

Pan American Health Organization

ADVISORY COMMITTEE ON MEDICAL RESEARCH

Fifth Meeting

Washington, D. C., 13-17 June 1966

Item 7 of the Agenda

EPIDEMIOLOGICAL STUDIES IN MENTAL HEALTH

Ref: RES 5/15

3 June 1966

## EPIDEMIOLOGICAL STUDIES IN MENTAL HEALTH\*

Mental health offers a wide field for research, ranging from biochemical investigations of cerebral functions to mass psychology. So many variables influence that state of equilibrium recognized as mental health, and the mechanisms relating them are so numerous and so little known, that the advances made in our knowledge of the cause and evolution of mental illnesses have not been as spectacular as those in other branches of medicine.

Very detailed studies on the biochemistry of the nervous system have been undertaken in the field of biological psychiatry and in that of neurophysiology. The studies on inborn errors of metabolism that hamper the development of the intellectual function are classic. Genetic studies of mental diseases continue to be made and clearly show the need for a multidisciplinary approach. Genetic studies of twins, for example, cannot be isolated from corresponding biochemical, epidemiological, and social studies.

Studies on hallucinogenic substances are very important and have attracted the attention of many investigators in the Western Hemisphere, who have undoubtedly been influenced in part by the possible use of such substances in the diagnosis and treatment of mental diseases. Apart from the well-known studies on LSD, mention should be made of the opportunities for study of substances used by certain autochthonous populations in the Americas, especially in their rites and rituals.

Severe malnutrition or the specific lack of certain nutritive elements may influence the intellectual development or the performance of individuals. An example of a study in this field is that being carried out by INCAP. As has been pointed out on several occasions in the past, many factors are

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operating, including childhood diseases, lack of social stimulus, the possible inadequacy of measuring instruments, etc., which make such an investigation particularly difficult and burdensome. The same applies to the studies being carried out on deprivation of maternal care, lack of social stimulus in the child, and child rearing practices in certain cultures, etc.

By and large, there are two types of research projects in the mental health field: those aimed at confirming the presence or absence of some measurable fact, for example the presence of a chromosome, of a chemical substance, or of an anatomic structure; and those aimed at determining the influence of cultural factors, which are not always subject to measurement. A clear cut separation between these two approaches is difficult, since it may lead to erroneous conclusions. For example, the hallucinogenic effects, of a substance used by a tribe in an initiation rite may not be reproducible, or may be reproducible only in part, in an experimental situation in a laboratory, and the investigator who attempts to verify their effect in these circumstances may be led to deny its existence.

If we want to ascertain the natural history of mental disease, we must cast aside the categorical division referred to above, and have recourse to epidemiological methods. Epidemiological studies are of great value, not only in public health, in ascertaining needs and achieving a better distribution of services, but also, in other fields, in confirming etiological hypotheses and in evaluating the effectiveness of measures for curing or preventing mental diseases.

The methodological bases of epidemiological research in mental health have been discussed on many occasions. Three WHO publications (Public Health Papers Nos. 2 and 16 and WHO Technical Report Series No. 185)

summarize the main features of investigations of this type and give an account of the studies made to date. In May 1965 a study group on the epidemiology of mental diseases in Latin America met in Washington and recommended the following:

Promotion of comparative research, specifically transcultural studies

To encourage anthropologists, sociologists, statisticians and epidemiologists to undertake joint studies.

To encourage investigations on the family group and its relations with the individual and society.

To increase the number and quality of trained personnel and to encourage the organization of international centers providing training and advisory services.

Standardization of terminology and adoption of operational definitions.

To standardize the criteria for mental abnormality proper to each cultural group.

To refine the instruments for measuring the degree of incapacity of individuals affected by mental disorder.

To improve methods of keeping the records in mental hospitals and other community mental health agencies by standardizing procedures for registering patients and adopting uniform criteria for classification purposes.

To define accurately, and to improve the recording, of demographic indicators.

To coordinate and correlate statistical data on mental health with data derived from studies on morbidity and mortality in Latin America.

To prepare a glossary of common usage.

Adoption of the above recommendations could lead to standardized methods and thus comparable results.

Both incidence and prevalence indicate a numerical relationship between the number of cases ascertained and the total population exposed

to the risk of becoming ill. The value of the numerator will necessarily be influenced by the method used in the investigation of cases (hospital records, records of community services, police and judicial records, family surveys, etc.) The denominator will depend on the accuracy of the available demographic data or on the direct count of the persons included in the sample or in the population sector studied.

Descriptive epidemiological studies can be carried out in most Latin America countries and could give a rather accurate idea of the importance of mental diseases, their geographical distribution by sex and by age group, etc. In some cases the investigation could be enlarged by seeking possible associations with family income, degree of urbanization, industrial and agricultural production, and other environmental factors.

The investigation could cover the whole span of mental diseases, which might be subdivided into psychosis, neurosis, and personality disorders. If additional resources were available, a more detailed breakdown of each category might be possible.

In some instances it is better to begin investigations with a study of a particular entity, for example, alcoholism. In this particular case the operational definitions devised by Jellinek make the identification of cases relatively simple. In addition, there are other indirect methods for ascertaining the frequency of the disease (from the number of deaths caused by cirrhosis of the liver) which will allow the results to be compared.

Once these essential data are at hand, further progress could be made in the search for etiological patterns. In the case of alcoholism a search could be made for those personality factors common to all drinkers, and the structure of the families of alcoholics could be explored. The environmental

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factors conditioning excessive consumption of alcoholic drinks might be ascertained through studies of the cultural factors involved, the cultural aspects of drinking and abstinence, and the geographical influence of production of intoxicating beverages, etc.

Any investigation of alcoholism must start with the establishment of the prevalence of alcoholism in various sectors of the population in order to ascertain the number of moderate drinkers, excessive drinkers, and addicts. If the study is to be done on a sampling basis, the advisory services of a statistician will be necessary. Owing to radical changes in the geographical distribution of the population in Latin America in the last 20 years, the study should cover the rural area, the urban area, and the shanty towns of the large cities. In some countries comparisons may also be made of the frequency of alcoholism in an ethnic group which has remained in its place of origin and in members of the same group who have migrated to the cities. The presence of the disease may be correlated with the socio-economic level of the family, its social structure, the number of family members, the occupation of the persons concerned, mortality and morbidity rates, nutritional level, and other variables. More elaborate studies, on the border-line between sociology and anthropology, could be aimed at finding out in more detail how the habit of consuming intoxicating beverages is formed in certain communities, what role alcohol plays in initiation rites, the attitude of the population towards alcohol and alcoholism, etc.

In some industrial areas, the role of alcoholism in absenteeism and the frequency of industrial accidents could also be investigated.

In this type of investigation, one very important aspect is the possible influence of alcohol on mortality due to accidents, homicides and suicides,

as well as on morbidity due to accidents, assaults, and frustrated suicides.

Finally studies might be made of the effectiveness of treatments by following up for a reasonable number of years a group of alcoholics who have undergone treatment and comparing them with a control group.

On 15 June 1966 a study group on the epidemiology of alcoholism in Latin America will meet in San José, Costa Rica. The meeting will attempt to devise a common strategy for carrying out this type of investigation in the Western Hemisphere, and to agree upon uniform methods to ensure that the results achieved are comparable.

Among the long-term projects of PAHO in this field is that of promoting the establishment, in two countries of Latin America, of two centers for the study of alcohol and alcoholism in which prime emphasis will be given to research and personnel training.

Other entities such as schizophrenia and manic depressive psychosis may also be studied, but there are many difficulties to be overcome in this respect because investigators disagree about the nature of the disease. The very divergent results obtained in various places appear largely to be due to differences in the measuring (diagnostic) instruments. In this regard it would be worth while adopting common operational criteria, but even that has not been possible.

In Argentina an investigation is being carried out on communication between members of the families of schizophrenia patients, under a grant from the Foundations' Fund for Research in Psychiatry which is administered by the Organization.

There is an impression that epilepsy and mental deficiency are very frequent in the Western Hemisphere, and that their frequency should be ascertained and the various etiological factors entering into their occurrence

should be studied.

Despite the fact that these two conditions are apparently very well defined, there are unfortunately differences of opinion about classification. However, these difficulties are not insoluble and common methods for international research could be worked out. In one country it has been noted that there is a marked variation in the frequency of convulsive episodes among army recruits according to the area from which they come; it would therefore be highly desirable to undertake a detailed study of these cases in order to ascertain the causes of this variation. For example, it might be possible to find out the type of obstetrical assistance given in the area, figures for infant mortality and morbidity, the school drop-out rate, the age of mothers, the order of birth of these recruits, etc. If a good team of investigators, one or more portable EEG apparatuses, and sufficient number of specialists were available, it would be possible to examine an appreciable sample of the population and to study in more detail those families in which suspected cases are found.

Here, as in other neuropsychiatric condition, operational definitions have to be adopted and the criteria for diagnosis have to be specified. For example, the presence of a single convulsive attack should not be a sufficient criterion nor should a diagnosis be based exclusively on the EEG findings. It will also be necessary to establish the criterion for cure. It should be noted that the prevalence is higher in infants than in adults, and it would be interesting to make longitudinal studies of child cohorts from pregnancy onwards.

Mention should also be made of the value attributed to intelligence tests in the diagnosis of mental deficiency and of the need for each culture

to have its own tests properly geared to it so as to avoid the error of applying a conglomerate scale devised in the light of the environment, values, and attitudes of another group.

Suicide and homicide are two causes of death whose importance in Latin America should be determined. The crude figures are known, as is the extent of the problem in some countries.

In the United States of America and Mexico, very extensive studies have been made of the suicidal personality as well as of the factors leading to self-destruction or attempted self-destruction; similar studies in other countries are highly desirable. Homicide is one of the major causes of death in several countries in the Western Hemisphere, and epidemiological studies that throw some light not only on its frequency but also on the etiological factors involved would be very valuable.

These studies might begin with the simple tabulation of the age, sex, occupation, and place of origin of the victim, and then be expanded to include the circumstances surrounding the event, influence of alcohol, frequency of homicides in the family of the victim and of its assailant, etc. Just as a psychological profile of the suicide has been made, the so-called "psychological autopsy" based on the case-history compiled by the investigator after the death, so an attempt should be made to chart a psychological profile both of the victim and of the assailant and even more important to investigate the sociocultural characteristics of the families. As studies have been made of attempted suicide in the case of the suicide, so similar studies might be made of attempted homicides, even though the legal complications would make such studies extremely difficult.

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Research has been done on the personality of the murderer and some on the characteristics of the victim. In general, epidemiological studies giving an approximate idea of the ecology of homicide are very rare, if not nonexistent in Latin America. The so-called "violence phenomenon" which has afflicted a country for 20 years has been the subject of partial studies, but we know of no systematic investigation using the instruments made available by epidemiology.

PAHO held three seminars on mental health (1962, 1963 and 1965) which dealt in general terms with the magnitude of the mental health problem in Latin America and the most pressing needs. All these seminars recommended that epidemiological studies on mental health should be undertaken at the international level in order to verify etiological hypotheses and organize services. The meeting of the study group on the epidemiology of mental diseases in Latin America (Washington, 1965) which is mentioned above, adopted specific recommendation on methodology.

At the present time epidemiological studies are being carried out on the frequency of particular diseases, especially epilepsy, in Chile. In Argentina a study is in progress on the distribution of mental diseases in urban and rural areas. And in two other countries informal conversations have been held with a view to the initiation of epidemiological studies on epilepsy.

These studies have almost always been cross-sectional in type and isolated in time. Financial difficulties and scarcity of personnel are delaying longitudinal studies (prospective and retrospective).

It is highly desirable that such cross-sectional studies be repeated fairly frequently in order to verify tendencies, evaluate measures and improve the method itself.