u>Present</u>
1. Friends	19	9
2. Chemists	15	20
3. Doctors	15	8
4. An addict/peddler	20	26
5. Shrines	12	10
6. "Venders"	15	21
7. Others	4	6
	<u>100</u>	<u>100</u>

Table IX
Incidence and type of Psychiatric Disorders among
100 Addicts

Disorder Psychiatric diagnosis	Treated outside the hospital	Treated inside the hospital	Total
Sociopathic personality	12	7	19
Affective disorder	3	1	4
Psychoneurosis	4	2	6
Organic Psychosis	2	2	4
TOTAL	21	12	33

Table X
Drugs taken illicitly in hospital

Not known to have taken drug	70
Known to have taken drug - nature known	21
Known to have taken drug - nature unknown	9
Cannabis Sativa (Charas)	15
Opiates	4
Mixed	2
	100

COMPARISON WITH OTHER STUDIES

Other studies have also been conducted-one is related to 100 selected "hashish" addiction cases out of a series of 274 patients. Included is another study carried out on the city population of drug addicts in Lahore.

A comparison of three studies is shown regarding some parameters such as:

(1) AGE A majority of subjects/addicts from the city of Lahore (Table XI) tended to be in younger age-groups. All three studies showed that sixty percent or more subjects/patients were below the age of thirty.

(2) DRUGS USED Drugs used are shown in Table XII. "Hashish" (marijuana) being the commonest substance used, this finding confirms the hypothesis that "hashish" is a substance of common use by urban young people. Some addicts used both opium and "hashish" alternating with each other.

(3) DURATION OF DRUG-ABUSE Table XIII shows the comparison of patients/subjects in three studies for the duration of drug-abuse.

No statistical method has been applied for any significance at this stage of data-analysis.

Table XI

Comparison of Age Incidence on Their First Interview in Hospitalized Addicts, 100 'Charas' Addicts and 100 Drug Addicts from Survey of City of Lahore-Pakistan

Age in Years	Hospitalized Addicts	100 'Charas' Addicts	City of Lahore
20 or less	30	27	35
21 - 30	30	50	60
31 - 40	20	14	3
41 - 50	10	4	2
above 50	10	5	0

Table XII

Comparative Abuse of Various Drugs in Three Studies
Carried Out in Lahore (Punjab) Pakistan

Type of Drugs	Hospitalized Drug-Addicts	City of Lahore Survey	'Charas'
'Charas'-Grass Smoking	34	51	100
Opium (Oral use)	20	8	0
Opiate Derivatives	11	4	0
Amphetamines, Methylamphetamines Ritalin	14	13	0
Barbiturates/ Sedatives	3	1	0
Non-barbiturates Hypnotic- Methaqualone	7	8	0
Mixed	11	15	0

Table XIII

Comparison of Patients/Subjects in Three Studies
(Lahore-Pakistan) for Duration of Drug-Abuse
(Dr. Ijaz Haider)

Duration in Years	Hospitalized Addicts	'Charas' Addicts	City of Lahore
less than one year	31	54	21
one to three years	39	32	42
four to six years	18	14	27
over seven years	12	0	10

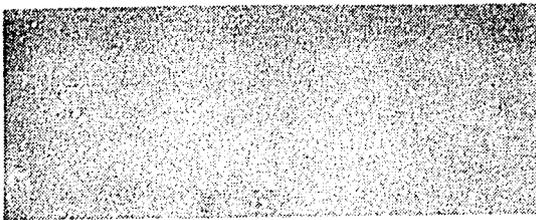
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A Study of Reasons for the Lack of Opium Use Among Opium Growers

by

Dr. Alaettin Akçasu



Although it is known that poppy has been planted in Asia Minor for over 6000 years, it is most interesting to observe that there is no appreciable number of opium users in the opium growing area of Turkey, as compared with other middle eastern countries. Despite claims that the Islamic religion is the main cause preventing people from using opium, it would appear that in reality, this is not the fact. If one considers first that, in some other Islamic countries, opium use is a great social problem, and that despite prohibition of wine drinking by the Koran, wine drinkers outnumber opium users, if any, in Turkey. Finally, one should always remember the possibility that opium users could go unnoticed, because of the very low education level of our peasants, who will not be aware of addicts as long as there is no abstinence syndrome.

Therefore, it is our opinion that the most likely cause is rather a "traditional culture" succeeding in creating such a psychological state that the use of opium is prevented in all but medical instances.

In order to throw light on this subject, it was decided to conduct a field survey among villagers whose major occupation is opium planting. Questions were carefully phrased to facilitate our approach to the villagers. Since they have been exploited endlessly by ruling governments over the centuries, they remain suspicious of any outsiders especially those asking questions.

From August 1, through 30, 1974, 35 villages were visited and 961 persons were questioned. Of this number, only 10 women were questioned because it is not customary to allow them to talk to strangers.

The age distribution of people questioned is as follows:

21-30	9.5%
31-40	23.0%
41-50	28.0%
51-60	18.0%
61-70	13.0%
71-80	2.5%

95% of them work in their own fields and 20% are growing poppy on other fields. This indicates that only 76% of the people depend on their own fields. 96.1% of all questioned peasants had seen poppies. 85.5% used seeds, leaves and poppy seed oil as food stuff.

Some people will eat the different parts of the plant either as it is or will include it in the preparation of some dish. Almost all villagers depend on poppy seed oil and they will not use any other types.

Growing the opium poppy in the surveyed area is an ancestral practice for 96% of the people surveyed.

Opium is used by villagers mostly as a medicine. 8.3% use it against coughs, 3.5% against diarrhea, 4.5% against abdominal pain, 13% against the common cold, 2.6% against toothache, and 0.6%-0.3% used it as a veterinary medicine.

We asked whether there are opium addicts in the village. Only 0.3% of all people answered yes.

96.1% percent of people teach the children they must not eat opium.

The age distribution of learning that opium is dangerous is extremely interesting:

0-5	22.0%
6-10	68.6%

11-15	5.2%
16-20	0.2%

The results show that most people learn the dangers of opium before the age of 10.

In spite of the fact that opium is abundantly available, the peasant report is of only 3% accidental use. This indicates that family members are very well-informed about the dangers of opium.

The opium users in the villages are discredited by fellow villagers. There is social pressure on the people which prohibits them to use opium.

We also asked them whether they like the odor of opium or not. 39.5% said yes whereas 56.5% of population specifically said they dislike it.

From this survey it is conceivable to assume that villagers who grow poppy have a traditional culture about its cultivation and the toxic effects of opium are taught to the children by parents, relatives, fellow villagers and by the other children who already know the hazardous effects of opium.

QUESTIONNAIRE

Name:

Do you have your own poppy field?

Do you work for others who grow poppy?

Have you seen poppy?

Which part of the poppy do you use as a food stuff?

- a) Leaves
- b) Seeds
- c) Oil

What food do you prepare from:

- a) Leaves
- b) Seeds
- c) Oil

When did you first see opium?

Who is busy growing poppy in your family?

- a) Grandfather
- b) Father
- c) Yourself
- d) Your children
- e) Your grandchildren

For what purpose do you use opium if any?

- a) Cough
- b) Diarrhea
- c) Abdominal pain
- d) To put children to sleep
- e) To get a kick

Is there any one using opium in your village, if so how many?

Are the children taught not to eat opium?

At what age do they learn that opium is dangerous to their lives?

Is there any one who took opium by mistake and how was he treated?

In your village what kind of people use opium continuously?

Do you like the odor of opium?

Why don't you use opium continuously?

From whom did you learn that opium is hazardous to your own life?

How do you teach your children that opium is hazardous to their lives?

Is there any other name for poppy?

Is there any other name for opium in your village?

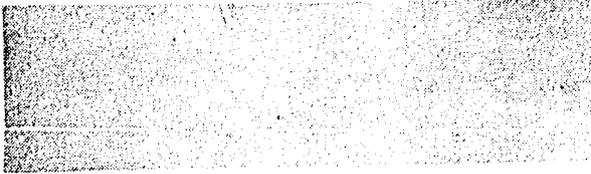
Is there any other name for the seed of poppy?

Is there any other name for poppy seed oil?

Social & Clinical Characteristics of Psychiatric Patients Who Have Used Cannabis

by

Drs. Turan Örnek MD,
C. Arsan MD, &
A. Çelikkol MD



In the past ten years Western Society has experienced non-medical drug use as a social illness on a mass scale. Cannabis has been extensively used in the technological societies. This fact made some observers think that marijuana smoking would probably be widely fashionable in our Region as Turkey was developing rapidly. Therefore, five years ago we decided to start studying social correlates of marijuana smoking among our patients in Ege University in Western Turkey. The Aegean area represented a higher modernization potential than Eastern Turkey did. We also thought that it was advisable to study the clinical features of patients with histories of cannabis use.

It certainly cannot be determined for certain that cannabis use preceded a psychiatric disorder. It may be argued that the cannabis using population who never get admitted to a psychiatric hospital is different. However, we

Professor Dr. Örnek is Chairman of the Psychiatric Clinic at Ege University in Izmir.

thought that, different or alike, psychiatric patients deserved being studied from these points of view. We had another setback; we had only a limited number of such cases in our records. We have carried out the above-mentioned studies on them retrospectively.

We thought that data from other Turkish authors could be added to our own for a future collective evaluation on a wider scale. We also planned to increase our data with future cases to reach adequately meaningful figures. However, five years later, we still do not have enough number of cases for reliable comparisons for two reasons: (1) because there have not been many patients of this type in our society and (2) because our bed capacity was lowered from 110 to 30 in 1969 and we no longer had closed wards. Presently we keep collecting data using the same method with the hope that sometime in the future we shall reach a point indicating greater meaning.

Cannabis remains the most frequently abused non-synthetic drug in Turkey.

Drugs captured by the Turkish Narcotic Bureau in 1972 and 1973 are as follows (in kilograms):

	<u>1972</u>	<u>1973</u>
Cannabis	3,535,026	5,402,191
Opium	889,893	2,492,636
Morphine	259,159	136,496
Heroin	0,003	-
Cocaine	-	-

Among the individuals arrested for using drugs by the Turkish Narcotic Bureau in 1972 and 1973, cannabis users represented the largest number:

	<u>1972</u>	<u>1973</u>
Cannabis	1,887	2,046
Opium	36	22
Morphine	1	6
Heroin	3	-
Cocaine	-	-

Like the persons arrested for non-medical use of drugs, our patients preferred marijuana to opium and its derivatives. The figures revealed by the Turkish Narcotic Bureau indicate that the majority of cannabis users are male.

		<u>Male</u>	<u>Female</u>	<u>Total</u>
Cannabis users	1972	1,861	56	1,917
	1973	2,018	56	2,074

This corresponds with our own figures. Here is a comparison of sexes of our cannabis using patient population with the non-user patient population:

	<u>Male</u>	<u>Female</u>	<u>Total</u>
Cannabis user	42	0	42
Control group	40	44	84 (1964-69)

Between 1970 and 1973 we had 49 psychiatric patients with histories of cannabis use whom we compare below by their sex distribution:

	<u>Male</u>	<u>Female</u>	<u>Total</u>
Long-term cannabis users	18	0	18
Occasional users (or short-term users)	2	4	31

Age distribution of those arrested for cannabis use in Turkey in 1972 and 1973 shows an increase between the ages of 21 and 30 years. The average age of patients with histories of cannabis use was found to be 31, and the average age of a control group of psychiatric patients was 32. (Fig. 1, 2).

From general observations it has been known that in Turkey reference groups habitually smoke marijuana. Some of these are the members of certain communities in certain parts of large cities, some are seamen of the navy and some are individuals with certain occupations. The Turkish Narcotic Bureau arrested 1,877 persons in the year 1972 and 2,046 persons in the year 1973. The occupational statuses were as follows:

	<u>1972</u>	<u>1973</u>
Derelicts	585	619
Odd jobs	384	489
Vendors	360	175
Non-skilled) workers		
Semi-skilled)	357	568
Peasants	61	43
Government employees	41	34
Housewives	36	29
Students	33	27
Soldiers	16	24
Other	<u>4</u>	<u>38</u>
Total	<u>1877</u>	<u>2046</u>

The occupational distribution of our cannabis using patient population corresponds with those of the arrested users.

	<u>Cannabis users</u>	<u>Control group</u>
Dependents	-	5
Peasants	1	10
Odd jobs	4	2
Workers	24	39
Students	2	8
Officials	-	26
Vendors	2	0
Professionals	<u>-</u>	<u>2</u>
Total	<u>33</u>	<u>82</u>

These figures suggest that our tradition-oriented women and peasants with well-defined social roles do not have an inclination to use cannabis as compared to lower class city males with role confusion. Modern and educated groups seem to have made adequate social adjustments at the studied time (1964-1969) and they used cannabis rarely.

When the educational status of cannabis using patients was compared to those of the controlled group, the following table was drawn:

	<u>Cannabis user</u>	<u>Control group</u>
Illiterate	0	3
Literate	6	7
Primary school	16	32
Secondary school	5	12
Lyceum	2	13
University	0	9
Total	<u>39</u>	<u>76</u>

Monthly income distributions of both groups reinforces the idea that it is a pattern for the lower class city male.

	<u>Cannabis user</u>	<u>Control group</u>
Dependents	3	14
Low income	10	19
Lower middle income	15	27
Upper, middle and higher income	2	18
	<hr/>	<hr/>
Total	30	78

Observations of the marital status of these two populations seems to favour the idea that an established married life represented by 2 or more children is against the use of cannabis.

Single	16	25
Married (with no child or only one)	5	8
Married (2 or more children)	9	34
Divorced	5	9
	<hr/>	<hr/>
Total	34	76

Downward social mobility seems to correlate with cannabis use.

Upward social mobility	6	14
Downward social mobility	5	0
No change	24	63
	<hr/>	<hr/>
Total	35	77

Half of our cannabis using group and half of our controlled group of patients have shown geographical mobility which appears to be a correlate of psychiatric disorders in general.

To learn about the clinical features of psychiatric patients with histories of cannabis use we compared a number of characteristics of 33 such patients with those of 22 who did not have cannabis histories. Open vs. closed ward ratios and the clinical diagnosis for both groups were the same. Since all cannabis users were male, the controlled group was made to consist of males too.

Because of the smallness of the sizes of the groups we could take in this study, the findings should be observed and interpreted with reservation.

Our study showed that the average age of individuals was about the same (31 years for the cannabis users and 32 for the controlled group).

The two groups did not show differences as to body constitution types, dressing features and care for personal hygiene.

Most of the cannabis users had smoked marijuana for long terms (maximum 20 years). Others used it occasionally or several times. We shall call this group of 7 patients "short-term cannabis users" for practical reasons.

Figure 3 shows the distribution of cannabis users in open and closed wards. The long-term cannabis user tended to be hospitalized in the closed wards more often.

Hospitalization in closed or open wards results from the severity of the clinical picture. But as it was stated before, the clinical picture may be the result of cannabis use as well as it may be its cause.

Figure 4 shows the distribution of psychotic and non-psychotic patients in the subdivisions of the cannabis using group and in the controlled group. The distribution of psychotic individuals in the long-term cannabis using group was similar to that in the controlled group; about 70% consisted of psychotics. Approximately the same percentage of short-term cannabis users were found to be non-psychotic.

Figure 5 shows that frequencies of schizophrenia and of chronic alcoholism in the long-term cannabis users and in the controlled group were about the same. More than half of both groups were schizophrenic while about 1/10 were chronic alcoholics. With the short-term users the figures reversed.

Probably the long-term cannabis user is quite a different type of person (or should we rather say "a different type of patient?") compared to the short-term user.

Figure 6 shows alcoholic beverage consuming patterns of non-alcoholic patients from all three groups. Cannabis users displayed a strong tendency for liking to drink. Many years ago Uzman (10) had stated that alcohol did not appeal to narcotic addicts while it did to marijuana smokers.

Sociability of psychiatric patients with histories of cannabis use did not differ from that of the controlled group.

Figure 7 shows that 34% of the long-term cannabis users showed psychomotor excitation while none of the short-term users displayed this symptom. Of the controlled group 14% showed psychomotor excitation. Numerous authors (2,3,4,

5,9,10,11,12) have emphasized this finding in cannabis using psychiatric patients as we also do.

Cannabis use did not seem to correlate with stereotypical movements, mannerisms, disorientation, disorders of spontaneous and voluntary attention, poor memory, hallucinations, persecution delusions and disordered body-image. However, the ability to make judgements decreased as it is shown in Figure 8. But it is debatable whether this is a cause or an effect.

Agitated anxiousness was found to be more frequent in the group of long-term cannabis users (Figure 9).

Emotional bluntness was observed more frequently in the long-term cannabis using group too. Short term users showed this symptom less often than both groups (Figure 10).

As figure 11 shows euphoric affectivity correlated with the length of cannabis use. Short-term users and the non-users found to be depressed more frequently.

These findings appear to suggest that almost every type of symptom in affectivity can be seen in psychiatric patients with histories of long-term cannabis use. It is concluded that in the individual level cannabis use results from emotional causes and that it exercises its main effects on affectivity (4,5,10,11,12).

We observed no differences of frequency of persecutory and other delusions between the long-term cannabis users and the control group. This finding is contradictory to those of Ames (1), Keeler (6,7,8) and Uzman (10,11). But we rely on our finding obtained by comparison with a controlled group and we suggest further studies on the delusions of cannabis users while we keep in mind the idea that the differences in the content of delusions may be culture-bound.

TABLE 1

The type of wards where long term and short term cannabis using patients were hospitalized.

	<u>OPEN WARD</u>	<u>CLOSED WARD</u>	<u>TOTAL</u>
USED CANNABIS FOR LONG TERM	7 Cases (26.93%)	19 Cases (73.70%)	26 Cases (100%)
USED CANNABIS SEVERAL TIMES	5 Cases (71.42%)	2 Cases (28.57%)	7 Cases (100%)
TOTAL	12 Cases (36.36%)	21 Cases (63.63%)	33 Cases (100%)

TABLE 2

Prevalence of psychosis in cannabis using psychiatric patients.

	<u>PSYCHOTIC</u>	<u>NON-PSYCHOTIC</u>	<u>TOTAL</u>
USED CANNABIS FOR LONG TERM	18 Cases (69.23%)	8 Cases (30.77%)	26 Cases (100%)
USED CANNABIS SEVERAL TIMES	20 Cases (28.57%)	13 Cases (71.43%)	33 Cases (100%)
TOTAL	20 Cases (60.60%)	13 Cases (39.39%)	33 Cases (100%)
CONTROL	17 Cases (77.28%)	5 Cases (22.72%)	22 Cases (100%)

TABLE 3

Incidence of various diagnosis in cannabis using
psychiatric patients

	<u>SCHIZOPHRENIA</u>	<u>CHRONIC ALCOHOLISM</u>	<u>TOTAL</u>	<u>TOTAL</u>
USED CANNABIS FOR LONG TERM	15 Cases (57.69%)	3 Cases (11.53%)	8 (30.78%)	26 (100%)

USED CANNABIS SEVERAL TIMES	1 Case (14.28%)	4 Cases (57.14%)	2 (28.58%)	7 (100%)

TOTAL	16 Cases (48.48%)	7 Cases (21.21%)	10 (30.30%)	33 (100%)

CONTROL	12 Cases (54.54%)	3 Cases (13.63%)	7 (31.83%)	22 (100%)

TABLE 4

Incidence of alcohol consumption in cannabis using
psychiatric patients

	<u>ALCOHOL CONSUMERS</u>	<u>OTHER</u>	<u>TOTAL</u>
USED CANNABIS FOR LONG TERM	18 Cases (69.23%)	8 Cases (30.77%)	26 Cases (100%)

USED CANNABIS SEVERAL TIMES	7 Cases (100%)	-	7 Cases (100%)

TOTAL	25 Cases (75.75%)	8 Cases (24.24%)	33 Cases (100%)

CONTROL	6 Cases (27.77%)	15 Cases (68.18%)	22 Cases (100%)

TABLE 5

Incidence of psychomotor changes in cannabis
using psychiatric patients

	<u>PSYCHOMOTOR EXCITATION</u>	<u>PSYCHOMOTOR INHIBITION</u>	<u>TOTAL</u>
USED CANNABIS FOR LONG TERM	9 Cases (34.61%)	14 Cases (53.84%)	26 Cases (100%)

USED CANNABIS SEVERAL TIMES	-	3 Cases (42.85%)	7 Cases (100%)

TOTALS	9 Cases (27.27%)	17 Cases (51.51%)	33 Cases (100%)

CONTROL	3 Cases (13.63%)	14 Cases (63.63%)	22 Cases (100%)

TABLE 6

Incidence of diminished judgement in cannabis
using psychiatric patients

	<u>DIMINISHED JUDGEMENT</u>	<u>TOTAL</u>
USED CANNABIS FOR LONG TERM	9 Cases (34.61%)	26 Cases (100%)

USED CANNABIS SEVERAL TIMES	-	7 Cases (100%)

TOTAL	9 Cases (27.27%)	33 Cases (100%)

CONTROL	5 Cases (22.22%)	22 Cases (100%)

TABLE 7

Incidence of persecutive delusions in cannabis
using psychiatric patients

	<u>PERSECUTIVE DELUSIONS</u>	<u>TOTAL</u>
USED CANNABIS FOR LONG TERM	9 Cases (34.61%)	26 Cases (100%)

USED CANNABIS SEVERAL TIMES	1 Case (14.28%)	7 Cases (100%)

TOTAL	10 Cases (30.30%)	33 Cases (100%)

CONTROL	7 Cases (31.81%)	22 Cases (100%)

TABLE 8

Incidence of anxiety, agitated anxiousness, ambivalence
affectivity and bizarre affectivity in cannabis using
psychiatric patients

	<u>ANXIETY</u>	<u>AGITATED ANXIOUSNESS</u>	<u>AMBIVALENCE AFFECTIVITY</u>	<u>BIZARRE AFFECT</u>
USED CANNABIS FOR LONG TERM	9 Cases (34.61%)	5 Cases (19.23%)	8 Cases (30.76%)	7 Cases (26.93%)

USED CANNABIS SEVERAL TIMES	5 Cases (71.42%)	-	1 Case (14.28%)	1 Case (14.28%)

TOTAL	14 Cases (42.42%)	5 Cases (14.14%)	9 Cases (27.27%)	8 Cases (24.24%)

CONTROL	8 Cases (36.36%)	1 Case (4.54%)	6 Cases (27.27%)	6 Cases (23.07%)

TABLE 9

Incidence of bluntness, hostility, euphoria and depression in cannabis using psychiatric patients

	<u>BLUNTNESS</u>	<u>HOSTILITY</u>	<u>EUPHORIA</u>	<u>DEPRESSION</u>
USED CANNABIS FOR LONG TERM	16 Cases (61.53%)	5 Cases (19.23%)	8 Cases (30.26%)	7 Cases (26.93%)

USED CANNABIS SEVERAL TIMES	1 Case (14.28%)	1 Case (14.28%)	1 Case (14.28%)	5 Cases (71.42%)

TOTAL	17 Cases (51.51%)	6 Cases (18.18%)	9 Cases (27.27%)	12 Cases (36.36%)

CONTROL	9 Cases (40.90%)	2 Cases (9.09%)	1 Case (4.54%)	9 Cases (40.90%)

TABLE 10

Incidence of increased and decreased association, incoherence and absurdity in cannabis using psychiatric patient

	<u>INCREASED ASSOCIATION</u>	<u>DECREASED ASSOCIATION</u>	<u>INCOHERENCE</u>	<u>ABSURDITY</u>
USED CANNABIS FOR LONG TERM	5 Cases (19.23%)	14 Cases (53.84%)	5 Cases (19.23%)	6 Cases (23.07%)

USED CANNABIS SEVERAL TIMES	-	4 Cases (57.14%)	-	1 Case (14.28%)

TOTAL	5 Cases (15.15%)	18 Cases (54.54%)	5 Cases (15.15%)	7 Cases (21.21%)

CONTROL	4 Cases (18.18%)	17 Cases (77.28%)	5 Cases (22.72%)	5 Cases (22.72%)

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DISCUSSION

In the discussions which followed, the Delegate of the United States, with reference to the first of these two papers, asked how had the Turkish Delegate sampled the over 900 men he interviewed in villages in the opium-growing areas of Turkey. The Turkish Delegate, in his reply, described the use of a research assistant from the village and extensive discussions about the reasons for the research teams' interest in the area of practices with regard to poppy-growing and use. He had to convince the informants that his purpose was not political and that he wanted to know why they don't use opium for pleasure. He selected respondents at random in various places and gossiped with them before interviewing them. However, he agreed that these methods were essentially anthropological, rather than a formal survey.

The Delegate of the United States drew attention to the fact that the study had been carried out at his request. He inquired why the interest in growing opium was more for poppy seed oil than for opium, since a Delegate from Pakistan had said that opium was the source of a greater profit in Pakistan. The Delegate of Turkey pointed out that the use of opium for pleasure was introduced only in the 18th century, by people from the West. So traditions of 6000 years fostered other uses. He also noted that poppy harvesting is attractive because it occurs when farmers are not busy with other crops and requires little water.

Another member of the Turkish Delegation reported that in Greece, immigrants from Anatolia also had low addiction rates. He inquired about the frequency with which opium was used to put children to sleep.

The Delegate of Turkey said he did not trust the figures he had obtained from this question because it is impossible to separate use as an analgesic for abdominal pain from use as a hypnotic.

The Delegate of the United Kingdom remarked that there seemed to be relatively little analgesic use of opium by poppy farmers. The Turkish Delegate explained that if pain was not easily controlled by folk medicines, people

went to doctors who did not use raw opium.

A Delegate of the United States congratulated the authors of the third and fifth papers on the descriptive epidemiology concerning psychiatric disorders in cannabis-using patients. He felt that despite disclaimers, they had perhaps assessed that the correlation was due to the drug causing the psychiatric disorder, which he felt went beyond the data available. A member of the Turkish Delegation said he did not intend to imply a causal relation but was only pointing out that cannabis users more often had schizophrenic-like reactions than did alcoholic patients. It may be that pre-psychotics prefer cannabis. He then pointed out the similarity between what he has called "Schizoidic" to the so-called amotivational syndrome associated with heavy cannabis use.

A Delegate of Turkey in discussing the paper entitled "Mental Disorders Among the Chronic Cannabis Users" expressed a disbelief that any study could clarify whether cannabis preceded affective disorder or vice versa. He felt the best he could show was that affectivity and cannabis smoking go hand-in-hand in psychiatric patients. He inquired as to why Turkish adults taught their children not to touch the opium-containing head of the poppy. The leader of the Turkish Delegation answered that the most common belief was that it was because the Government does not like it, but this is only one of 50 reasons offered, which seem to have little similarity to each other. In reply to a question from the Delegate of Iran who wanted to know whether opium was used in suicide cases, the Turkish Delegate replied that all opium eating deaths were accidental. In the city, suicide occurs by morphine injection, but there are virtually no suicides among farmers. The United States Consultant asked a member of the Pakistan Delegation to clarify the extent of the use of opium for medicinal purposes. He replied that in 1972, two tons out of seven went for medicinal use and that all morphine, codeine and pethidine were imported rather than made from native opium.

In reply to a question from the Delegate of the United Kingdom as to whether it was correct that 67 out of 100 patients had no psychiatric diagnosis, a delegate from Pakistan agreed that these 67 had only transient toxic psychoses or cannabis psychoses. He went on to say that the sociopathic personalities he was including when making this diagnosis were "aggressive sociopaths", adding that opium and hashish were also used as a self-treatment for sexual inadequacy. Opium is usually effective for this purpose for about 9 months when men shift to hashish. Amphetamine use was largely restricted to university students who try to stay awake to study.



Topic 5

The Collection & Use of Drug Epidemiological Data

Getting Epidemiological Data for Policy Planning: Explanations for Design Decisions in the Vietnam Follow-Up

by

Dr. Lee N. Robins Ph.D

In 1971, it became apparent that American soldiers stationed in Vietnam were using heroin with a frequency new to the American experience. In the United States, heroin is considered the most dangerous of all drugs. It is commonly believed that addiction to heroin takes place extremely rapidly and that once addicted, people are usually addicted forever. Further, it is believed that the addict's craving for drugs becomes so great and so frequent that he is forced to commit crimes to obtain a sufficient quantity of the drug.

In the light of these beliefs, it is not surprising that there was widespread concern that the lives of many Vietnam soldiers might have been ruined by their exposure to

Dr. Robins is with the Psychiatric Department of the Washington University School of Medicine in Missouri. This work was supported by Research Grants DA 3AC 680, DA 4R6 008, MH-18864, AA-00209, and RSA 36,598.

heroin and that in addition, their return would constitute a threat to the national well-being, as they would be forced to steal and rob to support a habit that was much more costly in the United States than in Vietnam.

In response to this looming national emergency, the Department of Defense set up mandatory urine screening for all men returning to the States from Vietnam, and put those with confirmed positive urines who had no legitimate medical prescription for narcotics into a brief detoxification program before sending them home. After return, many of those who still had a service obligation were sent to drug treatment centers at Army camps in the United States, while those due for immediate release from service (as 40% of all returnees were) were advised to turn themselves in to a veterans hospital for treatment. Special drug centers were being set up in veterans hospitals across the country, and members of Congress were calling for more and more drug beds. The purpose of our study was to garner the facts necessary to react sensibly to these pressures: to learn how many soldiers actually had become addicted to heroin in Vietnam, how many were continuing their use of heroin after returning to the States, and how many required or desired treatment. Results were needed quickly in order to plan how many treatment centers might be required and what budget might be necessary. The results have been published in two reports (1,2), which I will be happy to send to those interested. In brief, we found that the number addicted in Vietnam was high (20%) but that most men addicted in Vietnam did not use narcotics in the 8 to 12 months after their return to the United States; that most who did use narcotics after return did not become readdicted in that period; and that arrests were more often for public drunkenness than for drugs, thefts, or violence.

The present paper will present the methods of that study as an illustration of one way in which epidemiological data can be obtained for a general population. We were able to measure levels of drug and alcohol use and abuse among our subjects before, in, and after Vietnam, and to discover the social correlates of both trying drugs and becoming heavily involved with them. These are the kinds of data which, gathered at regular intervals, could provide a measure of the success or failure of government drug policies. Successful drug controls should be reflected in a decrease in the total number of heavy users of narcotics, without a compensatory shift to the abuse of alcohol and other illicit drugs, while successful prevention of drug abuse should be reflected in a rising median age among heavy users, as the introduction of young people to illicit narcotics is stemmed. General population studies provide more satisfactory estimates of the effects of policy aimed at reducing drug abuse than do studies of changes in the numbers of treated or apprehended drug users because treatment and apprehension

rates vary not only with the number of abusers in the population, but with the number of treatment beds and the number of police assigned to narcotics control. The government can easily reduce the number of treated addicts simply by closing drug units. In addition, there is usually a lag of several years between beginning addiction and coming to treatment or being arrested as a user. Thus treatment and offense data will be slower to show the effects of new efforts at control and prevention than will general population studies.

I do not want to suggest that the methods we used are the only or the best methods for obtaining general population rates, but our study did have some innovative features which may be useful to consider in planning future surveys. It also had some assets that few other drug surveys have had: a generous budget and the cooperation of several departments of the government. These assets resulted from the grave public concern that exposure to heroin in Vietnam may have ruined the lives of many young men. This concern also motivated our university-based staff and the survey research group who did the interviewing to invest great interest and effort in the study. Thus in some ways, this study may be an example of an epidemiological effort under ideal circumstances which may not soon be replicated. The fact that it was so richly endowed with effort, time, and money may make it an example of the best that can be expected given our current level of skills and also may show us areas where our current knowledge falls short, because there are many questions we still could not answer at the end.

To be useful to policy decisions, an epidemiological study must provide accurate and unbiased information about the behavior and needs of the population to which the policy will apply. The critical issues are identifying the relevant population, choosing an unbiased sample, and obtaining accurate data from all of that sample or at least from an unbiased and large proportion of it.

IDENTIFYING THE POPULATION AND CHOOSING THE SAMPLE ██████████

A universal problem in doing epidemiological research on events as rare as addiction is striking the best bargain between obtaining information about the population as a whole and obtaining enough affected cases to study their history and prognosis in detail. Our first problem was to identify the general population in the military of most concern. We decided that it was the Army enlisted men who had served in Vietnam in 1970 and 1971. That was the period during which heroin availability was reportedly at its height. We identified Army enlisted men rather than the entire Vietnam military population as the population of inter-

est because urine tests at departure had shown few positives among women, officers, and members of the other services. In addition, Since Army enlisted men were the largest group of military personnel in Vietnam, if any returnees were going to create an epidemic of addiction in the United States, they would be the most likely.

We estimated that our available funds allowed interviewing about 1,000 men. If the Army's estimate that 5% of Army enlisted men in Vietnam were addicted was correct, 1,000 interviews with a random sample of Army enlisted men in Vietnam during 1970 and 1971 would not provide enough addicts to allow us to study factors that distinguished addicts who continued using narcotics after their return from those who did not. We needed to enrich the supply of addicts without losing our ability to describe the population as a whole. The urine screen supplied the answer to our problem. Because it had been applied uniformly to all returnees, those positive by urine screening would be an unbiased group of users. We decided to devote half our resources to a sample of drug positive (by urine test) Army enlisted men during the first month that the testing program at departure was uniformly applied, September 1971. This earliest available month was chosen so that at interview the men would have had as long a period as possible back in the States from which to estimate relapse rates. We used the remainder of our resources to interview a simple random sample of all male Army enlisted men who returned that same month. What we achieved then was a sample of the whole population of September returnees plus an oversampling of those September returnees who were detected as drug positive at departure. There was an overlap of 22 cases between the two samples. We now had a sample of the general population from which we could learn how many and who became addicted in Vietnam and how many were still drug users after Vietnam, and we could add to that general population, by proper weighting, a large number of drug users at departure from Vietnam who were mostly addicts. From the addicts, we could learn which characteristics were associated with continuation of narcotics after return and with need for further treatment for drug abuse.

In epidemiological studies of behavior deemed socially undesirable, it is usually easier to find and interview people without the undesirable behavior than those with it. People who are virtuous and law abiding have stable addresses, telephones, and stay home enough so that interviewers can find them readily. Deviant members of a society spend more time in jails, in hospitals, out on the streets, move frequently, and even die younger. To avoid underestimating the amount of deviance in a society, two things are required: 1) choosing the sample by a method which guarantees that a man's chances of being part of the sample are not less if he is deviant than if he is virtuous, and 2) getting a sufficiently high completion rate to be sure

that people are not excluded because they were difficult to interview.

Selecting the sample on the basis of records made at the time men left Vietnam guaranteed that their drug use after their return could not influence whether or not they fell into the sample. If instead, we had used an area sample--that is, knocking on doors and selecting for interview all the Vietnam veterans we found at home--we would have missed all the men we interviewed in jails and in drug treatment programs as well as the one man who had died of a drug overdose before we began the study.

OBTAINING HIGH COMPLETION RATES

In attitude surveys, it is common to set limits on how many times one tries to find a potential respondent at home before giving up. In our study, we set no limit. The highest number of call-backs that eventuated in an interview was 11. When we analyzed our data by the visit on which the interview was completed, we found those interviewed on the first visit were less likely to have used drugs than those who required several visits to complete the interview. Therefore, as expected, if we had limited the number of call-backs allowed, we would have biased the sample interviewed against drug users.

We finally located 98% of our sample and interviewed 95%. Such a high completion rate guaranteed that results were reasonably unbiased, since even if all those not interviewed were addicts or if none of them were addicts, there were too few of them to change the estimate of the number of addicts in the population very much. So high a completion rate is rare for follow-up studies. It was possible in this study only because Army records contained a great deal of information useful in locating an individual (his birthdate, a civilian address, names and addresses of wives and parents) and because we had the assistance of a number of government agencies. Half the men were still living at the address given in their Army record. Another 20% were located by contacting one of the relatives whose address was in the Army record. In locating the remainder, we were assisted by the Veterans Administration's providing current addresses for those with active claims, the Department of Labor's unemployment compensation program's providing addresses for the unemployed, and the Department of Defense's providing addresses for those on active duty. When all these failed, the interviewers showed great ingenuity in obtaining leads from telephone books, postmen, friends, and neighborhood shops.

Locating the subject is only half the battle. He must then be persuaded to be interviewed. In our study, only three men--less than 1%--refused an interview, although this was a period when concerns about privacy were reflected in rising refusal rates for most public opinion surveys. The high level of cooperation reflected 1) the men's feeling that questions about veterans' problems were important, 2) their hope that their participation might have important effects on policy, 3) our ability to convince them that it was safe to cooperate because we could guarantee total confidentiality, and 4) our offer to pay for their time.

The subjects believed in our guarantee of confidentiality in part because our interviewers came from a non-governmental, university-affiliated organization (the National Opinion Research Center) and in part because we used an elaborate double-number file system located outside the borders of our country to protect interviews against both subpoena and careless disclosure. The system involved omitting names and addresses from the interview and changing the identification number on the interview outside the United States before returning it for analysis, with the only link between the two numbering systems kept out of the country. This elaborate system actually mattered more to the interviewers, many of whom were young, anti-establishment people suspicious of the government's motives, than it mattered to the veterans we were studying. But the trust of the interviewers was essential if they were to work hard to locate these veterans and persuade them to be interviewed.

It is unusual to pay survey respondents, but we felt it not only helped to reduce refusals but made respondents' answers more valid. By accepting payment, they were, in effect, accepting an obligation to contribute their labor, which in this instance consisted of giving honest and complete responses.

GETTING ACCURATE INFORMATION

The final measure of the value of an epidemiological study lies in the accuracy of the data it obtains. Narcotic use is supposed to be a topic especially difficult to obtain honest answers about because it is illegal as well as discreditable behavior. According to some doctors who treat addicts, they are all psychopaths who almost never tell the truth anyway.

In our study, we had urine specimens collected at the end of the interview with which to verify reports of current drug behavior and military records with which to verify reports of drug use in Vietnam. The men did not know

during the interview that they were going to be asked for a specimen at the end, nor did they know that what they said about their Vietnam drug use could be checked in their military records. Yet in both cases, rates obtained by interview were very similar to those obtained by the more objective means. Indeed, among the men known to have been drug positive at departure, 97% admitted having used heroin in Vietnam. For much of the other information we obtained, we had no outside check of the accuracy of the interview report. However, there was no reason to believe that men would be less frank about other information than they were about their drug use in Vietnam and currently.

Are doctors then wrong when they believe that they are being lied to by addict patients, or did we have some magic with which to extract honest reports? I think neither was the case. I believe addicts treated in the United States are more psychopathic than the average military drug user, and psychopathic or not they are likely to lie to the doctor. In the United States, treatment is usually secondary to a legal difficulty. Either a judge, apprised that the criminal he is about to sentence is an addict, insists on treatment, or the addict, in trouble because of criminal behavior, enters treatment voluntarily in the hope of avoiding prosecution. It is this strong association between entering drug treatment and criminality that may explain the American public's belief in the ruthlessness of the addict. When treatment is sought only to avoid jail or criminal prosecution, the patient's motivation for cure is low. However to remain in treatment, the patient must pretend to want a cure. Doctors discover their insincerity and generalize that all addicts lie.

Our sample of both detected and undetected addicted veterans included many whose freedom from arrest and whose honorable discharge from the service showed they were not psychopaths. Further, they had nothing to fear from the interviewers, who had no power to make decisions affecting their lives and who indeed were going to elaborate lengths to protect the privacy of what was said. Even psychopaths, of whom we apparently had few, do not bother to lie if it has no advantage for them.

Thus, if one wants to conduct an epidemiological study of drug abuse, it is important to be sure that the subjects are convinced that they have nothing to lose by telling the truth. This generally means the interviewers should not be previous acquaintances of the subjects, employees of the government, or in the employ of the subjects' employer, and that there must be inviolable guarantees of the confidentiality of information given.

Other reasons we got honest answers may include the full-scale testing of questions and training of interview-

ers. It is much harder to lie in response to clear, direct questions than to ambiguous or indirect questions. People who will not lie outright will, in response to an ambiguous question, choose that interpretation of the question which allows them to answer with the least damage to self esteem. To avoid ambiguity, not only was the original version of the questionnaire pretested, but also each revision of it. This is counter to the usual practice in surveys. The usual practice is to obtain 20 to 40 pretest interviews, rewrite the questionnaire on the basis of these interviews, and then go directly to the field. We chose instead to give only a few pretest interviews using the original version, revise that version, get a few more pretest interviews using the revised form, revise again, etc. until we were satisfied that the questions were clear. Even this reiterative pretesting allowed a few ambiguous questions to survive.

Although most of the interviewers were experienced professionals, all went through an intensive five day training period during which they learned drug and military jargon and, for many, had their first opportunity to meet and talk with addicts. Factual errors in recorded responses to questions about drug behavior can result not only from intentional lying but also from poor communication between subject and interviewer. The language of a street addict need not be used by the interviewer during an interview, but should be understandable to him so that he can tell whether the subject is interpreting the questions properly and so that he can translate the answer into codable information. First meeting addicts in the protected setting of the training sessions helped interviewers to overcome their fears of and stereotypes about addicts as well as their embarrassment about asking men to report illegal acts. As a result of this training period, once in the field, the interviewer was able to ask questions in the matter-of-fact way that makes it easy for the respondent to tell the truth without fear of shocking or upsetting the interviewer.

To summarize, the steps we followed in attempting to get accurate epidemiological data about the after-effects of drug abuse in military personnel stationed in Vietnam were the following:

- 1) We identified the population of gravest concern--male Army enlisted men who served in Vietnam during the period of maximum availability of heroin.
- 2) We selected a cohort for follow-up that constituted a simple random sample of that population. Selection was made from a roster constructed prior to their return home, so that their drug use after return could not influence inclusion or exclusion from the cohort.

- 3) We identified a high risk group within that population, men drug positive at departure from Vietnam, and oversampled that fraction of the population.
- 4) We weighted the oversampled portion into the general sample to make estimates for the whole.
- 5) We sent a non-governmental survey group, well-trained in military and drug language, out to locate subjects and interview them.
- 6) We provided the interviewers with recent addresses, names of next of kin, and help from government agencies in locating their subjects.
- 7) We allowed the interviewers to spend as much time as necessary to maximize chances of locating the subjects.
- 8) We provided payment and absolute guarantees of confidentiality to the subjects to encourage their participation in the study.
- 9) We provided the interviewers with questions to ask that had been rather thoroughly tested for directness and clarity.
- 10) We used outside verification where possible to establish the validity of responses obtained.

While we were pleased with the high rate of completion of interviews, the apparent honesty of the subjects, and the fact that our interviews provided data that challenges American stereotypes about the nature of heroin addiction, we are aware as well of the limitations of what we have accomplished. Our sample was homogeneous for nationality, sex, occupation, age, and location during a brief moment in history. The researcher likes to hold such factors constant in order to rule out spurious contaminating factors when studying the ability of other variables such as deviance, alcohol use, and prior illicit drug use to predict outcome during the post-Vietnam follow-up period. While such homogeneity is useful for analytic purposes, it compromises the ability to extrapolate from the study's findings to more diverse populations. Has this study taught us about the natural remission rates of heroin addiction or only about relapse rates of addiction in this particular time, place, and population? Not being able to answer this question is disquieting. However, my conviction is that we should try to be content with these limitations for the present. The degree to which our findings are generalizable will become clear in time as other equally carefully controlled studies are done

in other countries, at other times, and in other populations. Successful replication is a more convincing proof for the universality of findings than is the use of heterogeneous populations in single studies.

I am more concerned that our results seem to provide few clear directives for public policy. Although a surprising number of addicts remitted and either quit narcotics entirely or used them only occasionally, it was not clear whether the government's response to the Vietnam heroin problem accounted for this high rate of remission. Soldiers in treatment programs did no better than soldiers not treated; heroin users detected at departure did no better than users who escape detection. However, the men all experienced the threat of having to pass the urine screen before they could leave Vietnam, and it was also government policy to send them home--and thus away from a cheap, ubiquitous supply of pure narcotics--after only one year's tour of duty in Vietnam. But whether the urine screening and detoxification program and the year's rotation accounted for the high remission rates or were irrelevant is something we cannot judge because all soldiers in our sample were exposed to these programs. In any epidemiological study, one can evaluate the effects only of those programs which are not applied uniformly, so that people experiencing the program can be compared with people not experiencing it to see which group fares better. As for practical results, our study produced more "don'ts" than positive recommendations. It seemed clear that there was no point in establishing large treatment facilities for these men because they neither wanted them nor finds using narcotics into treatment, since he seemed to be just as likely to do well if he were not treated.

Again let me remind you that this study was carried out under extraordinarily favorable circumstances in terms of funding, governmental support, and public interest. We do not know how much of these abundant assets were really necessary to obtain accurate results. We do at least know now that a large epidemiological study of drug abuse can be carried out by interviews with a general population whose drug use is known neither to police or treatment facilities and can produce interesting and accurate information. Whether the requirements for such a study can be reduced sufficiently to make feasible repeating it at intervals so that it can be used to monitor changes in levels of treated and untreated drug abuse in the nation remains to be seen. If it cannot be repeated routinely and inexpensively, we will need to find other and easier methods by which levels of drug abuse can be monitored if we are to evaluate the effects of government programs.

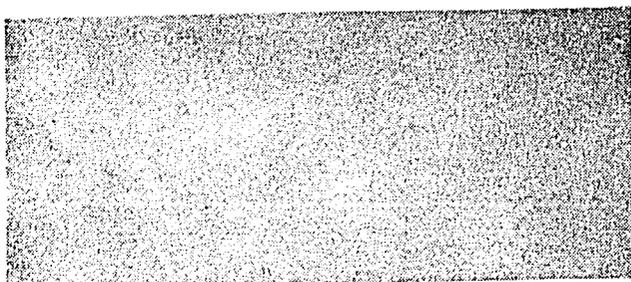
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The Measurement of Prevalence, Incidence and Patterns of Drug Use in the U.S.

by

Dr. Louise G. Richards, PhD



The word "epidemiology" is in the title of our Conference and also the name of an important program of research in the National Institute on Drug Abuse in the United States. The terminology and methods of epidemiology have not always been employed in the measurement of non-medical drug use in the United States. Although I cannot document the actual first use of certain terms, I believe epidemiological concepts came into use when the medical model of addiction came back into favor, about the time of the passage of the Narcotic Addict Rehabilitation Act in 1966.

From the early 1920's until the mid-1960's, the statistics used to characterize the extent of non-medical drug use in the U.S. were a reflection of enforcement activity.

Dr. Richards is the Acting Chief of the Behavioral and Social Sciences Branch of the U.S. National Institute on Drug Abuse.

They consisted of numbers of individuals arrested for possession of "narcotics", as defined under the Harrison Narcotics Act of 1914 and the Marihuana Tax Act of 1937, and seizures of contraband or illicit drug supplies. Data were available from the two Public Health Service hospitals in Lexington, Kentucky, and Fort Worth, Texas, but their main purpose was to describe the characteristics of the hospitalized population, not to estimate the size of the addict group nationwide. Beyond the focus on those who came to the attention of enforcement agencies, there was little attempt to discover how many cases of addiction or non-medical users of drugs existed nationwide. Several excellent sociological studies of non-medical drug use were conducted during that period that are now classics in the field. But these were usually carried out in a single community, an institutionalized population, or a single occupation. Dr. Lee Robins' study of young Negro males in St. Louis virtually stands alone as one in which estimation of incidence and prevalence in a population sample was an aim.

The objective embodied in the title of the conference and discussed in this paper was hardly in sight before 1965. The distribution of addiction, use, and their medical aspects was not of paramount interest. The need for a nationwide estimate of non-medical use of all psychoactive substances was seldom, if ever, mentioned. Recent history has made the need a salient one, not merely because we have changed our idea of addiction, but also because increasing drug use has made it a national concern.

The evolution from legal to epidemiological approaches has allowed the picture of non-medical drug use to be elaborated in several new ways. Two frequently used terms are in the title of this paper: The extent of use (or dependence) at one point in time, usually referred to as prevalence, and the rate of occurrence of new users or addicts in a given time period, referred to as incidence. Another concept from the epidemiological approach is the epidemic and the tracking of increases and decreases in use through space and time. Third is the attention given to the sequelae or consequences of use such as serum hepatitis, overdoses, accidents, and flashbacks, which vary from drug to drug. We think in terms of populations at risk and of different levels of risk. Finally, we ask about the etiology or knowledge of causation of both use and the sequelae of use, another concept familiar to epidemiology. All of these concepts and others have illuminated the measurement of non-medical drug use in the past ten years.

*Robins, Lee N. and George E. Murphy. *Drug use in a normal population of young Negro men. American Journal of Public Health* Vol. 57, No. 9 (September 1967), pp. 1580-1596.

Let me stop here, however, to throw some cold water on these glowing words. Despite the evolution to the epidemiological approach and improvement in sophistication of methods, we have by no means arrived at a statistical Utopia. The attempts to obtain better and more useful measures have fallen far short of models set in other fields such as mental health or alcoholism. For example, we have not yet determined to anyone's satisfaction the nationwide prevalence of opiate dependence counting the so-called "hidden users." The estimates of incidence and prevalence of the use of opiates and the other substances gained from sample surveys are difficult to interpret and generalize. The counting of deaths, accidents and other sequelae is in a primitive state. So we are not in a very good position to advise other nations on the most successful strategies in this field of endeavor. We can only relate our experiences and hope that others may benefit, perhaps as much by our failures as by our successes.

The United States as a nation has certain characteristics that operate uniquely against complete success in these measurement goals. One is the large size of the country, both in land area and population. Estimating these phenomena for the entire nation is an arduous task, to insure representativeness and comprehensive coverage of the population. Another consideration is the diversity of the population, requiring in some cases the translation of questionnaires into other languages and the recruitment of interviewers from a variety of ethnic groups. A third condition of this type of work is the American value placed on individual freedom and privacy, involving research subjects' rights of informed consent, confidentiality of data, and refusal. Much as we treasure them as rights, they may mar the perfection of a sample or leave gaps in the data to be analyzed. The history of drug legislation in the U.S. is such that users of narcotics in particular are extremely reluctant to reveal their practices unless they have already come to the attention of the police. The autonomy of state and local governments and the diversity of their methods of recording work against simple compilation of data from all geographic units. With all these obstacles to easy measurement, perhaps we should be grateful for limited success.

The United States also, of course, harbors some conditions that are uniquely favorable to the measurement enterprise. We have resources of funds and trained scientists for carrying out the necessary studies. We also have, despite the reluctance of addicts to reveal themselves, a populace accustomed to being queried on many topics from the popularity of their President to the efficiency of their laundry soap. In general, unless they feel they may be compromised by their responses, North Americans are refreshingly open in their replies to surveys and polls. They also accept the principle that social problems can be solved or

ameliorated with rational approaches, including research. For these advantages, we are grateful.

Thus the epidemiological approach has contributed fruitful concepts and methods to study of non-medical drug use in spite of the handicaps peculiar to measurement in the U.S. This approach has also attracted into the field a number of talented epidemiologists experienced in the study of other phenomena. It would be short-sighted, however, to think of epidemiological concepts and methods as the perfect and complete approach. Drug use, dependence, and their consequences are not medical in all their manifestations. They lend themselves well to certain concepts drawn from fields other than medicine, among them these socio-cultural approaches (1) consumer behavior, particularly behavior of the "black market" variety; (2) social deviance; and (3) effects of cultural change and diffusion of material culture. Methods used to measure these economic and social processes are being employed in studies in the U.S. and should be encouraged and expanded to enrich our thinking about drug use.

With this long discussion of qualifications and ca-
veats, let me proceed to sketch some of the triumphs and troubles we have had in the U.S. in trying to measure incidence and prevalence. To do this, I propose using a heuristic device in the form of a matrix to represent the major dimensions we would like to measure. I propose that a completed matrix of this form would display the important outlines of the problem and allow the planning of rational policy. I am referring to the matrix as "heuristic" because I do not realistically expect it ever to be completely operational. But it serves a useful purpose in showing what is available and what is lacking and often suggests new possibilities of relationships that might not have occurred to us otherwise. (See Figure 1 on the next page).

The matrix displayed here represents the major estimates of incidence and prevalence that have been important to the government and to the public. Eventually we would like to fill all the cells with reliable, valid data, but we are far from that goal. We can traverse separate areas of the matrix and review the methods used and levels of success attained. However, it is still just a matrix and certainly does not represent the richness and depth of knowledge that we need and want to deal with the problem.

First, it is obvious that we are interested in more than one substance. The various classes of illicit psychoactive substances of concern in the U.S. are listed in the left margin. These are classes of substance and could have included a number of sub-classes, such as "hashish" under "Cannabis." Alcohol and tobacco are omitted not because we do not recognize their functional similarity to other psychoactive substances, but only because they are separated

Figure 1.

HYPOTHETICAL MATRIX FOR DISPLAY OF
NATIONWIDE DATA ON NON-MEDICAL DRUG USE

Substance Categories	RISK LEVELS IN USAGE			Cases in Treatment	Criminal Cases	ADVERSE CONSEQUENCES	
	Exposure	Current & Occasional	Current & Regular			Individual	Social
	A	BB	C	D	E	F G H I J K L M etc.	
Opiates							
Cocaine							
Cannabis							
R _x Sedatives							
R _x Stimulants							
Hallucinogens							
Inhalants							
Multiple							

administratively in the organization of the Department of Health, Education and Welfare. We do try in as many ways as possible to tie our research to the work going on in these related fields. Other than alcohol and tobacco, the list represents the psychoactive substances of greatest concern today. We could have added other substances known to be used non-medically by some individuals--tranquilizers, and over-the-counter sedatives and stimulants, for example--but abuse of these is not observed frequently. We have added the last category, multiple or poly-drug use, to represent our most recent concern that a number of individuals are using more than one substance simultaneously or interchangeably.

INDIVIDUALS AT RISK

Columns A, B, and C represent the behavior of individuals, or actual use of these substances in the population. The three columns represent increasingly serious use or varying levels of risk from experimentation to dependence. Column A, "Exposure," represents all individuals who have used the substance a few times or have not used it at all for some defined period of time. Column B represents all those using currently at greater frequency than once or twice, but not regularly. Column C represents those individuals of greatest concern, regular users, who would in most cases exhibit dependence on the substance (as defined by the World Health Organization). In defining occasional or regular current use, for practical purposes, different frequencies must be assigned for each. Although daily use of opiates is frequent enough to define it as regular use, daily use of LSD would be an unlikely occurrence, so a different frequency must be set for the definition of regular use. The arbitrary nature of these definitions does not satisfy the most orderly minds, but is a realistic solution at this time.

Nationwide survey data from 1972 are now on hand for filling this set of cells for every substance. (See Table 1 on the next page). The National Commission on Marihuana and Drug Abuse first surveyed a scientifically drawn sample of the general population in 1971 and repeated the survey in 1972*. The National Institute on Drug Abuse is continuing this effort in a third survey later this year.

*National Commission on Marihuana and Drug Abuse.
Drug Use in America: Problem in Perspective. U.S. Government Printing Office, Washington D.C. 20402, March, 1973.

Table 1

(National Commission on Marihuana and Drug Abuse)

REPORTED EXPERIENCE WITH DRUG USE BY AMERICAN YOUTH AND
ADULTS, 1972

	Youth (N=880) %	Adults (N=2411) %
Proprietary sedatives, tranquilizers, stimulants*	6	7
Ethical sedatives*	3	4
Ethical tranquilizers*	3	6
Ethical stimulants*	4	5
Marihuana	14	16
LSD, other hallucinogens	4.8	4.6
Glue, other inhalants	6.4	2.1
Cocaine	1.5	3.2
Heroin	0.6	1.3

**Non-medical use only*

THE INCIDENCE AND PREVALENCE OF MARIHUANA USE AMONG YOUTH
AND ADULTS, 1972

	Youth %	Adults %
Ever used	<u>16</u>	<u>14</u>
Use now	8	7
No longer use	7	7
No answer	1	0

You will note, however, that the levels of use labeled in Table 1 are not precisely the same as columns A, B, and C of the matrix. The data do exist in the form shown in the matrix, but have not yet been analyzed in that way. The National Commission's reports provided figures for individuals who "Ever used" one or more times, and figures for current use. In my view, the "Ever used" figures, which are reported pervasively in surveys in the U.S., are far less interesting and meaningful than the distinctions between exposure, current occasional use, and current regular use proposed in the matrix. Not only are the relative proportions of these three types important to know about, but the changes in them over time are excellent indications of trends in the seriousness of use. In estimates of cigarette smoking or alcohol use, for example, there is a world of difference between those who use occasionally and those who use regularly. The "Ever used" category, unfortunately, lumps together those who may only have "tasted" a substance once with those whose entire lives revolve around a regular drug habit. Another flaw in the "Ever used" statistics is a logical one—that estimates taken over a period of time in the same population can only show increases, since the statistics are an aggregate of individuals' cumulative use. Many surveys have been done where these detailed data were collected but not analyzed sufficiently to report in the publications. We intend in future official surveys to report at least the three levels of use described and hope that other survey reports will provide similar categories for comparative purposes.

We are pleased that we can continue the surveying of the general population that was started in 1971, but we are not naive about the shortcomings of household interview surveys for measuring all kinds of drug use. We recognize that drugs used by the more marginal members of society, by "street people", for example, are not apt to be perfectly measured in household surveys. We are resigned to the likelihood that rates for heroin and cocaine will be underestimated in the general population surveys. Not only are certain types of persons systematically "missed" in household surveys, but the responses of those who are reached rank low in validity. Explorations of other means of measurement should be continued to supplement and cross-validate the data obtained through sample surveys.

U.S. scientists have been creative in developing other means of measurement, though none would grant that the results are immune to criticism. The major challenge is the determination of the size of the population of "hidden users," of the "hard" narcotics, those individuals who continue to purchase substances and use them without encountering the enforcement or treatment systems. These efforts to estimate the population of narcotic addicts with non-survey techniques have usually employed either enforcement or

treatment data. Some of the methods currently being explored are:

1. The "capture-recapture" method adapted from ecology. Successive samples are taken of a universe of unknown size with the aim of measuring the size of the total universe*. Proportions of individuals "tagged" in earlier samples and seen later in successive samples allow estimates to be made of the total group. The "samples" of addicts in this application are opportunistic, however, consisting of data on drug-related deaths or cohorts of arrestees. A number of fragile assumptions are necessary for these projections to be accepted with full confidence.
2. Another method is to determine from available addict interviews the ratio of treated to untreated addicts. Since the number of treated addicts is known, the final step is simply to solve for X. The validity of the results depends of course on the representativeness of the original group from which the ratio was obtained.
3. Third, attempts have been made to project a total from existing figures on "indirect indicators" such as serum hepatitis. Serum hepatitis rates are known to rise and fall with intravenous use of illicit drugs. If the rate is known in a community that also has a valid estimate of all narcotics users, a ratio can be calculated and applied in other areas where the indirect indicator rates are known. Two hazards exist in this method: Few communities have valid estimates of total user population, especially of the more dangerous drugs; and serum hepatitis rates are subject to underreporting and uneven reporting.** The basic principle could be applied to any indirect indicator with those assumptions satisfied.

The demand for accurate estimates of heroin and cocaine use keeps scientists working on these and other methods that do not rely on household surveys. The survey method appears to have more utility in measuring use of marijuana

* Greenwood, Joseph A. *Estimating the number of narcotic addicts*, Washington, D.C., Bureau of Narcotics and Dangerous Drugs, United States Department of Justice, 1971.

**Also, distinctions between Serum hepatitis (Viral hepatitis type B) and infectious hepatitis (type A) are not made consistently in all locales.

and hallucinogens and non-medical use of the prescription drugs. Assurance has come from replication of these results in several studies, and also from methodological studies designed to assess validity. Testing of the method has shown that respondents are not as reluctant to admit to use of marihuana, for example, as many have feared.

CASES IN TREATMENT

Column D represents clients or patients admitted to treatment facilities, and is an important set of statistics for many purposes. Ideally, these figures should be reported as rates computed on the base of user totals. But neither set of figures is solid enough to attempt such a refinement. Nevertheless, these data are essential for government planning and budgeting. The figures developed to date in the U.S. are reliable for cases in treatment at government-supported facilities where funds are earmarked for data collection and the forms are standardized with explicit instructions for completion. Our confidence diminishes quickly when trying to add data from non-government supported facilities.

(See Table 2 on the next page).

The most recent data from CODAP* are seen in Table 2. Although the cases have been tabulated according to treatment for different drug types, the figures should not be interpreted as a true reflection of need for treatment by drug type. The data reflect instead the fact that many opiate-treatment facilities were established early when no other treatment was fundable under law. Treatment for other types of drug use has become eligible for support only in the past few years, and is not as widely known or used. Also, it is true that turnover of cases is high and admissions may represent duplications of individuals. Also, treatment for the so-called "soft" drugs is less clearly differentiated as "drug" treatment in the minds of directors or clients, since it is often located in a general purpose crisis center, "rap house" or drop-in center.

CRIMINAL CASES

Criminal statistics were among the earliest reported

*Client Oriented Data Acquisition Process.

Table 2

CLIENT ORIENTED DATA ACQUISITION PROCESS
 MONTH-TO-MONTH COMPARISON OF ADMISSION DATA
 PRIMARY DRUG OF ABUSE

PRIMARY DRUG	TOTAL	JUL 73	AUG 73	SEP 73	OCT 73	NOV 73	DEC 73	JAN 74	FEB 74
Total Admissions Reported During Month	58,548	6087	6727	6750	7553	7503	7224	8258	8383
PERCENT OF CLIENTS ADMITTED									
Heroin	50.8	62.9	61.8	62.5	61.6	60.3	58.5	60.7	58.1
Illegal Methadone	1.5	1.2	1.2	1.9	1.3	1.5	1.7	1.6	1.4
Other Opiates	1.9	2.0	2.0	2.1	2.0	2.0	1.9	1.8	1.7
Alcohol	3.1	2.9	2.5	2.3	2.7	2.9	3.7	3.4	4.2
Barbiturates	6.3	6.1	6.1	6.2	7.3	6.4	6.1	5.5	6.4
Amphetamines	4.8	5.7	5.3	2.6	5.0	5.0	4.3	4.3	4.3
Cocaine	1.1	0.8	1.0	1.3	1.2	1.2	0.8	1.0	1.2
Marihuana	12.7	9.8	11.7	12.3	11.5	12.9	14.8	13.6	15.1
Hallucinogens	2.7	2.7	2.5	2.3	2.8	2.7	3.2	2.7	2.6
Psychotropics	0.6	0.5	0.6	0.6	0.5	0.7	0.6	0.6	0.5
Inhalants	1.0	1.1	0.9	1.2	1.0	1.1	0.9	0.9	0.8
Non-Prescription	0.2	0.2	0.3	0.2	0.1	0.3	0.2	0.3	0.2
Drug Not Indicated	3.3	4.1	2.5	3.0	3.0	3.0	3.3	3.6	3.5

NOTE: The following percentages indicate the reporting rate of expected CODAP units during the above listed months: July, 60% (est.); August, 67%; September, 67%; October, 60%, November, 65%; December, 73%; January, 65%; and February, 69%.

for gauging the extent of opiate addiction. In the days when non-medical drug use was confined primarily to the substances defined as "narcotics" or covered by the Marihuana Tax Act, the number of individuals found by the police in illegal possession of the substances may have been a rough approximation of the situation. Now no one seriously believes that the number of criminal cases, whether arrests, convictions, or incarcerations, represents the full extent of illegal possession. The large increases in the use of substances such as marihuana have made it impossible for the police to arrest all such cases. Both diversity in state and local laws on possession and unknown variation in level of police effort applied to drug cases from one jurisdiction to another, diminish the utility of criminal statistics as an indicator of the extent of use.

Criminal statistics are important in their own right, however, as a indication of the effect on individuals and society of the involvement of police, courts, and corrections. Also, figures on users in prisons are sometimes necessary in certain other calculations, as part of an institutional population not available for sampling in household interviews. The quality of arrest statistics, it is recognized by many, depends almost entirely on the motivation and competence of hundred of local police organizations who must supply the raw data. We have come to rely on the criminal statistics published by the U.S. Department of Justice (the annual FBI Crime Reports), but must be constantly alert to factors that may affect the reporting.

ADVERSE CONSEQUENCES: INDIVIDUAL [REDACTED]

It is true of criminal statistics and most of the remaining data to be described that they are collected for purposes more general than that of drug use or dependence. For that reason, the drug-related data coming from these sources is subject to all the shortcomings inherent in these general systems plus the additional distortion of characterization or definition. For example, drug-related death statistics ordinarily are not collected for that purpose alone but are part of a larger system of data reported by medical examiners and coroners. As such, the data are subject to all the flaws that such systems may have, among them-under-reporting by private physicians, inaccuracies in toxicological analyses of autopsies, and uneven practices among the jurisdictions. Added to these is the lack of clarity in definition of "drug-related death" in many systems, which may include cases where drugs were only incidentally involved along with the unambiguous cases of overdoses. One of our most promising projects this year is work on standardization of a form and collection of drug-related death data nation-

wide, with the hope that cities will collect more consistent information with this form in the future.

One exception to the above situation is a program of drug-related emergency cases designed especially for the purpose in a selected group of emergency rooms across the country. DAWN is an acronym for Drug Abuse Warning Network, a system designed by the Bureau of Drug Abuse Control (now the Drug Enforcement Administration) to help in alerting officials to the latest patterns of abuse. A group of emergency rooms and medical examiners in 23 cities cooperate in sending information on current drug-related cases. Both medical and non-medical use may be involved.

(See Table 3 on the next page).

The absolute figures coming from these reports are not as important as the patterns of frequency of mentions and geographic concentrations for the different substances. Again the value of the data depends on the competence and motivation of the cooperating units. Also, like all production of standard information by diverse individuals, the questionnaire form and instructions for its use must be carefully developed to prevent production of ambiguous data.

Other sources of data on adverse consequences in which we are intensely interested have not yet been developed for purposes of nationwide reporting. The ones described below are in the early stages of development or at best show hopes of being realized:

Vehicular Accidents

A few scattered studies have been made of involvement of drugs in highway accidents, but we are far from the point where nationwide estimates can be made.* Dr. Mark Greene on this afternoon's program has recently completed a survey of consequences of use for individuals and found that the method yielded very low figures for drug use and even lower for consequences attributable to them. It is too early to jump to a conclusion that such rates are actually as low as the results indicate. The method itself may be inappropriate for this purpose since it depends on individuals' perception of causation, a process that is easily subject to distortion.

Accidental Poisoning

Although vital statistics on accidental poisoning by

*"Drugs" here excludes alcohol. Many studies have been conducted on involvement of alcohol in accidents.

Table 3

DRUG ABUSE WARNING NETWORK
HOSPITAL EMERGENCY ROOM REPORTS

DRUGS MANTIONED	OCT 73	NOV 73	DEC 73	JAN 74	FEB 74	MAR 74
Tranquilizers	2585	2661	2545	2883	2599	2967
Non-Narcotic Analgesics	1323	1259	1178	1463	1221	1414
Barbiturate-Sedatives	1331	1222	1214	1330	983	1088
Non-Barbiturate Sedatives	1062	1043	956	1021	934	1113
Narcotic Analgesics	1000	936	985	1040	964	979
Hallucinogens	362	383	367	379	267	383
Stimulants	324	314	255	325	300	265
Marihuana-Hashish	335	303	238	306	229	261
Inhalants	90	75	56	61	72	88
TOTAL MENTIONS	8412	8196	7794	8808	7569	8558

drugs are reported annually by the National Center for Health Statistics,* it is not possible yet to focus on poisoning due to non-medical drug use. The categories are listed by drug type only, without reference to detailed motives for use. This situation exemplifies the problem described earlier, wherein pertinent data systems exist but the means of extracting special kinds of information from them is severely limited.

Serum Hepatitis

Our interest in serum hepatitis rates as data on adverse consequences of drug use comes from common observation that this disease fluctuates regularly with intravenous drug use. The rates are available for the nation and for states and major cities through the Public Health Service's Center for Diseases Control Program. Again, since they are not collected for our specific purposes, they cannot be expected to reflect drug-related illnesses without error. Also, there is recognition that private physicians may not report completely or consistently. They should not be used as an index to the larger universe of intravenous drug users.

Births to Addicted Mothers

There is interest in extracting these data on births, but so far there is only one crude estimate available from New York City.

Obviously, there are a number of other consequences that might with extra effort be developed into nationwide information bases to provide further illumination of the problem: Other diseases transmitted by hypodermics, such as endocarditis; recurrences of hallucinogenic effects ("flashbacks"); physician visits; and admissions to mental hospitals, are a few. Special programs are required, however, to assure that the data can be precisely extracted to characterize conditions specifically related to non-medical drug use.

ADVERSE CONSEQUENCES, SOCIAL

The last section in the matrix is the least well-developed yet may have the most profound implications for the

*Vital Statistics. U.S. National Center for Health Statistics, Rockville, Maryland, 20852, 1973.

future of a society. The social and economic consequences of non-medical drug use are of great interest to sociological researchers, but the facts for interpretation seem inordinately slow in coming. Ideally, one would like to know the extent of effects on employment, education, and family life, to name a few. So far, in the United States, only one source of information is available to estimate the effect on the economy, and that exists only for selected cities. In certain cities the public assistance programs that provide aid to the poor or disabled include information on addicted persons receiving aid. Of course the public assistance programs are only one facet of the economy and broad conclusions cannot be drawn from the data about drug addicts on welfare.

It is true of all the potential data systems described here that overnight success cannot be expected when the larger traditional systems must be revised to provide consistent drug-related information for the entire nation. For a country as large as the U.S. this can be achieved only with a direct infusion of new resources, willing cooperation and enduring patience.

Before summing up, let me make one overall comment on the matrix from which much of this discussion was launched. It is this: Cells with numbers representing drug types and epidemiological dimensions are not the only picture of non-medical drug use that we seek. The matrix, as presented here, is only the surface of many questions we try to answer. For one thing, the parts are not interrelated. To be more useful, the adverse consequences for any one drug type should be shown as rates, with number of cases of treatment, arrests, illness, and the like as the numerator and incidence or prevalence figures in the denominator. For another thing, the matrix is time-bound. To be more useful, numbers in the various cells should be projected over time to observe how each facet of the problem changes. We are still not able to do this satisfactorily, because the baseline data themselves are not free of flaws. Perhaps most importantly, the matrix ignores all the richness associated with the characteristics of users and cases. Each of the cells in the matrix could itself be subjected to social, demographic and psychological analysis of the individuals represented. Many studies in our program are precisely of that sort. Hopefully, though, the matrix has served its purpose as an heuristic device encapsulating the major dimensions of our efforts and emphasizing the unmet goals as well as the achievements.

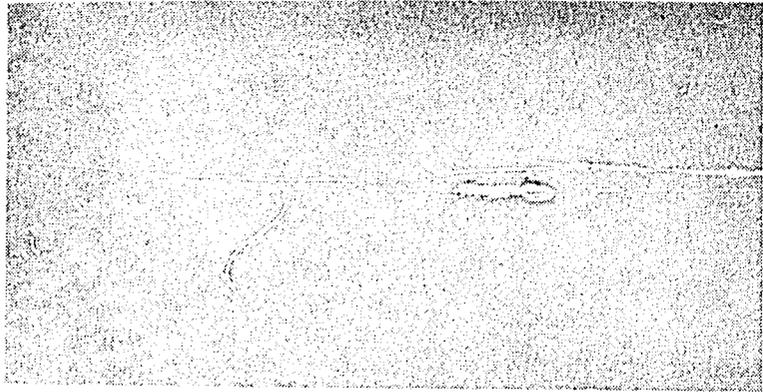
To sum up these twenty minutes, I would say that the U.S. has had a mixed experience in trying to quantify non-medical drug use. Applying epidemiological theory and method has enhanced it greatly. The attempt to characterize drug

use nationwide has been most successful in quantification of incidence and prevalence of use and cases in treatment, but is still primitive in its measurement of individual and social consequences.

Assessing Drug Abuse Trends at the Community Level

by

Dr. Mark H. Greene, MD



I. INTRODUCTION

I would like to share with you some of our experiences in attempting to assess drug use incidence and prevalence at the community level. In the United States, drug use varies widely from city to city and between different sub-segments of the general population as well. There would therefore appear to be great value in approaching the assessment of drug use patterns and trends at the local, rather than the national level. We have been involved in a series of studies in which an attempt has been made to evaluate different sources of data in order to identify those

Dr. Greene is with the Bureau of Epidemiology at the Center for Disease Control in the U.S. Public Health Service in Atlanta, Georgia. He is presently on special assignment in drug abuse epidemiology to the Special Action Office for Drug Abuse Prevention-Executive Office of the President in Washington, D.C.

which appear to have the greatest utility and validity as indicators of drug use trends and patterns (1-12).

Data of incidence, prevalence and patterns of use are of value for a number of reasons:

- a. to identify specific problems and the populations at greatest risk in order to tailor intervention appropriately
- b. to quantify the magnitude and rate of change in the size of specific problems, both to anticipate the demand for treatment services and to assess the impact of intervention strategies
- c. to facilitate early detection of new problems, permitting intervention prior to development of a new drug crisis.

Unfortunately, data of this sort are very difficult to obtain, since there really is no single, reliable indicator of drug use incidence or prevalence. Even more problematic is our inability to obtain absolute measurements of the total number of drug users or the rate at which new drug users are being created. There are one or two methods which attempt to make such determinations, but they are fraught with methodologic problems. He will discuss one of these techniques briefly, but in general the following discussion will focus on:

- a. assessment of relative, rather than absolute, changes in incidence and prevalence
- b. the abuse of heroin, although the methods are applicable to all forms of non-medical drug use
- c. highlighting areas of interest, by way of stimulating further discussion, without attempting to be encyclopedic in the formal presentation
- d. the need for using multiple indices of drug use in order to reach reasonable conclusions regarding the community under study.

Before going on to discuss specific techniques, let me state briefly our way of looking at the concepts of incidence and prevalence in relationship to drug use. As you know, incidence is the number of new cases of a disease identified in a specific population during a specific period of time. Prevalence is the total number of active cases identified in a specific population during a specific period of time. In a hypothetical situation, if an epidemic of heroin use were limited to one year, one would expect a high incidence rate during the epidemic year, and a low incidence

rate after the epidemic terminated. Incidence, then, is a measure of the rate at which a problem is growing or declining in size: it measures rate of change. In this same hypothetical situation, heroin use prevalence could remain at a high level in the post-epidemic period if many of the new users created during the epidemic remained users. Prevalence, then, is a measure of the overall magnitude of a problem. These two concepts, therefore, describe very different, albeit closely related, dimensions of the same problem. The relationship between incidence and prevalence becomes particularly important when the process under consideration is both chronic and relapsing, as dependence upon opiates clearly is. Both make considerations of prevalence more important than it might be, for example, in studying an acute, self-limited disease. Chronicity implies that the total size of the heroin using population can remain large even if incidence is reduced to a relatively low level. Similarly, since heroin use is a relapsing disease, and because incidence counts only people who became users on the first occasion they become users (by definition),* incidence measures overlook the problems that can be posed by former users becoming active users again. With respect to heroin abuse, this can be a significant problem. For example, in Washington, D.C., where epidemic heroin use has passed, nearly two-thirds of current treatment program admissions are heroin addicts who have been previously treated. If treatment capacity was determined solely on the basis of incidence (which is now low), the city would fall far short of treatment capability actually needed. One final point is that if one is able to make prevalence determinations repeatedly over time, one automatically has the ability to assess incidence as well. For example, if one determines that there are 10,000 heroin users active in the community on January 1, 1973, and later determines that there are 20,000 active users on January 1, 1974, the 10,000 new users identified during that year represents the incidence of heroin use, assuming no one has left the active group by death, incarceration or disease remission (either spontaneous or as a result of treatment).

II. INCIDENCE DETERMINATION

Now let us consider some of the specific techniques that have been employed in assessing incidence of heroin use at the local level. Again recall that we will be talking about relative changes in incidence, that is to say, is in-

*One can, of course, determine the incidence of relapse as well as the incidence of new cases.

idence rising, falling or constant at a particular point in time.

The single most useful incidence indicator for us has been the distribution of the year when heroin was first used as reported by heroin addicts identified, usually in a treatment program, but occasionally through the user's contact with the criminal justice system. Since addiction is very difficult to define in a simple, objective fashion, we have focused on first heroin use as the best indicator of an individual's first involvement with heroin. This is analogous to the use of data of diagnosis as an incidence measure in breast cancer, and makes good sense if one conceptualizes heroin epidemics as epidemics of exposure to the drug. There are two basic problems in using treatment-based year of first heroin use in this fashion. First, it is not known to what extent treated heroin users are representative of all heroin users in the community. At the moment, this is an unanswerable question. Second, there is a delay between the time an individual begins using heroin and the time he eventually decides to seek treatment. This "LAG" varies, on the average, from two to four years. Thus, treatment programs see only a relatively small proportion of people who have heroin use of recent onset. Small numbers of people reporting recent onset of heroin use may be due to this delay in seeking treatment and not at all due to the apparent low numbers of current users. It should be noted that users identified by the law enforcement system display a much shorter lag period, since their identification does not depend on the user's voluntary decision to seek attention. Suffice to say, for the moment, that we have developed a technique for correcting for this lag phenomenon which makes it possible to place much greater reliance upon treatment-based data as a measure of incidence. In the following discussion, this process will be referred to as the "lag correction." We can go into the details of that procedure in the discussion if you are interested in it.

Figure #1 presents a typical treatment program based year of first heroin use distribution. We call the curve generated in this fashion a "heroin use incidence curve." This particular set of data come from Greensboro, North Carolina, and represents the number of patients seen in that city's treatment program who reported onset of heroin use in each of the years since 1961. Note that the curve begins to rise in 1964-65, reaches a peak in 1969, and subsequently declines again. This would suggest that the incidence of heroin use in Greensboro peaked in 1969, and has been at low levels since that time. One could argue, however, that the declining portion of the curve is in fact due to the lag phenomenon, rather than a truly low incidence rate. You might say that when all the users who began using in 1972-74 eventually show up in treatment, the descending limb of the curve would change significantly. We, therefore, apply the

lag correction to these data (as indicated by the dotted line), and this reveals that even when one takes lag into consideration, incidence seems to have peaked in 1969 and has really declined sharply since that time. This type of data has now been assembled for many cities in the United States, and this distribution has a remarkably similar form in virtually all of them. Two final comments before we move on to look at other examples of how this technique can be applied. First, the data included here are only for the first admission to treatment of the patients seen by the treatment program. All patients included were residents of the city under study. If a person is admitted more than once, as is often the case, he is only counted on his first admission, since this is an incidence measure. Second, note that this method does not tell you the total number of users created during the epidemic. It only describes relative changes in incidence over time.

Application of the lag correction does not always produce a confirmation of the initial impression created by the raw incidence curve. Figure #2 shows the heroin use incidence curve from Austin, Texas. Note that the raw data (solid line) suggest that heroin use incidence peaked in 1970 and has declined since that time. When the lag correction is applied, a different finding appears (see dotted line). The lag correction suggests that, although incidence may have peaked in 1970, there may now be another upsurge in incidence taking place today. We'll return to Austin in a few moments to further examine this possibility.

An even more striking example of how the lag correction can modify the raw incidence curve is shown in Figure #3. This is the heroin use incidence curve for Jackson, Mississippi. The raw curve (solid line) is quite different in appearance than the previous curves shown, particularly in the downward limb of the curve. Note that it fails to return towards baseline as rapidly or completely as, for example, in Figure #1. This pattern has come to suggest to us rising heroin incidence, an impression that is supported when the lag correction is applied. This suggests a current problem of rapidly rising incidence in this community.

Thus far, we have only used two pieces of information: year of first heroin use and year of first admission. This tool becomes much more powerful when other demographic variables such as residence, race and sex are included in the analysis. For example, Figure #4 presents the heroin use incidence curve for all patients first admitted to the treatment program in Racine, Wisconsin. Note the unusual tri-modal form of the curve. Figure #5 reveals the explanation for this peculiar distribution. The peak in 1967 is caused by Milwaukee residents who came to Racine for treatment. The 1969 peak is a combination of Milwaukee and Racine residents, and the 1972 peak can be attributed to addicts

who were residents of nearby Kenosha, which did not have a treatment program of its own. Although the numbers are small, the Kenosha curve would suggest that it is the focus of currently rising heroin incidence. This would suggest that it is possible to monitor a fairly wide geographic area from one central facility, if the appropriate information on residence is collected.

Analyzing the year of first heroin use by race can produce similar results. Figure #6 represents the heroin use incidence curve for Macon, Georgia. Note the bi-modal configuration. Even when the lag correction is applied, incidence clearly seems to have peaked and declined in this city. What is the explanation of the bi-modal curve? Figure #7 depicts race-specific heroin use incidence curves from the Macon program. It then becomes apparent that the 1969 peak was caused by a heroin problem in Macon's black community, and the 1971 peak by a problem in the white community. Both appear to be over at this point in time.

Another example of the effect of racial heterogeneity on the raw incidence curve is illustrated by the Austin data. If you recall, when the lag correction was applied to the Austin incidence curve, there appeared to be a recent increase. When race-specific incidence curves are constructed (see Figure #8), a rather complex picture emerges. There appears to have been sequential spread of heroin use from the Mexican-American to the white and finally to the black communities. Note that at the tail end of the curve, the only group that appears to be appearing in increasing numbers is Mexican-Americans. The numbers here are very small, making a definitive decision difficult. The data do suggest that the focus of rising incidence may be in the Mexican-American population of Austin.

In Des Moines, the lag correction also suggested rising incidence (see Figure #9). In this instance, sex/race specific incidence curves revealed the source of the problem. Incidence appears to be steadily declining in both black males (Figure #10) and white females (Figure #11). However, incidence appears to be rising in black females (figure #12) and white males (Figure #13).

Finally, geographic distribution of addicts within their city of residence can also play a significant role in determining incidence trends. It is known, for example, that heroin users are not uniformly distributed throughout most cities (see Figure #14). In Washington, D.C., for example, addicts were concentrated in certain areas within the city (13). Such considerations become very important in determining the best location for treatment facilities. In Pensacola, Florida (Figure #15) neighborhood "micro-epidemics" of heroin use appear to have accounted for its bimodal year of first heroin use distribution. Among the addicts for whom

the required information was available, five of the 17 addicts (30%) who began use in 1968-69 resided in residential area #32502. Of the 25 addicts who began use in 1970-72, 11 (44%) lived in residential area #32501. These numbers are again quite small, but suggestive nonetheless.

These, then, are some examples of how treatment-based information on five simple variables-race, sex, residence, year of first heroin use, year of first treatment-can provide invaluable information on trends in the incidence of heroin use.

III. PREVALENCE DETERMINATIONS

As a result of our field work, and extensive experience in using many different sources of information, we have now identified what (under current circumstances) appear to be the most reliable indices of heroin use prevalence. It should be emphasized from the outset that these are indirect measures at best, and that one must exercise a good deal of caution and restraint in interpreting the data collected. The five most reliable indices appear to be:

- a. surveys (already discussed by Dr. Richards)
- b. non-fatal drug related emergencies
(as identified in hospital emergency rooms)
- c. fatal drug abuse episodes
(as reported by the coroner or medical examiner)
- d. hepatitis B case rates among known or suspected drug users
(as reported by the department of health)
- e. rates and demographic characteristics of drug-related arrests
(as reported by the police)

Each of these sources of data has a myriad of associated problems that can make interpretation of the data very difficult. It is important to recall that, since these indices appear to reflect heroin use prevalence, the trends observed in each will tend to lag behind the trends in incidence by several years. Thus, for example, if incidence as determined above peaks in 1969 in a particular city, the prevalence indices may not peak until 1970, 1971 or even 1972 (depending on the timing and effectiveness of whatever intervention is undertaken).

The rates of drug-related emergencies, both fatal

and non-fatal, can be a valuable index of drug use prevalence trends. For example, the abuse of illicit methadone has been a problem in many cities in which methadone has been employed in the treatment of heroin addiction. In Washington, D.C., at a time when other sources of information indicated that the abuse of illicit methadone was being brought under control (12), the following data were collected by several Washington area hospital emergency rooms:

<u>Year</u>	<u>Quarter</u>	<u>Total Drug Abuse Episodes</u>	<u>Methadone Abuse Episodes</u>	
		<u>(N)</u>	<u>(N)</u>	<u>(%)</u>
1972	3	76	4	5.3
	4	308	4	1.3
1973	1	267	5	1.9
	2	255	1	0.4
	3	215	0	0.0
	4	189	1	0.5

At the same time, reports from the medical examiner's office revealed that the number of methadone related deaths had peaked early in 1972, and has declined steadily ever since (see Figure #16). Both sources of information suggested that the total number of methadone users was declining in the city, an impression corroborated by survey data, police information, and urine testing for methadone at two different locations. The problems involved in using these data are many, and include:

- a. problems of definition: what is a drug-related death? how does one reasonably conclude that a particular non-fatal adverse reaction can be reasonably attributed to the use of a particular drug?
- b. problems of proof: how does one prove that a specific drug actually was taken by someone who claims to have taken it, or someone who appears to have died as a result of drug use? The toxicology capability needed to confirm these suspicions is complex and expensive. Even with such capability, how do you classify an individual who has taken more than one drug?

There are no easy answers to these and many other questions

relating to data of this type. They are mentioned here to raise the kind of questions that must be confronted and resolved if these data sources are to be used. The answers to these questions will depend, in large part, on local considerations of technology and manpower.

Hepatitis data appear to be of value if they can be gathered in the appropriate fashion and if the problem under study is one that involves the parenteral abuse of drugs. We have made a number of different attempts to utilize viral hepatitis data in various forms (e.g., all viral hepatitis, hepatitis A case rates, hepatitis A rates in individuals between the ages of 15 and 30, etc.). The only form in which the data are reliable is when cases of hepatitis B only are used. Most reliable of all is case counts of non-transfusion associated hepatitis B. This makes good sense, of course, since only hepatitis B is etiologically associated with parenteral drug abuse. Unfortunately, interest in collecting case counts for hepatitis B has only recently begun in most communities in the United States. Thus, very few data are available in the majority of cities we have studied. The ideal form in which such data should be sought is:

- a. annual or quarterly case counts of verified (i.e., hepatitis-B-associated-antigen positive) hepatitis B in known or suspected drug users
- b. age, race, sex and residence distributions should be collected on these cases as well.

It is very rare to find such data and, in general, cases reported as hepatitis B is the best one can do. This appears to work rather well, as indicated in a special study performed for the U.S. Drug Enforcement Agency (see Figure #17). In this study done nation-wide, comparisons were made between the annual number of reported cases of hepatitis B and another estimate of heroin use prevalence developed by a DEA statistician (14). As one can see, the correlation appears to be excellent. If such data can be obtained, they appear to have some value.

Drug-related arrests can be a particularly sensitive indicator under the right circumstances. Unfortunately, such data are subject to enormous amounts of bias introduced by changes in classification and reporting of crimes, changes in the amount of money and manpower devoted to drug-related law enforcement, changes in drug-related law enforcement policy, and political considerations of a wide variety. If it can be shown that such factors are not important considerations, then drug-specific arrest data can be of value. This is particularly so since, as noted earlier, law enforcement data are relatively free of the lag phenomenon seen in treatment-based data. Thus, if a change in prevalence is occurring in the community, the first indication

may be in law enforcement data. One must analyze the data carefully in order to detect such changes. For example, most of the trend data from Omaha, Nebraska, suggested that the heroin epidemic had peaked and passed. However, there was an increase in the number of opiate-related arrests. Several additional points suggested that this might be a significant change:

1. The racial distribution of arrestees changed:

<u>Year</u>	<u>% Black</u>	<u>% White</u>	<u>% Other</u>
1973	71	24	5
1974	26	69	5

2. The age distribution also changed significantly:

<u>Year</u>	<u>Under 18</u>	<u>18-21</u>	<u>22-24</u>	<u>25-29</u>	<u>30 & Over</u>
	%	%	%	%	%
1972	6	26	19	23	26
1973	15	24	7	27	27
1974	18	40	22	13	7

Given that onset of drug use tends to occur in individuals in their early to mid teens, a rising proportion of young individuals in a population of drug users is an ominous sign. The explanation for these demographic changes is currently under investigation. The data are presented as an example of how this kind of information may provide early clues to important changes in drug use trends.

It is worth noting again at this point that none of the above sources of data allow one to make an estimate of the actual number of active heroin users. It is presumed that each of these "indicators" is related to an important way to the number of individuals using heroin and that a rise in the indicator reflects a rise in the number of heroin users. That this assumption may be incorrect ought to be readily apparent. For example, heroin overdose episodes, be they fatal or non-fatal, may increase in frequency as a result of an increase in the potency of heroin available in the streets, rather than as a result of an increase in the number of people using heroin. This kind of problem can occur in each of the aforementioned sources of information, and this is why it is so important not to rely on any one of them alone in attempting to assess prevalence trends. As many as feasible should be employed, in order to minimize

the chance of reaching the wrong conclusion. In the final analysis, nothing takes the place of common sense and refusal to over-interpret the data in allowing one to reach reasonable conclusions in an undertaking of this sort.

For the sake of completeness, I should mention the two methods that have gained some popularity in attempting to produce an estimate of the actual number of active heroin users, i.e., the absolute prevalence of heroin use. The first of these, the so-called "INDICATOR-DILUTION TECHNIQUE," had its origins in the desire by wildlife experts to estimate the number of animals in a forest or the number of fish in a lake. A lake contains an unknown number of fish represented by N. A sample of fish is caught, tagged (with a metal clip on a fin), and then put back into the lake. This initial sample is designated n₁. At some later time, a second sample (n₂) of fish is caught. Among the fish in the second sample, a certain number (x) will be fish previously tagged in the first sample. If one assumes that the two samples were completely independent of one another and that each sample is a random selection of all fish in the lake, the ratio of tagged fish in the second sample to all fish in the second sample (i.e., x/n₂) should be the same ratio as all fish in the first sample to all fish in the lake (n₁/N). Mathematically, this relationship is depicted as:

$$\text{Formula A. } \frac{x}{n_2} = \frac{n_1}{N}$$

In this example, x, n₁, and n₂ are all known. Therefore, one can algebraically solve for N:

$$\text{Formula B. } N = \frac{n_1 \cdot n_2}{x}$$

This same principle has been applied to estimating the number of heroin users (5, 15). One desires to know the total number of heroin users (N). The number of individual users identified during a particular time frame is used as the first sample (n₁). The number of users identified during a second, subsequent time frame is the second sample (n₂). The number of individuals from sample n₁ found in sample n₂ is determined (x). One can then solve for N, the total number of heroin users by using Formula B above.

This, then, is the basic principle involved in the indicator-dilution technique. Before discussing the specific ways in which this concept has been applied, let us first consider the assumptions and limitations of the method.

This method has a number of requirements which must be met if the results are to be statistically valid. These include:

- a. the two samples drawn must be independent of one another
- b. each sample must be a random, representative sample of the total number of heroin users
- c. the total number of users (N) must be constant during the study period; if not, one must be able to correct for changes in "N" that occur as a result of death, abstinence, treatment, long-term incarceration and incidence.

As can be readily appreciated, these conditions are very difficult, if not impossible, to meet under the circumstances in which we work. Nonetheless, the method has been used with some margin of success by a number of workers (14, 15).

The second method for making a direct estimate of the prevalence of heroin use in a particular locality has been developed by Hughes and his colleagues in Chicago (16-18). Using a field investigation team modelled after that in the venereal disease case finding method, these workers attempted to identify all known heroin users in selected, defined, geographic locations (neighborhoods). The center of each of these areas was a place where illegal sale of heroin was known to occur (a "copping area"). The important feature of this technique is the active nature of the case identification process. Rather than passively wait for heroin users to be identified and reported by health or law enforcement officials, Hughes, et al., became directly involved in these communities and actively sought out heroin users with the investigative assistance of former drug users with high peer status in their neighborhood. Within 6 to 12 months, these field workers were able to identify most of the known heroin users in the areas being studied. As with all the methods we have discussed, this one has its limitations as well. These include:

- a. the larger the geographic area under study, the more impractical the method becomes
- b. one must have reliable, honest field workers
- c. one must avoid any appearance of connection between the field investigator and the police authorities
- d. this method does not identify people whose source of drug is not the "copping area" under study.

Inter-cultural differences may make this method impractical, but the fundamental concept remains valuable nonetheless.

IV. CONCLUSION

This, then, is a brief summary of those incidence and prevalence determination methods we have found to be most useful. They include:

A. Incidence:

1. treatment based year of first heroin use as an incidence index (with the lag correction concept)
2. race, sex, and residence specific incidence data

B. Prevalence:

1. Surveys
2. fatal drug abuse episodes
3. non-fatal drug abuse emergencies
4. hepatitis B case rates
5. rates and demographic characteristics of drug arrests
6. indicator-dilution method
7. epidemiologic field worker method.

Each has its problems, but each can also contribute to a better understanding of incidence and prevalence trends when appropriately used.

FIGURE 1

YEAR OF FIRST HEROIN USE AMONG GREENSBORO N.C. RESIDENTS ADMITTED TO TREATMENT 1971-1974 *

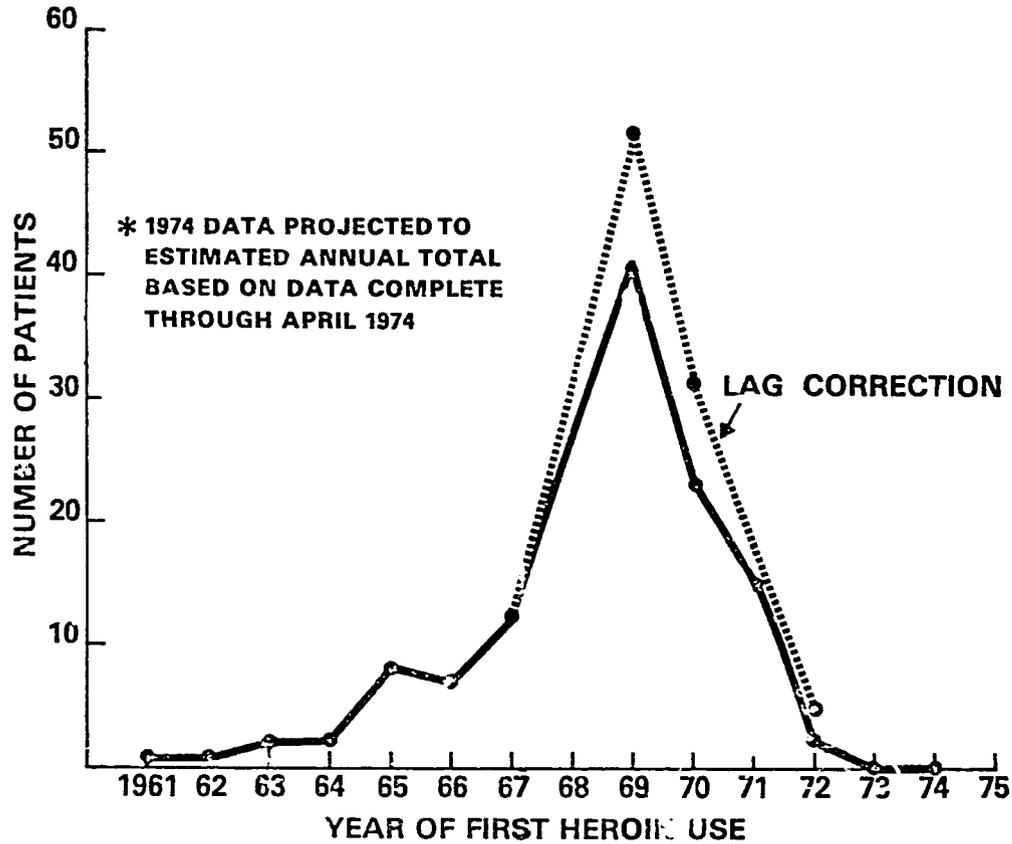


FIGURE 2

YEAR OF FIRST HEROIN USE AMONG AUSTIN ADDICTS TREATED 1970-1974 *

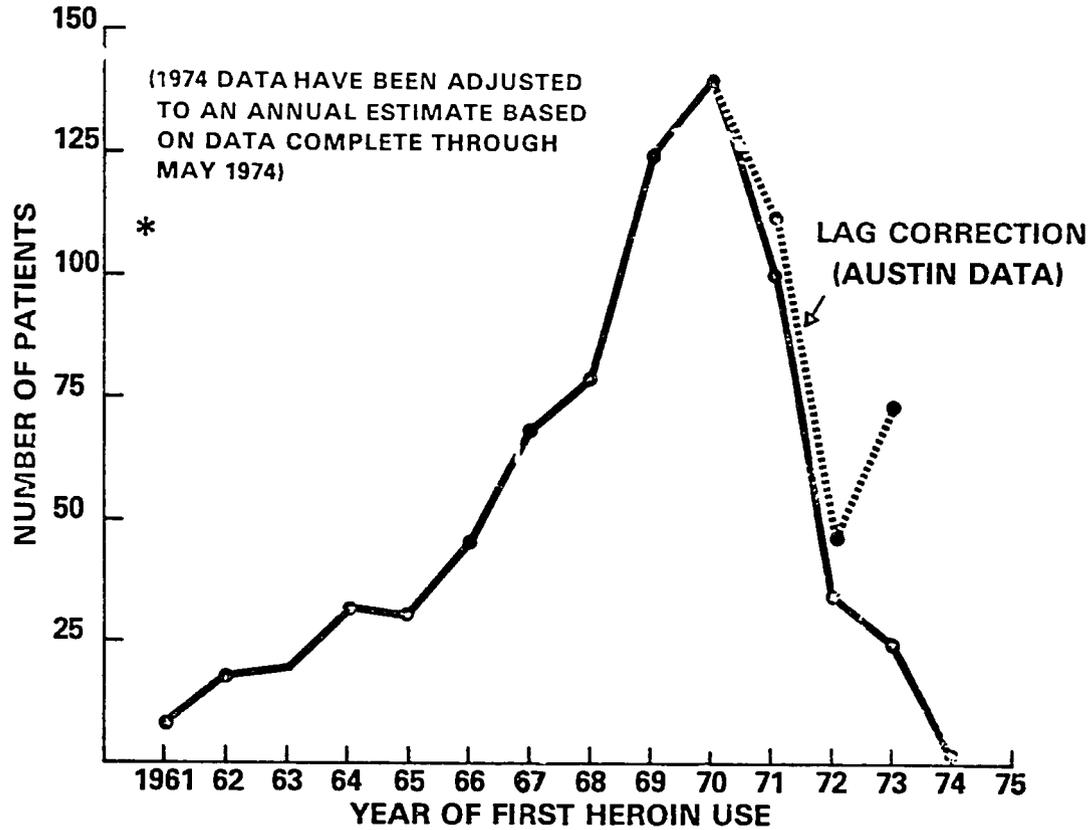


FIGURE 3

YEAR OF FIRST HEROIN USE AMONG ADDICTS TREATED IN JACKSON MISSISSIPPI

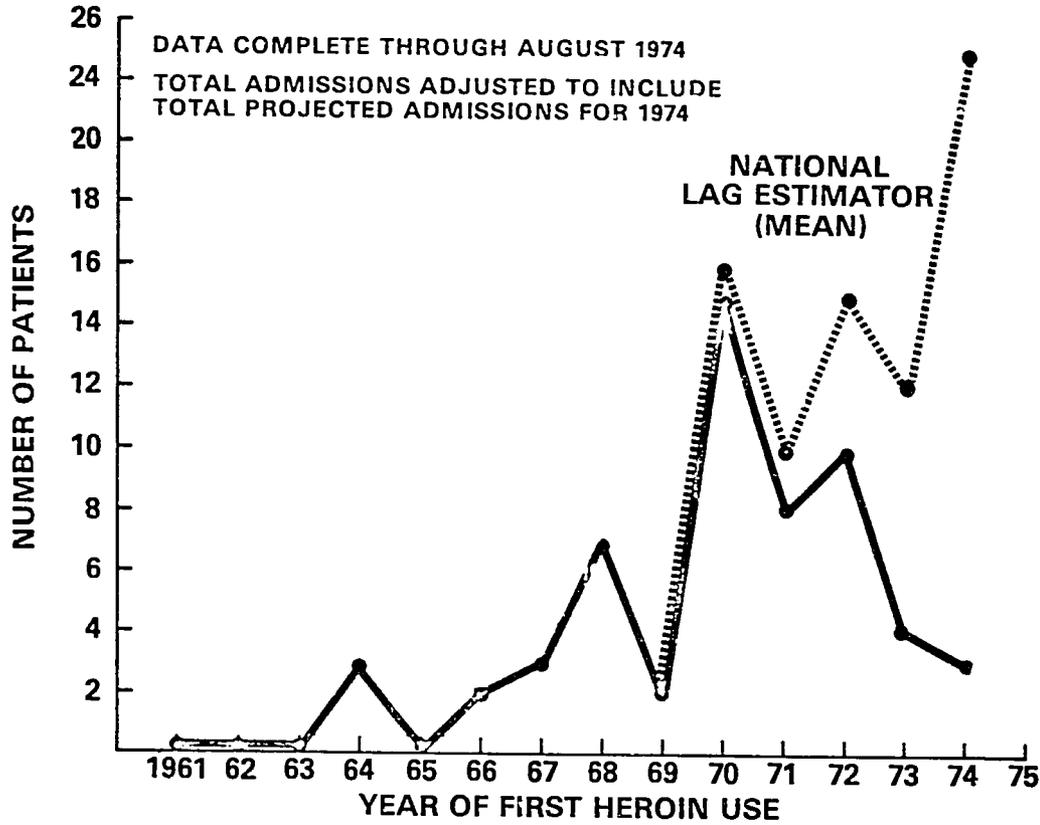


FIGURE 4

YEAR OF FIRST HEROIN USE FOR RACINE PROGRAM PATIENTS

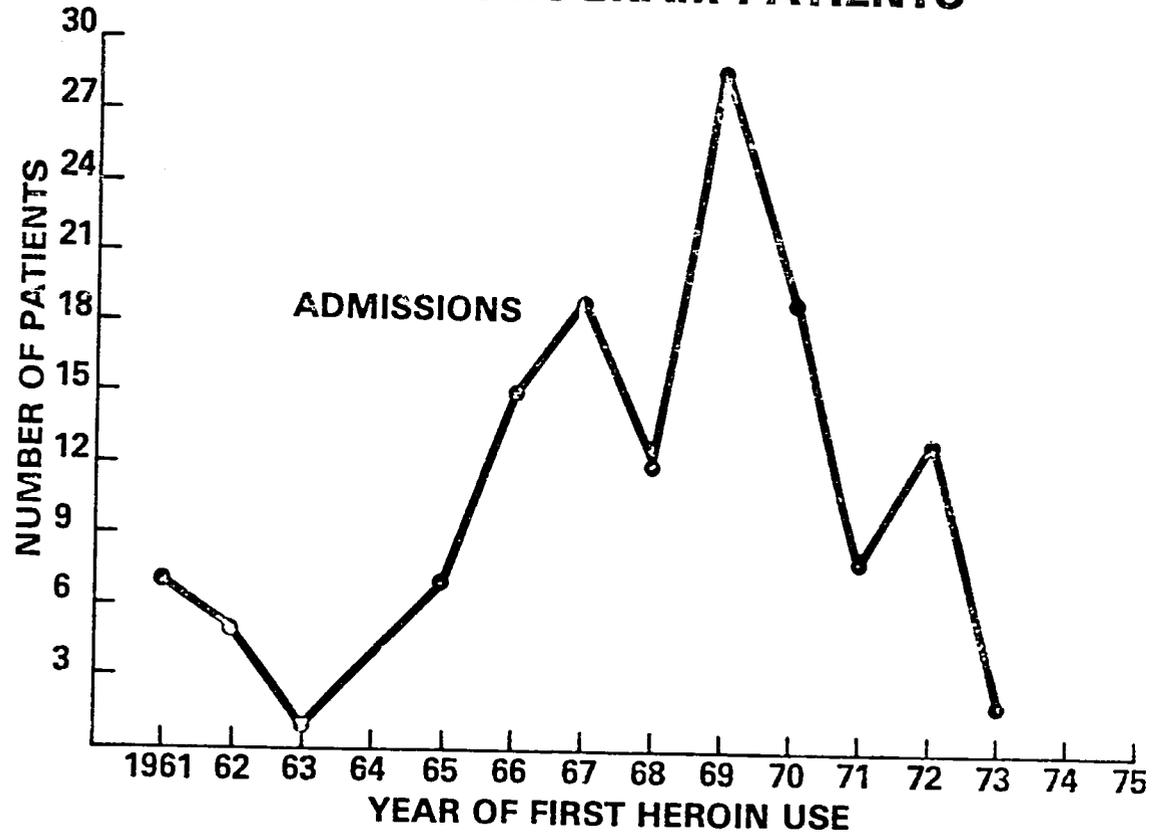


FIGURE 5

YEAR OF FIRST HEROIN USE FOR RACINE PROGRAM PATIENTS BY CITY OF RESIDENCE

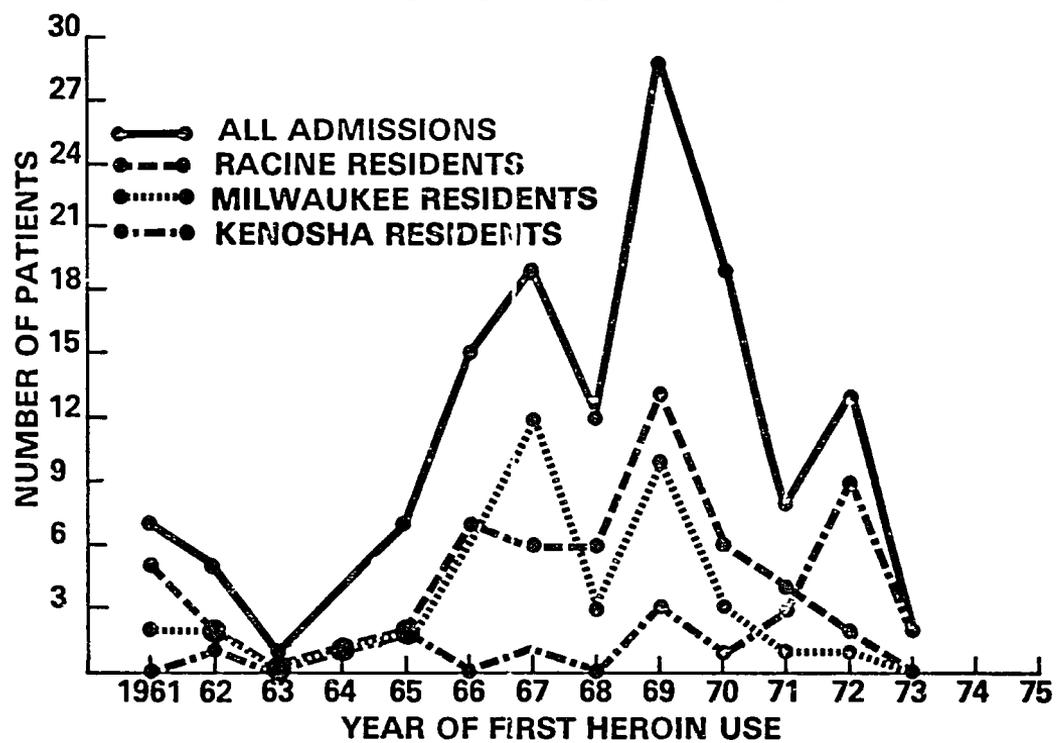


FIGURE 6

YEAR OF FIRST HEROIN USE FOR MACON RESIDENTS ADMITTED TO TREATMENT 1971-1974

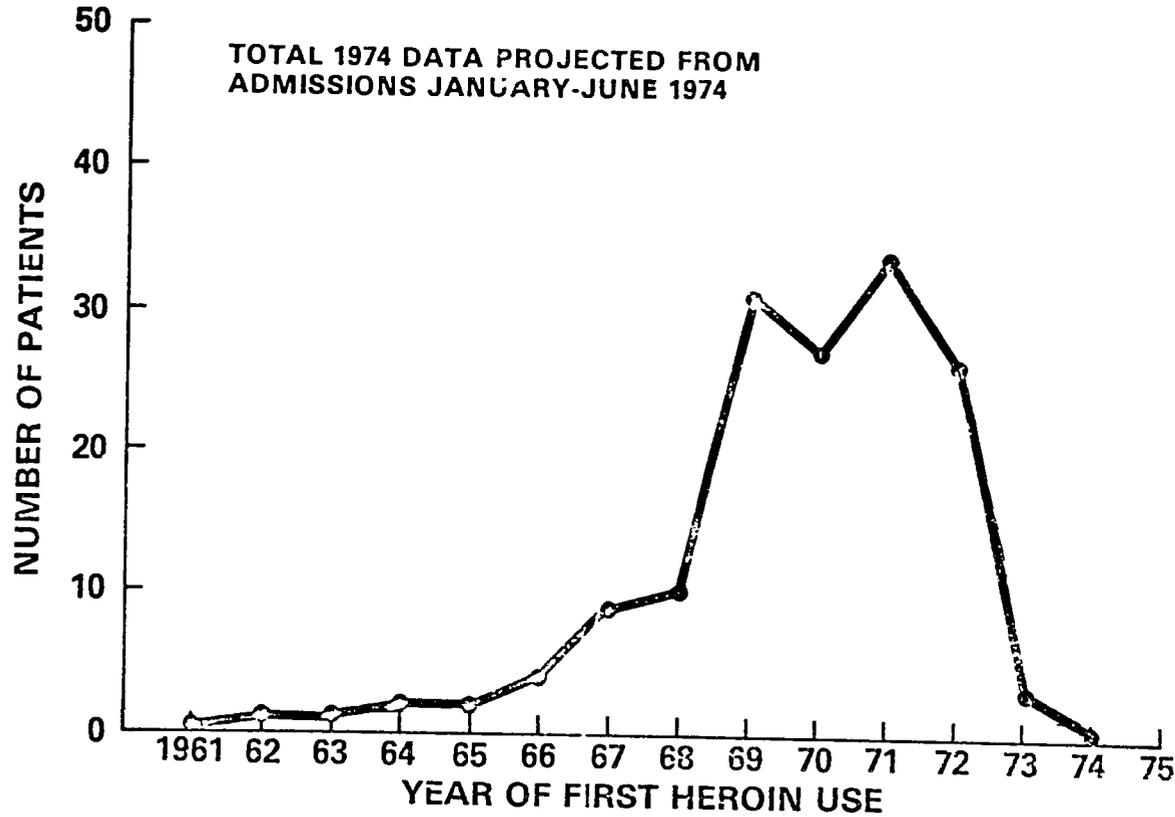


FIGURE 7

YEAR OF FIRST USE BY RACE FOR MACON RESIDENTS ADMITTED TO TREATMENT 1971-1974

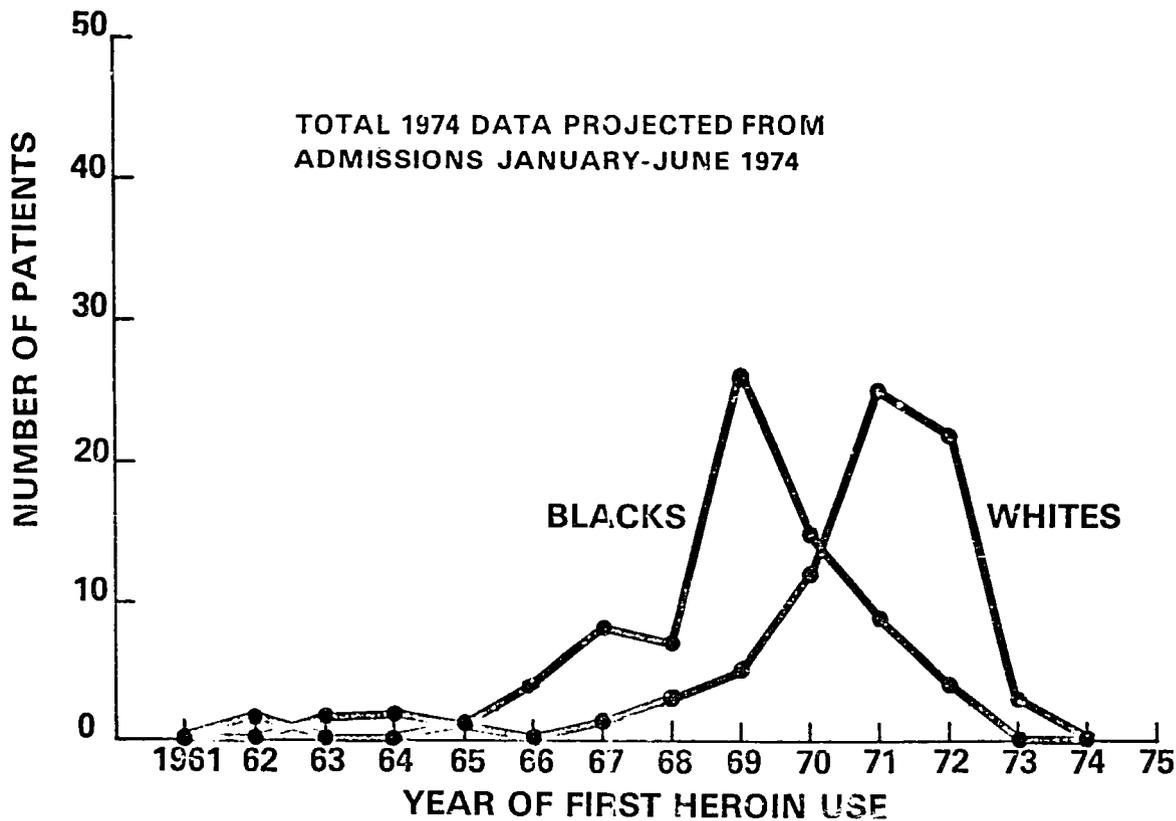


FIGURE 8

YEAR OF FIRST HEROIN USE AMONG AUSTIN TEXAS ADDICTS TREATED 1970-1974: BY RACE

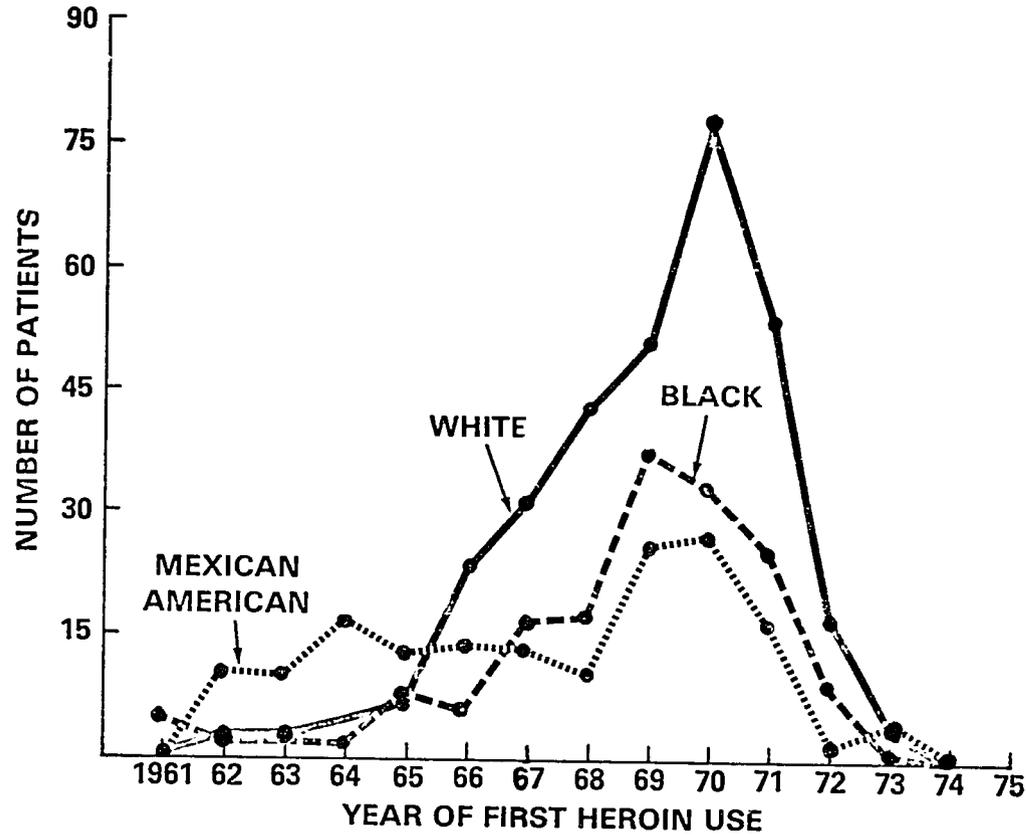
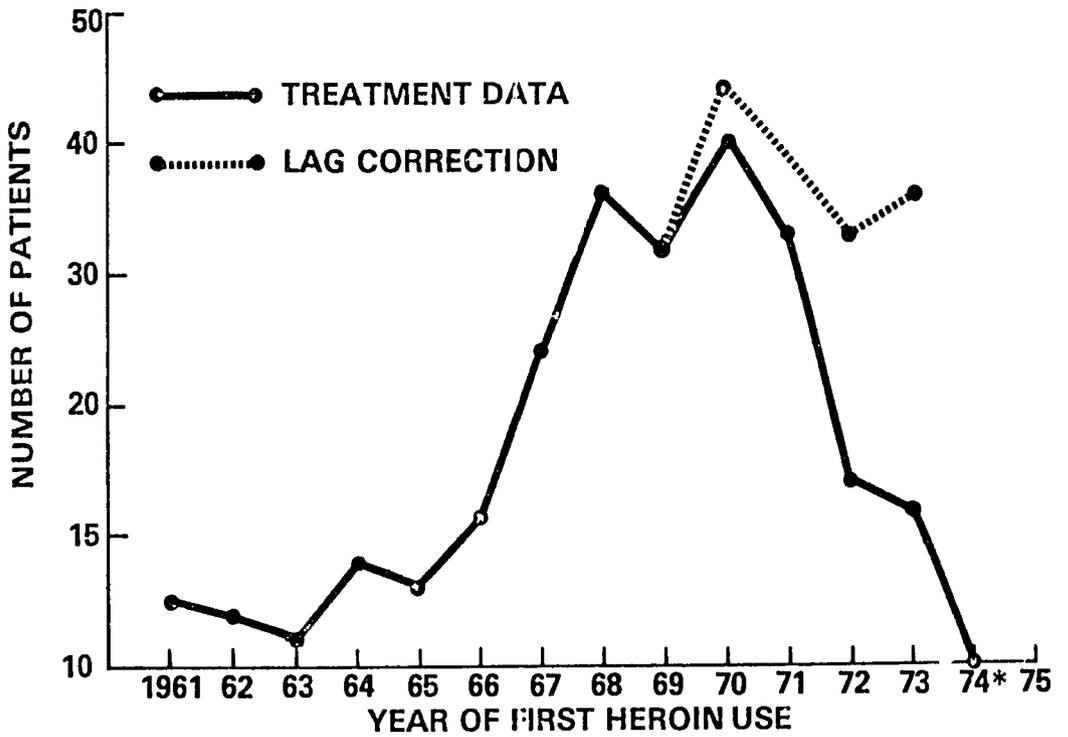


FIGURE 9

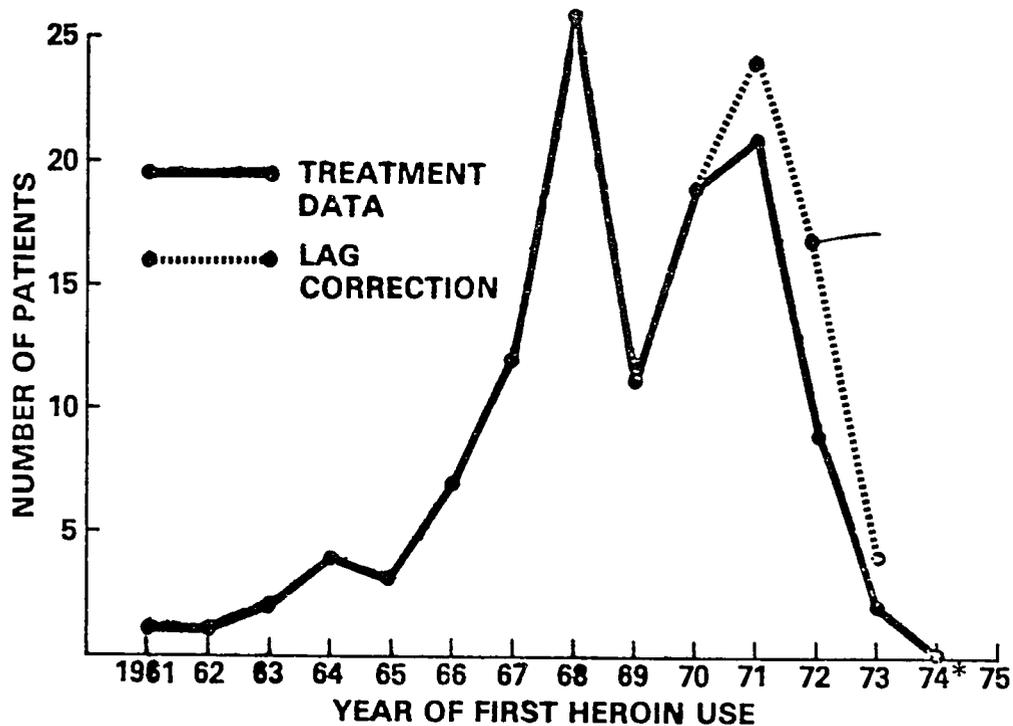
**DES MOINES, IOWA:
YEAR OF FIRST HEROIN USE FOR ALL
TREATMENT FIRST ADMISSIONS, 1970-74 ***



* ADJUSTED FOR 1974

FIGURE 10

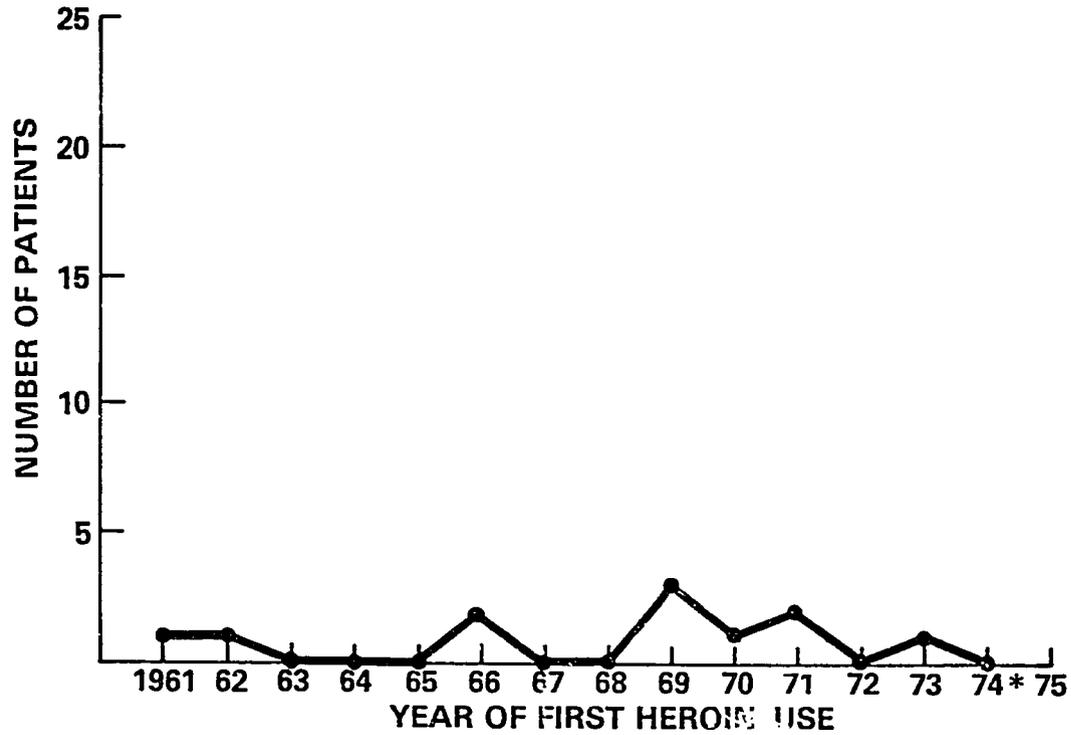
**DES MOINES, IOWA:
YEAR OF FIRST HEROIN
USE FOR BLACK MALE FIRST
TREATMENT ADMISSIONS, 1970-74 ***



* ADJUSTED FOR 1974

FIGURE 11

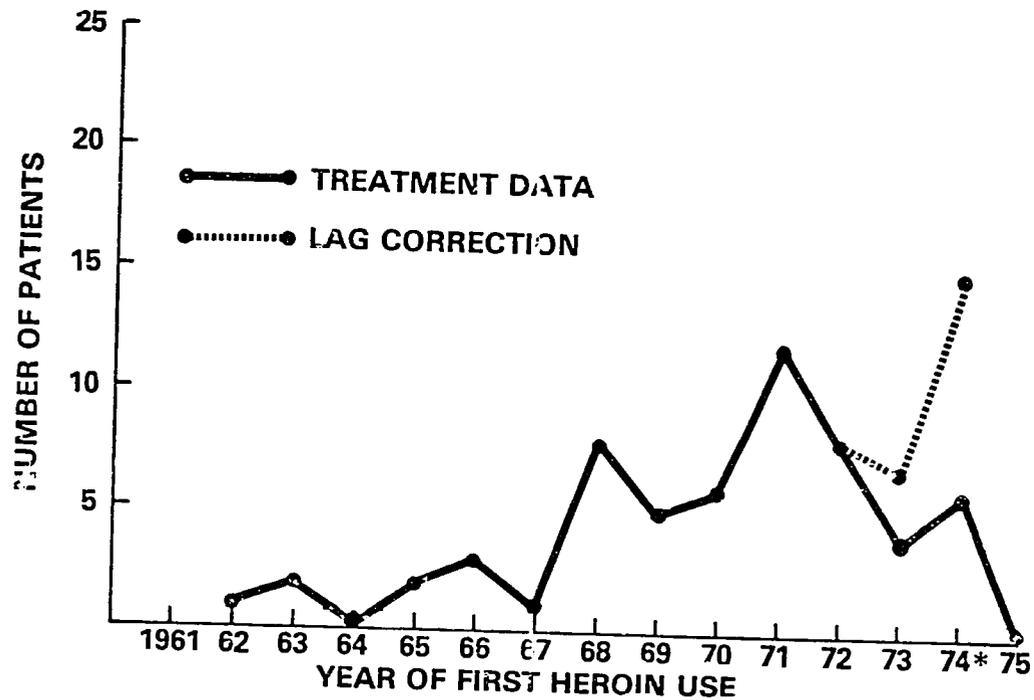
**DES MOINES, IOWA:
YEAR OF FIRST HEROIN USE FOR
WHITE FEMALE FIRST TREATMENT
ADMISSIONS, 1970-74***



* ADJUSTED FOR 1974

FIGURE 12

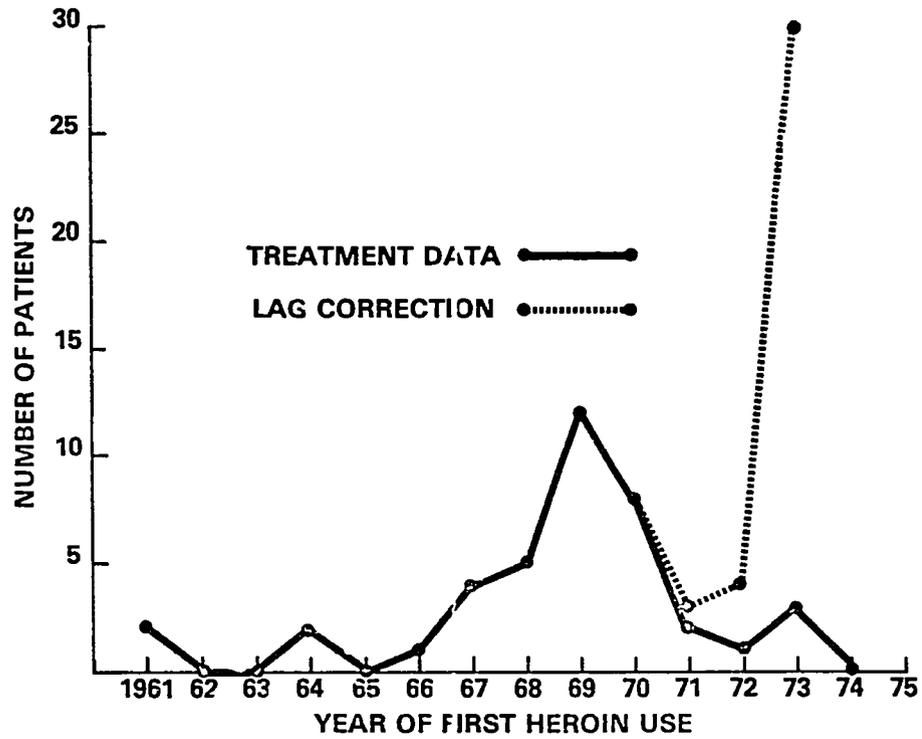
**DES MOINES, IOWA:
YEAR OF FIRST HEROIN
USE FOR BLACK FEMALE FIRST
TREATMENT ADMISSIONS, 1970-74 ***



*ADJUSTED FOR 1974

FIGURE 13

DES MOINES, IOWA:
YEAR OF FIRST HEROIN USE FOR
WHITE MALE FIRST TREATMENT
ADMISSIONS, 1970-74 *



* ADJUSTED FOR 1974

FIGURE 14

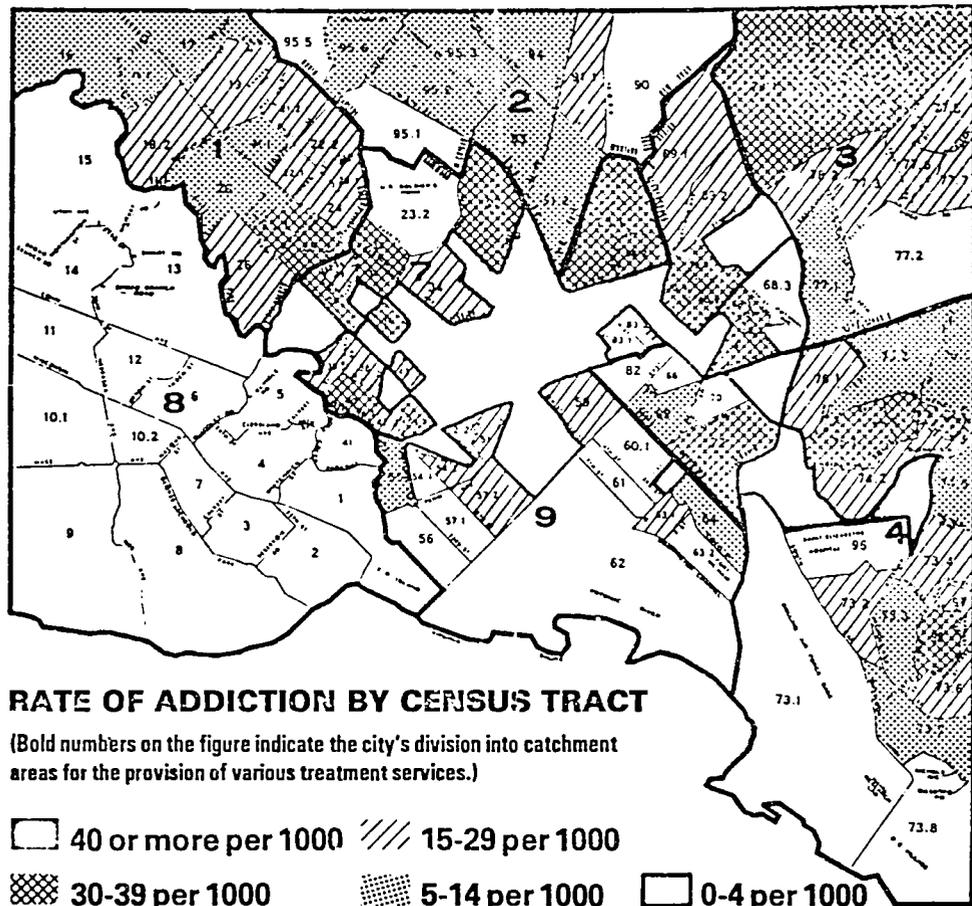


FIGURE 15

YEAR OF FIRST HEROIN USE FOR PENSACOLA RESIDENTS ADMITTED TO TREATMENT 1971-1974

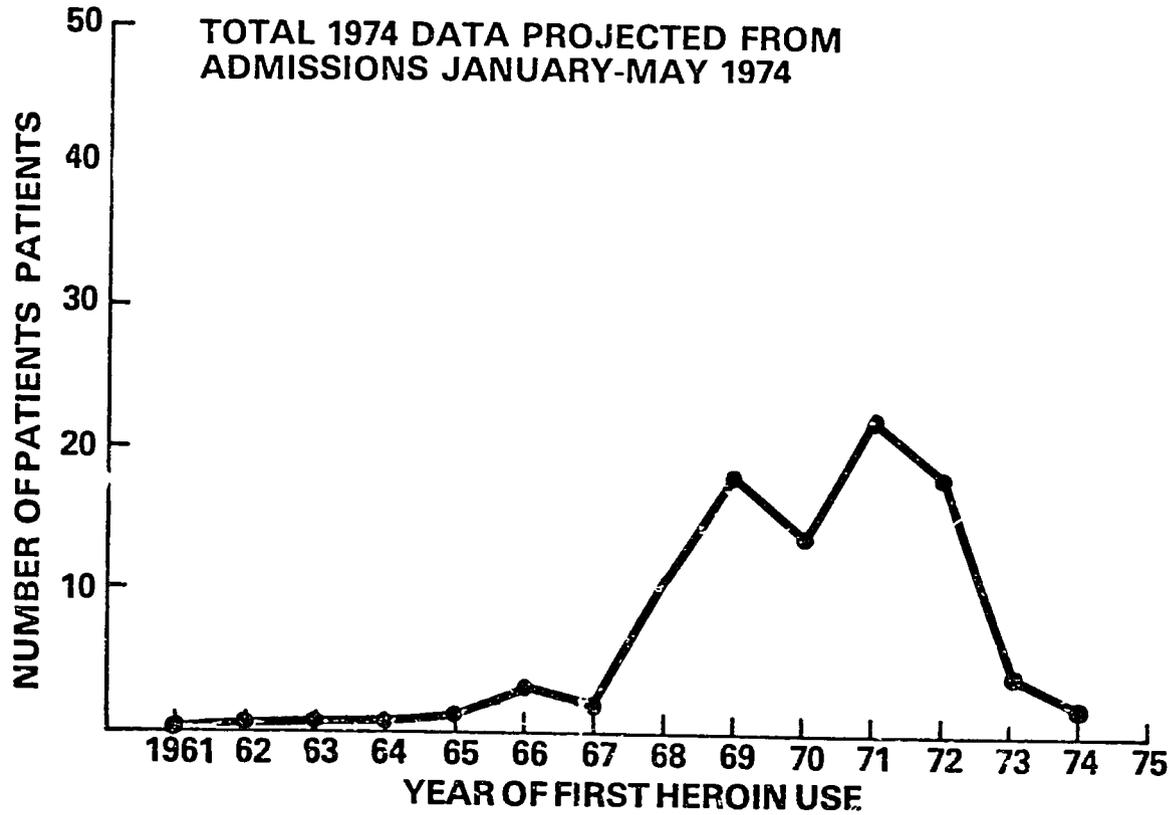


FIGURE 16

**ACUTE OPIATE OVERDOSE DEATHS IN WHICH METHADONE
PLAYED A CAUSAL ROLE IN THE DISTRICT OF COLUMBIA:
BY QUARTER (1970 Through 2nd Quarter of 1974)**

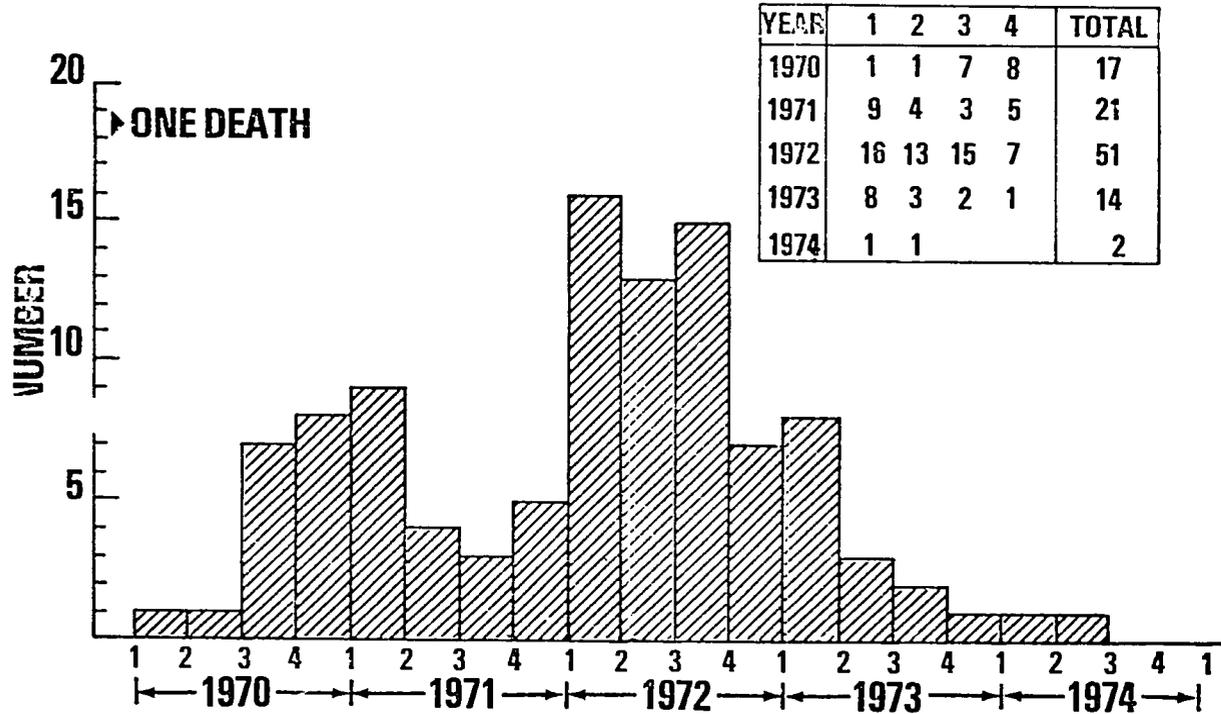
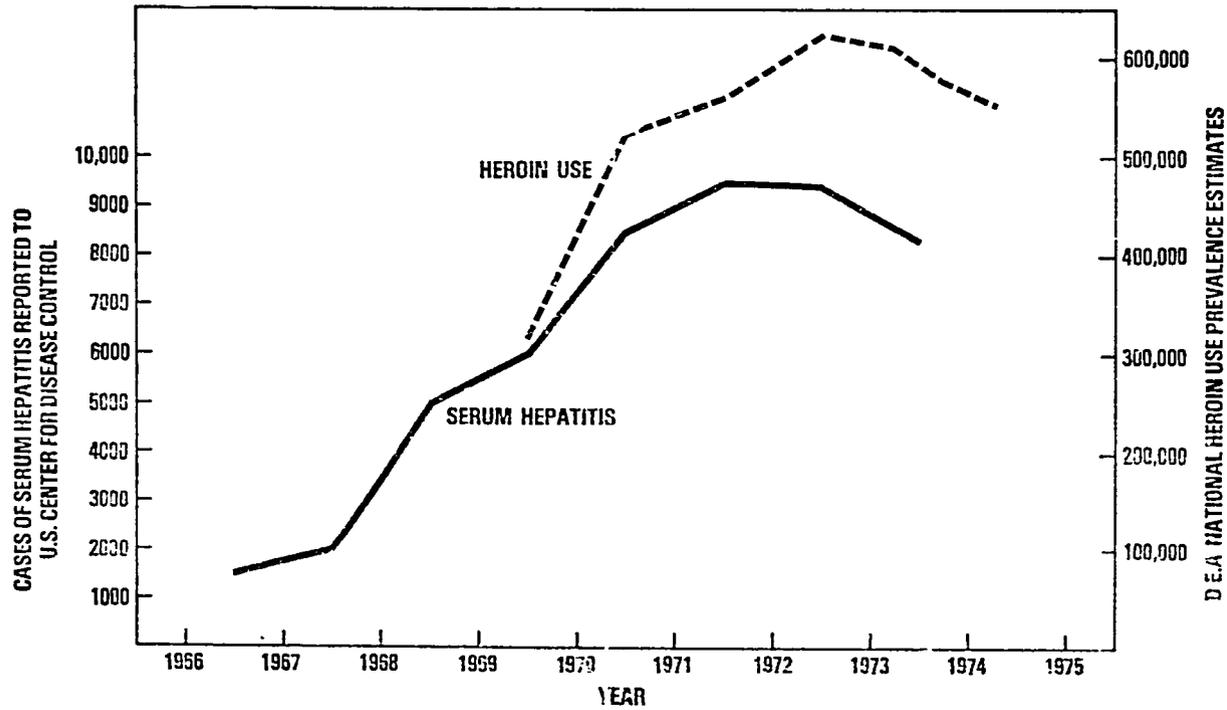


FIGURE 17

COMPARISON OF D.E.A. HEROIN ADDICTION PREVALENCE ESTIMATES AND SERUM HEPATITIS CASE REPORTS TO THE U.S. CENTER FOR DISEASE CONTROL



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DISCUSSION

The discussion of the last papers for the Seminar began with a reminder that the intent of this session was to consider the application of the epidemiologic techniques presented in the afternoon's papers to the specific drug problems of the Regional countries.

The Delegate from the United Kingdom thanked the American Delegation for their contributions. He then enquired regarding the cost and manpower considerations underlying the type of studies discussed, with particular reference to their feasibility in the CENTO countries. The Vietnam followup study, it was reported, was quite expensive. The total cost was approximately \$400,000.- This high cost was largely attributed to the enormous travel costs incurred in conducting a nationwide survey in a country as large as the United States.

The feasibility of a similar follow-up study of hospitalized Iranian drug abusers was then discussed. An Iranian Delegate noted that such an undertaking would require staff, money, and technical resources that simply are unavailable in his country. There is an abundance of data awaiting analysis but a scarcity of resources. An American Delegate suggested two possible sources of the needed manpower:

- a) Ph.D. candidates in such fields as sociology, psychology, public health, etc. who might be required to do such research as part of their thesis requirement.
- b) Voluntary civic organizations with a specific interest in the drug abuse problem.

A Delegate of the United States suggested that the cost of nationwide surveys was on the average of \$75 per person interviewed (Range: \$25-\$300). This cost per interview would be considerably less for smaller geographical areas (than the USA) and for studies restricted to a well localized population, such as hospitalized patients in a particular city or region. In the latter case, the salaries of the workers (as opposed to travel) become the primary expense. A small study of 100 subjects might require at most one person half time for a six months period.

A Delegate of Pakistan enquired regarding the sample size necessary to achieve statistical significance. The Delegate of U.S.A. replied that there are formulae for making such determinations but that as a general rule, one should arrange the sample so that there are at least 30 people in all sub-groups to be examined. The size of the sample then depends on the number of sub-groups in which one is interested. .

The Delegate of Pakistan then raised the specific problem current in his country: with the impending abolition of the vend system and its replacement by the Government-sponsored system of addict registration.

- (a) How could they determine the number of people who will require treatment under the new programme?
- (b) How can the impact of this new programme be assessed?

Among the suggestions made by the Delegate of the United States were:

- (a) The number of addicts in need of government support could be estimated by back calculation from the amount of opium currently being sold through the vend system, using an average of 1 gram of opium per day per addict. Such a calculation yields an estimate of 80,000 addicts who will register with the new government programme.
- (b) A survey might be done among current vend patrons in which such data as:
 - age (birth date), race, sex
 - specific address
 - drug(s) used
 - route of administration
 - quantity consumed per day
 - year or age of onset of drug use
 - education
 - employment status

could be collected in order to assess the pattern of opiate use prior to institution of the new system. Such a form should be as short as possible and should include vend patrons who make their purchases during various times of the day and week. This sample could then be followed up a year after the new programme was instituted in order to assess the changes that have occurred. It was agreed that 3-4 well studied samples (from several major cities and a rural area, for example) would be far more desirable than 15 poorly studied samples.

- (c) A nationwide, random sample of opium users is not appropriate to consider, given limitations of time, money and manpower.
- (d) A similar study should be done of the individuals who currently run the vends, in order to determine if they remain in the opium business illegally or not.

The main goal should be to identify a population of opium users who can be studied both before and after implementation of the new system.

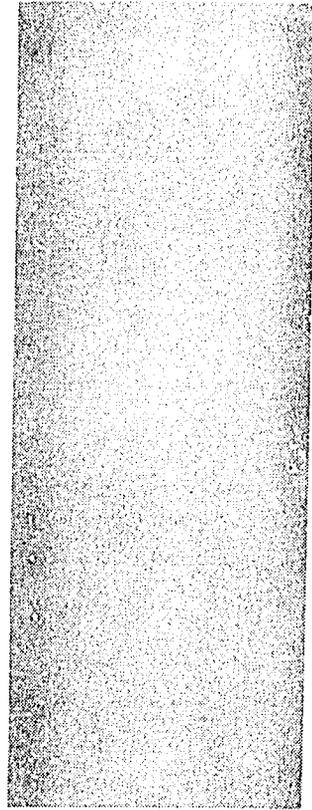
A Delegate of Turkey then raised several questions regarding the validity and reliability of data obtained from people often illiterate and with a very different cultural background from the traditional Western drug user. It was agreed that local cultural differences must be taken into consideration in the construction of survey instruments if the latter were to be of any value. The use of the national identity card as a means of insuring reproducible vital data (even if not completely accurate) was discussed by delegates from both Iran and Pakistan. Consideration should be given to requiring all persons registering under the new Pakistani system to obtain such an identity card as part of their registration procedure.

The Delegate of the United Kingdom emphasized the importance of using interviews (with data collection by the interviewer on standard forms) as the means of data collection rather than simply giving the forms to study subjects and asking them to fill in the answers. This was seconded by the Delegate of the United States who indicated she never allows study subjects to fill in the forms on their own. The use of well-trained interviewers offers a much greater chance of obtaining valid responses to questionnaire items, although it is a much more time and manpower consuming procedure.

A Delegate of the United States pointed out that

Pakistan was in a unique position to collect data on its entire population of opium addicts since, unlike Iran, its law permits individuals of all ages to register for opium maintenance. The critical factor at this point is time, since the new system will be implemented on January 1, 1975 and data must be collected prior to that time if the impact of the new system is to be properly evaluated. It was the consensus of conference participants that the need to carry out such studies should be viewed as a most urgent priority and that CENTO, WHO and the United States Government should be approached immediately in order to procure the needed financial and technical assistance to enable such research to be done.

Delegates



IRAN

Dr. Hasan Ali Azarakhsh	Advisor to the Minister of Health, Ministry of Health, Tehran
Dr. Manucher Saba	Director General, Narcotic Control Administration, Ministry of Health, Tehran
Dr. Ali Asghar Tavassoly	Head, Mental Health Department, Ministry of Health, Tehran
Dr. Mohammad Ali Shamie	Staff Psychiatrist, in charge of Training of Medical Students, Firuz-gar Medical Centre, Tehran

UNITED KINGDOM

Dr. Philip Connell
M.D., MRCP., FRC PSYCH.,
D.P.M.

Physician in Psychological
Medicine,
Director, Drug Dependence
Clinical Research and
Treatment Unit,
The Maudsley Hospital,
London

UNITED STATES

Prof. W.H. McGlothlin, Ph.D.

Department of Psychology,
University of California,
Los Angeles,
California 90024

Prof. Lee N. Robins, Ph.D.

Professor of Sociology in
Psychiatry,
Washington University,
School of Medicine,
St. Louis,
Missouri 63110

Prof. Louise G. Richards, Ph.D.

National Institute on Drug
Abuse, Division of Research,
Behavioral and Social
Sciences Branch,
11400 Rockville Pike,
Rockville, Maryland 20852

Dr. Mark Greene, M.D.

Special Action Officer for
Drug Abuse Prevention,
Room 3020
726 Jackson Place, N.W.
Washington, D.C. 20506

SECRETARIAT

Mr. C.D. Thorpe

Assistant Economic Secretary

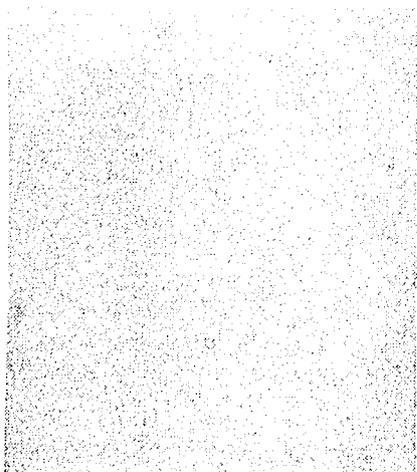
Miss Marilyn P. Roberts

Secretary

Mr. Azizul Haque

Secretary

U.S.-Financed CENTO Publications



- * 1. Seminar on Cattle and Sheep Breeding, 1959
- * 2. Seminar on Land Classification and Soil Survey, 1959
- 3. Seminar on Forestry, 1959
- * 4. Conference on Minerals, 1959
- * 5. Progress Report, Co-ordinating U.S. Action for CENTO, 1959-60
- * 6. Conference on Development Programming, 1960
- * 7. Symposium on Chrome Ore, 1960
- * 8. Conference on Teaching of Preventive Medicine, 1961
- * 9. Conference on Industrial Development Banking (1), 1961
- * 10. Symposium on Coal, 1961
- * 11. Progress Report, Co-ordinating U.S. Action for CENTO, 1961-62
- 12. Travelling Seminar for Increased Agricultural Production, 1962
- * 13. Conference on Agricultural Development Banking, 1962
- * 14. Conference on National Income Accounting, 1962
- * 15. Conference on Development Planning, 1962
- * 16. Conference on Teaching Health Centres, 1962
- * 17. Conference on Industrial Development Banking (2), 1962
- * 18. Conference on Establishment of National Scientific Organizations, 1962
- * 19. Symposium on Industrial Rock and Minerals, 1962
- 20. Seminar on Cost and Return Ratios for Major Agricultural Products, 1963

21. Conference on Teaching of Science, 1963
- * 22. Symposium on Rural Development, 1963
- * 23. Symposium on Iron Ore, 1963
- * 24. Symposium on Consumer Expenditure, 1963
25. Conference on Agricultural Development Policy, 1963
26. Symposium on Management Training in Public Administration, 1964
27. Conference on Nursing Education, 1964
28. Conference on Hospital Administration, 1964
29. Travelling Seminar on Range Management, 1964
- * 30. Conference on Manpower Needs and Training of Environmental Sanitation Personnel, 1964
- * 31. Symposium on Mining Geology and the Base Metals, 1964
32. Travelling Seminar on Agricultural Credit and Co-operatives, 1964
33. Symposium on Industrial Statistics, 1964
34. Symposium on Scientific and Industrial Research, 1964
- * 35. Second CENTO Veterinary Pathology Seminar, 1964
36. Symposium on the Role of Local Government in national Development, 1965
- * 37. Symposium on Tax Administration, 1965
38. Symposium on the Development of Capital Markets, 1965
39. Travelling Seminar on Veterinary Education and Animal Health, 1965
- * 40. Travelling Seminar on Fresh Fruit and Vegetable Marketing, 1965
- * 41. Seminar on Field Techniques for Mineral Investigation, 1965
- * 42. Progress Report, Co-ordinating U.S. Action for CENTO, 1962-65
43. Symposium on Hydrology and Water Resources Development, 1966
44. Conference on Land Classification for Non-Irrigated Lands, 1966
45. Symposium on Household Surveys, 1966
46. Summer Training Programme in Geological Mapping, 1966
47. Travelling Seminar on Farm Tools and Implements, 1966
48. Symposium on Mine Health and Safety, 1966
49. Conference on Engineering Education, 1966
50. Conference on Agricultural Extension, 1967
51. Travelling Seminar on Processing and Marketing of Fruit and Vegetable Products, 1967
52. Summer Training Programme in Geological Mapping, 1967
53. Conference on National and Regional Agricultural Development Policy, 1967
54. Symposium on Agricultural Statistics, 1967
55. Travelling Seminar on Marketing of Livestock and Livestock Products, 1967
56. Conference on Combatting Malnutrition in Preschool Children, 1968
57. Symposium on Development and Utilization of Mineral Resources, 1968
58. Conference on Industrial Vocational Education, 1968

59. Conference on Earthquake Hazard Minimization, 1968
60. Report of the Ad Hoc Working Party on Fertilizers, 1968
61. Decade of Development, a Ten-Year Compendium, 1959-69
62. Symposium on Demographic Statistics, 1968
63. Progress Report, Co-ordinating U.S. Action for CENTO, 1965-69
64. Geology on Ore Deposits of the Laken Lead-Zinc District, Iran, 1968
65. Symposium on Manpower Planning and Statistics, 1969
66. Conference on National and Regional Livestock Development Policy, 1969
67. Geology and Ore Deposits of the Sızma-Ladik Mercury District, Turkey, 1969
68. Conference on Series on the Teaching of Public Health and Public Health Practice, 1970
69. Conference on Broadening Public Participation in Equity Investment, 1970
70. Travelling Seminar on Management and Financing of Marketing Co-operatives, 1970
71. Conference on Forestry Development Policy, 1970
72. Seminar on Veterinary Investigational and Diagnostic Methods, 1970
73. Travelling Workshop on Range Management, 1970
74. Symposium on Price Statistics, 1970
75. Workshop Series on Clinical and Applied Research on Family Planning, 1971
76. Workshops on Marketing of Livestock and Their Products, 1971
77. Symposium on Central Banking, Monetary Policy and Economic Development, 1971
78. Seminar on Agricultural Planning, 1971
79. Seminar on Agricultural Aspects of Arid and Semi-Arid Zones, 1971
80. Seminar in the Application of Remote Sensors in the Determination of Natural Resources, 1971
81. Seminar on Industrial Relations, 1972
82. Seminar on Public Health and Medical Problems Involved in Narcotics Drug Addiction, 1972
83. Workshop on Educational Responsibilities of Nurses and Midwives in Relation to Family Planning in Maternal and Child Health Services, 1972
84. Seminar on the Control and Eradication of Viral Diseases in the CENTO Region, 1972
85. Seminar on Budget Administration, 1972
86. Seminar on Highway Planning and Administration, 1972
87. Workshop on Agricultural Planners, 1973
88. Conference on the Methodology of National Health Planning, 1973
89. Seminar on Hospital Administration, 1973
90. Workshop on Evaluation of Nursing Educational Achievement, 1972
91. Conference on Family Planning, Health and Demographic Statistics, 1973

92. Seminar on Industrial Disputes Settlement, 1973
93. Workshop on Airport Management, 1973
94. Conference of University Rectors, 1974
95. Seminar on Key Management Problems in the Marketing, Distribution and Use of Fertilizers, 1974
96. Symposium on the Mining and Beneficiation of Fertilizer Minerals, 1974
97. Conference on Public Health Education with Special Attention to Family Planning and Population Programmes, 1974.
98. Symposium on Recent Developments in the System of Social Accounts, 1974.

The above list includes all publications financed by the Office of the U.S. Economic Co-ordinator for CENTO Affairs. Most of the older books are now out of print and are no longer available. However, copies of those still in stock may be obtained by writing to:

*Public Relations Division,
Central Treaty Organization,
Eski Büyük Millet Meclisi Binası,
Ankara, Turkey.*