

**EPIDEMIOLOGICAL SURVEYS IN HOSPITALS AND ELDERLY
HOMES WITH SPECIAL RESPECT TO CONSULTATION-LIAISON
PSYCHIATRY AND DEMENTIA**

Topics of Ph.D. thesis

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Introduction and background

The development of consultation-liaison psychiatry (hereinafter: CLP) was the result of an easily traceable medicinal necessity in the first third of the 20th century. This field of psychiatry has got a bigger and bigger importance in the practice. Besides the large scale foreign development of consultation-liaison psychiatry, in Hungary rather few publications have been issued in this field, in spite of the fact that the Hungarian psychiatry is thought to possess world level theoretical achievements. This thesis overviews the first comprehensive study of CLP accomplished in hospital populations.

The research of CLP has shown continuous increase both in its quantity and in its research topics during the recent years. The early research consisted mainly of case studies. These were followed by studies of case series, then the development of experimental models for homogeneous populations of patients. The animal tests have also offered essential basic knowledge demonstrating which psychosocial variables influence the symptoms. Nowadays two main fields of up-to-date research are differentiated by the consultation-liaison psychiatrists:

1. The studies that evaluate the consultation-liaison activity and
2. The studies of wide range clinical problems which occur on the border-line of medicine and psychiatry.

Besides the general methodological problems of psychiatric research, there are special difficulties in the studies carried out in the CLP. One of the key-questions is the interpretation of psychiatric symptoms in bodily diseased patients. Lots of diseases or their treatment may result in occurrence of general psychiatric symptoms. Another factor, which increases the difficulties of the psychiatric diagnosis, is the expectance of patients to be given a medical explanation for all their symptoms. The patients often think that the physical diseases are results of psychiatric symptoms.

The morbidity surveys carried out in the general population are well-known. The ECA (Epidemiological Catchment Area) survey in the United States is a good example for this type of analyses that is a multicentral, population based survey. In this survey one third of the

examined patients reported that they had suffered from one of the eight studied physical diseases, and one fifth of them were actually treated.

In the survey of clinical populations the most frequently experienced psychiatric disorders were the adaptation disorders, anxiety neurosis, alcoholism, severe depression disorder as well as the personality derangement and the somatoform disorder. Summarizing the foreign data, the following can be concluded: The psychiatric disease occurs more often in patients suffering from physical diseases than in the healthy people. Comorbidity may develop when the primary psychiatric disease increases the risk of a physical disease, and when the primary physical disease increases the risk of a psychiatric disease. The development of comorbidity can be prevented by the treatment of both the physical and the psychiatric diseases. The psychiatric diseases are associated with behaviour disorders e.g. smoking which heightens the frequency of physical complications.

The studies of clinical populations of patients suffering from physical and psychiatric diseases are more frequent than the studies of general populations. In spite of it the studies of clinical populations may result in different distortions. E.g. the studies of clinical population overestimate the level of comorbidity if the psychiatric disease increases the probability of need of medical treatment.

Summarizing the Hungarian studies of CLP it can be concluded that these studies have flashed on some important phenomena of some fields but comprehensive surveys of CLP have not been performed yet. Our examinations cover two fields within the frame of epidemiological research: the general psychiatric morbidity of in-patients and the dementia surveys carried out in elderly homes. The present thesis describes the first Hungarian research of CLP, then offers recommendations by consideration of the most noteworthy aspects of psychiatry. The telemedicine as one of the most up-to-date methods of CLP is a result of the communication boom, and was firstly published in the Hungarian technical literature of psychiatry by our publications.

Psychiatric morbidity in somatic departments of general hospitals – own research

Research plan, aims and hypothesis

This study estimates the frequency of more important psychiatric symptoms and some psychiatric background elements in the patients of general hospitals concentrating mainly on mood disorders and distress. In the interest of ensuring the representativeness of the research the screening was carried out in hospitalized patients without selection based on the sequence of warding.

The *aims of survey* were the following: a) collection of national morbidity data on the frequency of basic elements of psychiatric risks in general hospital populations; b) screening the frequency of mood disorders and distress; c) analyzing the medication in mood disorders and distress; d) evaluation of need of services of CLP in the departments of general hospitals based on the above surveys.

The survey was carried out in the form of a questionnaire. The applied questionnaire was the type used generally for the evaluation of basic psychiatric symptoms (see the description of methods).

Publications on similar surveys have not been found in Central and Eastern Europe. This survey is possibly the first such a research in a post-communist country. This fact has an intercultural significance. The comparison of similar data of the neighbour countries would be very important.

The survey was based on the following *hypotheses*:

1. The depression and distress are frequent symptoms and they are the main reasons of comorbidity in patients of general hospitals.
2. The type of department may be an important variable, as in the departments treating chronic patients the severity of depression and distress might be higher than in the departments treating acute diseases.
3. The treatment of patients suffering from depression is not satisfactory in the different general medical departments: the application of antidepressants is supposed to be rather low in the departments of somatic diseases.

The knowledge of epidemiology of psychiatric disorders in the patients suffering from somatic diseases offers a good guidance in many important questions of public hygiene. It is impossible to answer some basic questions without it. Such questions are the following: Which psychiatric disorders are prevalent in the population suffering from somatic diseases, or how can the development of a psychiatric disorder occurring parallel to the physical disease be prevented? Why should the services of CLP be available in general hospitals or what curricular structure should be applied in the education of psychiatric residents?

Methods

The screening by use of questionnaires has been carried out in several Hungarian hospitals. In total the screened population covered the patients of nine general hospitals. Bigger county and city hospitals were chosen to ensure the required number of elements. Each of the patients admitted to hospitals and able for cooperation was given a questionnaire.

The process of screening was as follows:

1. The questionnaires were sent to different departments of general hospitals in the period from 1 April to 30 June 2003, and the questionnaires were given to patients admitted to the department during a one-month-long period. We wanted the questionnaire to be filled in by all the patients, but it was clear that there would be obstacles to it.
2. To calculate the ratio of filling of questionnaires, the number of patients admitted to the departments during the one month screening was compared to the number of patients who actually filled in the questionnaire.

The 110 questionnaires evaluated certain psychiatric characteristics of patients, involving demographic data, the Beck Depression Inventory for depression, the Spielberger State-Trait Anxiety Scale for the level of anxiety as well as the CAGE-questionnaire to estimate the prevalence of alcoholism. The application of pharmacotherapy was also analyzed.

Results

In the course of the survey 4,655 questionnaires were distributed, while 2,485 questionnaires were filled in. The response rate was 53 %. Within the population offering rateable

questionnaires, the ratio of males was 37.5 % while that of women was 60.8 % (lack of response: 1.6 %). The average age of patients in the hospital departments was between 40.7 – 65.5 years. The average oldest population (older than 60 years) was found in the traumatology and gynaecology departments.

The reasons for the lack of response were similar to the elements experienced in other surveys e.g. early discarding before the distribution of the questionnaires, death, serious physical condition that hindered the patients in the filling of questionnaires, refusal and other reasons.

Smoking

One of the most significant risk factors of illnesses is the smoking, the frequency of which may occur as a public health problem. The ratio of smokers in the total sample was about one third of patients (28.5 %). It was much less than the average in the departments of urology, ophthalmology and neurology (under 20 %) while it was higher than one third of patients in the surgical, rehabilitation and pulmonological departments.

Alcoholism

The 25.4 % of the patient population was concerned in the problem of alcoholism on a lower or higher level, and reached at least one score in the CAGE questionnaire. One score was reached by 9.7 %; two scores were reached by 6.2 %, three scores by 5.0 % and four scores by 4.4 % of the patients. The 4.4 % is the level of alcohol dependence.

The estimations of average scores of the CAGE questionnaire have shown that the highest averages were characteristic to the pulmonological, surgical, traumatological and orthopaedic departments. The ratio of patients who reached at least one score in the questionnaire was 40.3 %, 39.4 %, 38.1 % and 33.5 % respectively.

Attempted suicides

The sex ratio of the 142 patients (5.7 % of the screened population), who attempted a suicide, was 44 men and 98 women. The patients having a suicidal history were treated mainly in the rehabilitation, surgical and pulmonological departments where the ratio of attempted suicide was over 10 % of patients.

Depression

In the Beck Depression Inventory Test the difference between the sexes was as follows: the average of scores in men was 11.923, while in women it was 13.599. There was a significant difference (ANOVA: $F = 14.044$, $DF:1$, $p < 0.001$).

The highest average of scores was recorded in the following departments: rheumatology (19.70), neurology (18.89), rehabilitation (16.68) and “other” (mainly oncology – 15.27). Slightly lower scores were found in the pulmonology (14.61) and the internal medical departments (14.10). It is obvious that the severity of depression is the highest in the departments treating chronic patients. The surgical fields e.g. the surgery, ophthalmology, otorhinolaryngology and orthopaedics are in the second half of the list, while the gynaecology and traumatology departments are the last ones.

Based on the Beck test 53.5 % of patients can be classified untouched by depression, while 28.6 % suffers from slight depression, 10.4 % suffers from moderately serious and 7.4 % suffers from very serious depression.

Application of antidepressants in medication of depression

When the results are evaluated it should be taken into consideration that the patients filled in a self-reporting questionnaire, thus the exact ranging of the different curatives might have caused difficulties for them. Even so there are definite differences among the different departments. In the neurological departments, in the groups found to be untouched according to the Beck test, 28 % of patients were treated with antidepressants – however this data should be evaluated with reservation because of the low number of respondents. At the same time it is surprising that only a low percentage of the depressive patients of different general medical departments are treated with antidepressants. In the rehabilitation departments, which showed the prevalence of depression, only 11.6 % of the patients suffering from depression were treated with antidepressants. These departments are followed by the urological, neurological and rheumatological departments with results between 7-9 %. In the rest of departments less than 5 % of depressive patients were treated with antidepressants.

Use of anxiolytics in medication of depression

In the treatment of depressive patients in the different departments about 20.0-43.9 % of patients are treated with anxiolytics. It is conspicuous that nowadays the anxiolytics are

prevalent in the treatment of depression. It is also remarkable that the use of this group of curatives is rather high in the non-depressive patients as well. The ratio in this group is about 10-20 % in general.

Anxiety

Based on the data of the Spielberger State-Trait Anxiety Scale serving for the evaluation of anxiety, the so-called 'state' and 'trait' anxieties are found most frequently in the neurological departments (average scores: 52.74-55.00), which are followed by the rehabilitation departments (49.70–52.46) and the rheumatologic departments (49.28-50.77). It is obvious that the prevalence of anxiety is parallel to that of depression. The two syndromes seem to run parallel to each other in the samples. Similarly to the depression, the lowest prevalence of anxiety was found in the traumatological departments.

Studying the ratio of different severity actual levels of anxiety (state-anxiety), it turned out that only 22.9 % of the clinical population was found to be free from it. Thus it is worth to consider the fact that one third of patients (34.8 %) can be characterized by severe anxiety (51-80 scores).

Use of antidepressants in anxiety

As the antidepressants are active remedies in curing anxiety disorders, it is necessary to evaluate the application of this pharmacotherapy in the other departments as well. Among the patients suffering from actual anxiety, the application of antidepressants is rather low; it remains under 10 % except for the neurological departments. Similarly to depression, the administration of antidepressants is started very slowly in these departments.

Use of anxiolytics in anxiety

This group of curatives is better known and accepted, which is supported by the fact that the anxiolytics are administered in 20-40 % of patients in some departments (lower ratio of administration of these curatives was observed only in the urological and pulmonological departments).

The risk factors of dementia in elderly homes – own research

Objectives

Concerning some genetic and linguistic characteristics, the Hungarian population is considered to be uniform, or more exactly different from the other European ethnic groups. The incidence of dementia is known to vary between nations due to population specific interactions of genetic and epigenetic risk factors. As these data were missing from the Central-Eastern part of Europe, especially from Hungary, a multicentre study was initiated three years ago in elderly home populations to determine the impact of some wellknown social and biological dementia risk factors as well as to determine the basic epidemiological data of dementia and depression.

Methods

The effects of age, gender, education, smoking and alcohol consumption were investigated in 31 elderly homes in the cohort of 2142 elderly people, who were older than 50 years. The basic examinations were the following:

1. Standardized personal interview with the examined people and their nurses (if it was possible) concerning the social and demographical data and the anamneses.
2. A short cognitive survey was carried out including the Hungarian version of Mini Mental State Examination (MMSE). The patients who reached 26 or less scores were taken as sufferers from dementia.

The effects of risk factors of dementia were studied in two ways. On the one hand the existence and severity specific incidence of dementia were calculated for the risk factors and their sub-categories. On the other hand logistic regression was applied for the calculation of odds ratio, further on the appropriate relative risks were summarized (by singulary function, or more exatly by χ^2 probe). Besides these methods the multifunctional logistic regression was applied to be able to study the combined interaction of variables and subcategories. The special interactions were also studied.

Results

66% of the entire population showed the clinical signs of dementia. 18%, 22%, 16% and 10% were classified as mild cognitive impairment, as well as mild, moderate and severe dementia cases, respectively. Evaluated individually, all the examined dementia risk factors were significantly related to the diagnosis of the dementia syndrome. The age, female gender and regular drinking increased the dementia risk, while smoking, higher level of education and occasional or former history of alcohol consumption proved to be lower risk factors. When the interaction of these factors was analysed, the male gender associated with regular alcohol consumption represented the strongest risk, especially with low education levels. If the different dementia severity subgroups were compared, similar dementia risk tendencies have been observed, but the most robust effects were associated with the most severe cases.

Discussion

Concerning the frequency of health destroying habits of public health importance, it seems to be relevant to examine the prevalence of smoking and alcohol consumption of patients in the different departments. In this study there is no significant dispersion in the ratios. About the one third of the patients has been smokers. It is well-known that smoking is the most significant risk factor in several diseases. In Hungary about 17 % of total morbidity could have been connected to smoking in the first half of the 1990s.

Another very important factor is the alcoholism. There is an extended source of literature data connected to alcoholism. According to the estimations the disorders connected to alcoholism were identified in 25 % of general outpatients and 20 % of outpatients treated with somatic diseases. The results of survey carried out by the help of the CAGE questionnaire prove that the risk of alcoholism in the screened hospital sample has been similar to the data observed in the average population. The ratio of alcohol dependence has been 4-5 % both in the general and in the hospital populations. The fact that the highest risk of alcoholism occurs in departments of pulmonology, surgery, traumatology and orthopaedics refers to the outstanding need of education in the treatment of alcoholics.

Committing suicides is a very serious problem in Hungary. Concerning the frequency of attempted suicides the samples have shown rather big fluctuations. The attempted suicides were the most frequent in the rehabilitation, surgery and pulmonological departments. The ratio of attempted suicides was higher than 10 % of the patients in these departments that refers to the urgent need of crisis intervention activities. Based on our surveys it seems to be proven that the creation of jobs of psychologists and the application of consultation-liaison psychiatry would be an extremely urgent task in these hospital departments.

The depression has a primary importance from point of view of committing suicides. The main question is whether the mood disorders are detected in the general hospital departments. The application of adequate antidepressive therapy could be an index of detection of mood disorders in case of justifiable depression. Of course it is also obvious that not all the depressions should be treated by medication (but all patients suffering from major depression must be treated by medication!), however, the introduction of medication can be accepted as an adequate index of identification of depression.

It is worth emphasizing that the occurrence of depression in the departments treating patients suffering from chronic diseases is extremely higher than in the departments treating patients suffering from acute diseases (surgical departments). This seems to be obvious from the duration of the diseases. The ratio of depression is fairly high in these departments – this hypothesis has been proven. According to the Beck Depression Inventory questionnaire nearly the half of the patients suffers at least from slight depression. Our hypothesis of adequate treatment has also been verified: the detection and treatment of depression show rather low ratios in the different hospital departments. It means that adequate pharmacotherapy is not applied either in cases of serious depression. This data refers to the fact that the treatment of depression remains neglected in the practice of general medicine. Even if the depression is detected, it is not followed by an adequate medication. As it is obvious from the survey's data, the medication of patients suffering from depression most often means the application of anxiolytics, however, even this group of curatives is often neglected even in the case of obviously depressive patients. It is highly improbable that the psychotherapy would replace the pharmacotherapy in these departments (at least not in planned form because there are no psychologists or psychiatrists in the hospital departments except for one or two hospitals) - although this has not been the subject of the survey. Nevertheless this situation is considered as the part of the general medical and therapeutical

practices in Hungary. This situation might be explained partly by the influence of those misbeliefs which induce groundless fears of application of antidepressants (e.g. side-effects or effects provoking the risk of suicide etc.). The slowly developing efficiency of antidepressants may also be an element which explains the delays in the beginning of treatments. Anyhow this situation is extremely unfavourable, and tells of the fact that the somatic diseases are associated with lots of psychic miseries, and the treatment of these psychiatric problems is rather excluded from the medicine. The foreign data also demonstrate the importance of depression clearly in the consultation-liaison psychiatry.

The following considerable problem is the high percentage of anxiety in the studied samples. Numerous literature data refer to the fact that the anxiety often occurs as an associated symptom and often together with the depression. The mixed anxiety and depression are rather frequent in the population cured in the primary medical care. The survey has also proved that the anxiety occurs almost parallel to the depression. The two types of anxiety (the state anxiety and the trait anxiety) are often detected in the neurological departments. This can be explained by the fact that the occurrence of patients with less serious psychiatric patterns is more frequent in the neurological departments, where the anxiety and depressive disorders are much in the limelight.

It is necessary to emphasize that serious anxiety is detected in the one third of patients, which has worrying consequences. It also refers to the fact that the anxiety should be treated very thoroughly in each hospital department even in the early stages. Just think about the simple phobias connected to the medical treatment (e.g. phobia towards the dental treatment, or phobias towards the blood or medical intervention), the generalized anxiety etc. In the treatment of patients suffering from these complaints lots of simple methods could be applied. If the attending physician knows some methods of treatment of anxiety, he or she can greatly ease the suffering of patients. The pharmacotherapy is the simplest way of treatment. Anxiolytics are applied easily everywhere (however, not on the required level – as it was shown above). The psychotherapeutic interventions reducing the anxiety are less utilized in the practice of somatic medication.

Similarly to the treatment of depression, the comparative analysis of pharmacotherapy of anxiety revealed that there was a lack of adequate treatment, although the anxiolytics were applied more often in anxiety. However in spite of the fact that the antidepressants are more

efficient in treatment of anxiety disorders, the data have proved that the antidepressants are not applied in curing of this disorder in the general hospital departments.

Concerning the old age dementia investigations it can be emphasized that the well-known risk and protective factors of dementia have been supported by our research as well. Concerning the variability the Hungarian group was similar to the other European ethnic groups.

The results of our surveys refer to the enormous need of development of consultation-liaison psychiatry. There are a lot of further tasks to put the consultation-liaison psychiatry into the practical use of general hospitals. These tasks are the following: it is necessary to develop such a consultative system that helps the detection and treatment of psychiatric disorders on a higher level, and it would be useful to continue the training on basic psychiatric disorders in the general hospital departments. It would be important to employ psychologists specialized in psychiatric disorders as well as to organize the availability of regular psychiatric consultations at least in the departments of chronic diseases. The frequency of psychiatric disorders among the patients suffering from somatic diseases justifies the necessity of further research to understand the mechanisms of comorbidity, and indicates how important it would be to continue the research on the treatment of psychiatric disorders of population suffering from different somatic diseases. These researches serve the aims of public hygiene, decrease the morbidity and mortality as well as offer strategies for the prevention of co-morbid diseases.

Summary

The consultation-liaison psychiatry (CLP) is an important field of psychiatry, although the research of CLP is still in an initial phase in Hungary. The present work overviews the international literature of history, application, and research of CLP.

In this study a questionnaire screening of 2485 patients treated in nine hospitals was performed. The response rate was 53.4 %. The patients were treated in different departments of general hospitals. The questionnaire evaluated certain psychiatric characteristics of the patients, involving demographic data, addictions (CAGE-questionnaire), depression (Beck Depression Inventory) and measurement of level of anxiety (STAI). The application of pharmacotherapy, especially the use of antidepressants and anxiolytics was also analyzed.

The other research analyzed the risk factors of dementia in an elderly home population of 2142 people, aged above 50 years.

The main results of the studies can be summarized as follows:

1. This study was the first such a survey in Central-Eastern Europe. It would be useful to compare our data with those of the neighbouring countries to get a real picture about the regional features of hygiene culture. This research was the first comprehensive survey of psychiatric disorders of general hospital population in Hungary as well.
2. The ratio of smoking and alcohol dependence of the studied sample is identical with the data of the average Hungarian population. The highest averages of alcoholism as a risk factor were found in the pulmonology, surgical, traumatological and orthopaedic departments.
3. In the general hospital population a high rate of depression and anxiety was found. About half of the patients suffer from depression of different level severity. The depression occurs mainly in the departments curing people suffering from chronic diseases.
4. In spite of high frequency of depression the adequate treatment is missing in general. Only a low percent of patients suffering from depression get antidepressants in the different departments. The anxiolytics are more widely used for the treatment of patients suffering from depression. About one third of these patients is cured with anxiolytics.
5. The frequency of anxiety is very similar to that of depression. The situation is also similar in the pharmacotherapy: one third of patients gets anxiolytics and only a very low percentage of patients are treated with antidepressants.
6. According to the data of the first dementia survey carried out in elderly homes the well-known dementia risk and protective factors demonstrated that the Hungarian cohort is similar to the other European ethnic groups.

List of own publications

Publications connected to the topic of the thesis

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