

PSYCHOFARMACOLOGY IN THE PREVENTION OF SOMATIC COMORBID DISEASES IN MENTALLY ILL PATIENTS

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SUMMARY

It is a well known fact that mentally ill patients, especially those with schizophrenia, have a higher incidence of somatic diseases than the general population and finally a significantly shorter life expectancy. In this paper a comparison is made between schizophrenia and somatic comorbidity before the era of antipsychotics and after, with consideration to the prevalent morbidity during each of these periods. In the period before antipsychotics acute infectious diseases and TBC were the prevalent comorbid diseases. High comorbidity rates were due not only to epidemics but also poor treatment success, deficient health habits and poor personal hygiene. In the period after the discovery of antipsychotics significant changes in morbidity occurred with the prevalence of chronic degenerative diseases, primarily diabetes, hypertension and dyslipidemia. Studies show that new generation antipsychotics partly generate the occurrence of metabolic disorders, which makes it necessary to consider the choice of antipsychotic depending on the assessed risk in every individual case.

Key words: *schizophrenia - somatic comorbidity - antipsychotics*

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INTRODUCTION

It is a well known fact that mentally ill patients, especially those with schizophrenia, have a higher incidence of somatic diseases than the general population and finally a significantly shorter life expectancy (Fleischhacker et al. 2008, American Psychiatric Association 1994, Allebeck 1989). Due to the characteristics of mental disease, severely mentally ill patients do not care for their physical health and often additionally cause themselves harm with their behavior, neglecting nutrition, physical activity, smoking and abusing alcohol. Patients with schizophrenia often indicate physical problems in late and often serious stages of disease which increases the risk of undetected somatic illnesses. This requires doctors to implement a very proactive approach in detecting somatic illness (Oud & Meyboom-de Jong 2009, Lyketsos et al. 2002, Kishi & Kathol 1999, Brown et al. 2000).

During the first half of the past century, before the discovery of psychopharmacs, several studies were published in which the mortality of schizophrenic patients was systematically monitored.

They confirmed that schizophrenic patients had shorter life expectancies in comparison with the general population (Allebeck 1989, Felker et al. 2000).

At the time the most common cause of death was tuberculosis, patients were hospitalized long term and were often malnourished. Infectious diseases were a significant cause of death, especially intestinal infectious diseases. In later studies, conducted after the discovery of psychopharmacs, a change in the morbidity and mortality of these patients was observed so that the leading cause of death was not longer infectious diseases but rather suicide (Allebeck 1989). However, if suicides are excluded from the total mortality rate schizophrenic patients still have a higher mortality rate than the general population, primarily of cardiovascular diseases (Goldman 2000, Cassidy et al. 1999, Sternberg 1986).

With the discovery of antipsychotic, the new generation in particular, appeared the risk of metabolic side effects due to weight gain, insulin resistance and dyslipidemia. Due to this, in the year 2003, the American Diabetes Association together with the American Psychiatric Association created

new guidelines recommending an evaluation of the metabolic risk of every patient before prescribing new generation antipsychotic, also recommended are intervals for follow-up of key parameters (BMI, waist volume, blood pressure, fasting glycemia, HDL cholesterol, triglycerides) (Kohen 2004, American Diabetes Association & American Psychiatric Association 2004, Busche & Leonard 2004).

These results are consistent with the data obtained from the archives of the Psychiatric hospital Vrapče. Since the founding of the Psychiatric hospital Vrapče, great importance has been given to the care of somatic illnesses, adapted to the needs of the time. A significant cause of death at the time was infectious diseases, particularly intestinal, so that at the time of its founding the hospital formed a ward for contagious diseases. During the spring of 1901, 230 patients died due to an epidemic of typhus and dysentery. Many more died in 1916, during an epidemic of typhus and smallpox. Later, epidemiological changes in morbidity occurred leading to a higher prevalence of respiratory disease, primarily TBC. In the year 1932, a new pavilion was built, with a capacity of 100 beds to care for the somatic needs of the patients. In the 1990's due to further epidemiological changes with the prevalence of cardiovascular and metabolic diseases, somatic care was oriented towards prevention and early detection of diseases.

In this paper a comparison is made between schizophrenia and somatic comorbidity before the era of antipsychotic and after, with consideration to the prevalent morbidity during each of these periods. In the period before antipsychotic acute infectious diseases and TBC were the prevalent comorbid diseases. High comorbidity rates were due not only to epidemics but also poor treatment success, deficient health habits and poor personal hygiene. In the period after the discovery of antipsychotic significant changes in morbidity occurred with the prevalence of chronic degenerative diseases, primarily diabetes, hypertension and dyslipidemia. Studies show that new generation antipsychotic partly generate the occurrence of metabolic disorders, which makes it necessary to consider the choice of antipsychotic depending on the assessed risk in every individual case.

SUBJECTS AND METHODS

In our investigation we included a total of 200 patients treated at the Psychiatric hospital Vrapče with the diagnosis F20.5 (schizophrenia residualis). Using random sampling we selected 100 patients from the hospital archives (50 women and 50 men) hospitalized during the year 1955, and 100 patients (50 women and 50 men) hospitalized during the year 2008. We included only patients between 30 and 60 years of age. We excluded elderly patients (>60 yrs.) to avoid the associated increased risk for cardiovascular disease in the elderly. We also excluded patients with incomplete or inadequate patient histories.

All information was obtained from the original patient histories. For all the patients included in our investigation we monitored comorbid somatic diseases, risk factors for somatic diseases and all laboratory tests that were done during hospitalization. Somatic illnesses were categorized according to ICD-10 classification of diseases. The following risk factors were monitored: alcohol, smoking, obesity and malnutrition, we also monitored all the laboratory test results.

RESULTS

From a sample of 200 patients, of which 100 (50 women and 50 men) were treated during the year 1955, and 100 (50 women and 50 men) were treated during the year 2008, the total somatic comorbidity with somatic illnesses was higher during the year 2008 in comparison with 1955. In the year 1955, 71 patients with a verified diagnosis of F20.5 were registered to have a comorbid somatic illness, of which 33 were found in women and 38 in men. During the year 2008, a total of 107 comorbid illnesses were registered, 57 in women and 50 in men (Figure 1).

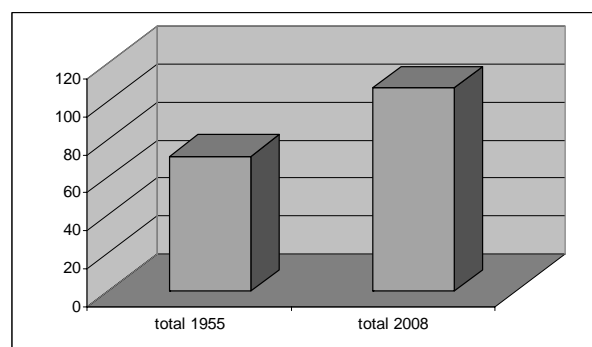


Figure 1. Total comorbidity in patients with schizophrenia

In 1955, the five leading categories of somatic illness were: infectious diseases 17%, TBC 15%, chronic illnesses of the lower respiratory system 10%, bone and muscle diseases 8%, and cardiovascular diseases 7%.

The five leading categories of somatic illness in the year 2008, were: endocrinological diseases

22%, anemia 20%, cardiovascular diseases 18%, infectious diseases 17%, skin and subcutaneous diseases 10%, gastrointestinal diseases 6%. TBC was found in 1% (w: 0%, m: 2%) and chronic diseases of the lower respiratory system in 2% of patients (Figure 2).

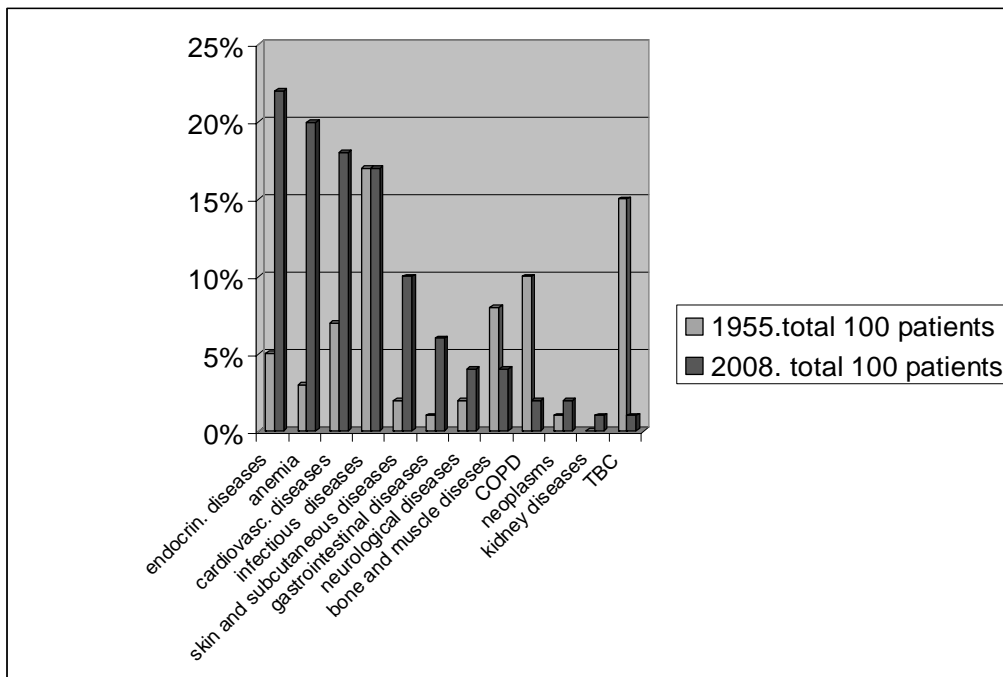


Figure 2. Comorbidity in patients with schizophrenia

Within the category of infectious diseases pneumonia was the most dominant in both periods, in 1955 it made up 5% of all registered comorbid somatic illnesses (29% in the category) and in 2008. it made up 7% of all somatic comorbidity (41% in the category). Also registered during the year 1955, were syphilis 2%, meningitis 2% and 1% each acute bronchitis, cystitis, pyelonephritis and enterocolitis with other diseases making up another 4% of the total somatic comorbidity. In the year 2008, acute bronchitis made up 6%, acute cystitis 3% and enterocolitis 1% of all registered comorbid somatic illnesses (Figure 3).

Within the category of cardiovascular diseases in the year 1955 other cardiovascular diseases prevailed making up 5% of all somatic comorbidity, only one case of cardiovascular disease and one case of vein disease was registered, no cases of hypertension were registered. In the year 2008, hypertension made up 15% of all comorbidity and 85% of the category. Also registered in the year 2008, were 1% each ischemic heart disease, vein disease and other cardiovascular diseases (Figure 4).

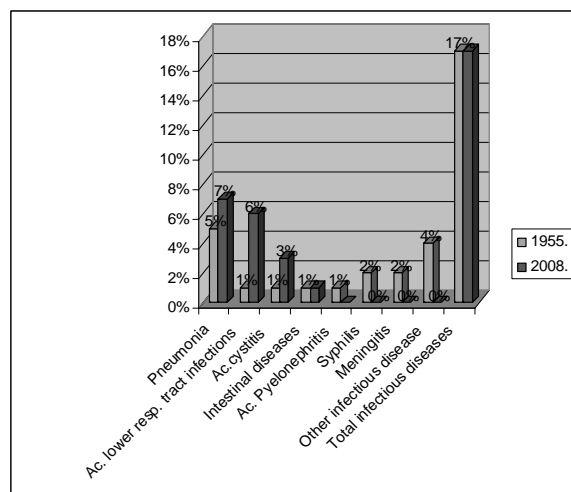


Figure 3. Comorbid infectious diseases in patients with schizophrenia

In the category of endocrine diseases in the year 1955, the only registered endocrine disorder was thyroid disorder making up 5% of the total comorbidity. In the year 2008. the dominating illnesses were diabetes making up 12% and dyslipidemia making up 9% of the total comorbidity, thyroid disorder made up 1% (Figure 5).

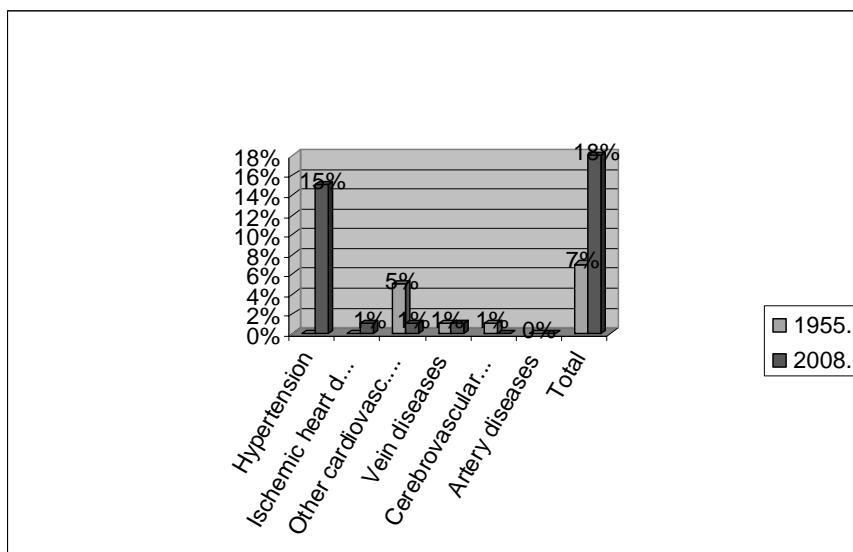


Figure 4. Comorbid cardiovascular system diseases in patients with schizophrenia

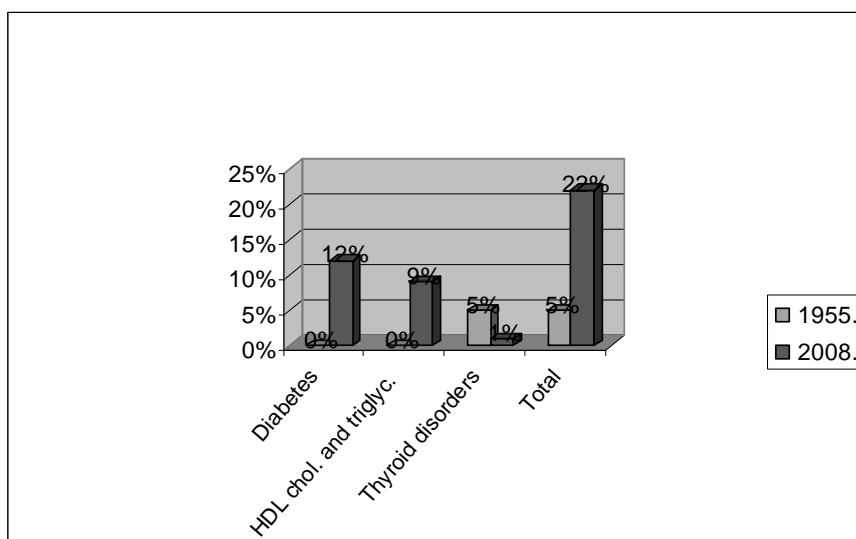


Figure 5. Comorbid endocrinological diseases in patients with schizophrenia

The examined risk factors for the development of somatic illnesses were: malnutrition, alcohol, smoking and obesity. During the year 1955, malnutrition was registered in 25% of the patients, alcohol in 17%, smoking in 8%, obesity was not

registered. During the year 2008, the most prevalent risk factor was smoking, found in 38% of patients, followed by obesity in 17% of patients, malnutrition in 9% and alcohol in 8% (w: 4%, m: 12%) (Figure 6).

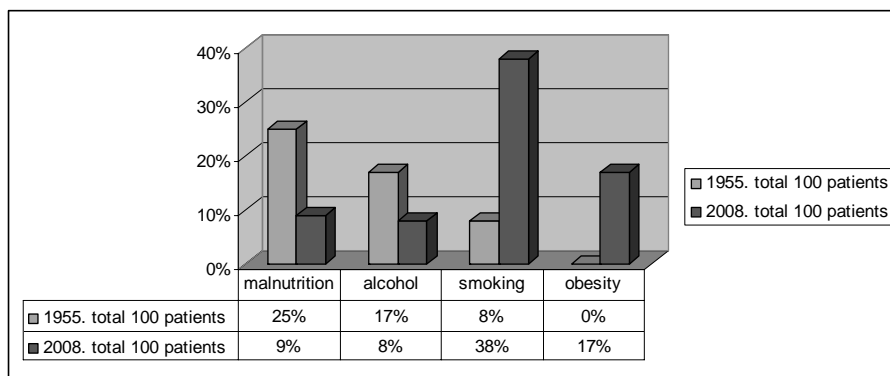


Figure 6. Risk factors in patients with schizophrenia

DISCUSSION AND CONCLUSION

Before considering and presenting any conclusions based on the obtained data, it is necessary to point out all the factors that may have influenced their shaping. One of the most important obstacles we faced was the lack of systematic, planned monitoring of somatic comorbidity in psychiatric patients or standardized tests or variables which can be compared through time. When examining the results of our investigation it is apparent that the total somatic comorbidity was higher in psychiatric patients during the year 2008, than during the year 1955. Although a higher somatic comorbidity was initially expected in the year 1955, the fact is that there were significant differences in the work up and monitoring of somatic problems in patients in the two compared years. Today significant diagnostic advances enable early detection of disease. From the data obtained from patient histories, in the year 1955, the diagnostic tests done on patients consisted of chest x-rays, CBC and sporadic urine samples. Today standard care for patients includes routine tests; CBC, GUK, hepatogram, lipidogram, kidney function tests (serum creatinine, BUN), blood pressure and ECG.

In the year 1955, before the standard use of antipsychotics, hospitalized chronic schizophrenic patients often suffered from tuberculosis, chronic lower respiratory tract diseases and acute infectious diseases. Today in hospitalized chronic schizophrenic patients the prevalence of tuberculosis, much like the trend in the general population, is very low, there is also a lot less chronic illnesses of the lower respiratory tract, whereas the prevalence of infectious diseases has not changed (Goldman 2000). The same fraction of infectious diseases before and now can be explained by the fact that the examined population consists of hospitalized patients, living in close proximity and in closed spaces, which aids the spread of infectious diseases. Also many of the patients were active or passive smokers and therefore more susceptible to respiratory infections. The distribution of diseases within the category of infectious diseases has, however, changed – there is a higher rate of pneumonia and acute bronchitis and no sexually transmitted diseases and meningitis. Treatment with antibiotics is the reason for the lower rate of STD's and meningitis, the higher rate of pneumonia can be explained by

improved diagnostic testing in hospitalized patients and therefore better detection of illness.

In the mid 1950's, the trend in Croatia was a decline in cases of tuberculosis and a better standard of living which of course influenced the decrease in incidence and prevalence of tuberculosis among chronic, hospitalized schizophrenic patients. With the introduction of antipsychotics came an improvement in the treatment of psychiatric illnesses and the reintroduction of patients into the community, which consequently impacted their standard of living and surely contributed to the decrease of tuberculosis, today psychiatric patients with tuberculosis are treated on pulmonary wards with the rest of the population (Felker & Yazel & Short 2000).

Our results show a lower rate of chronic lower respiratory tract diseases in the year 2008, in comparison with the year 1955, with surprisingly more smokers registered in 2008, than in 1955. It is possible that in 1955 systematic records monitoring smoking habits were not kept so that the actual number of smokers in 1955 may be a lot higher than was registered. It seems that due to a lack of accurate and precise data we were unable to accurately convey the role smoking and all of its potentially negative consequences had on the mentioned comorbid disorders.

When considering the other risk factors, in the year 1955, more patients consumed alcohol regularly than in 2008, but the difference was not statistically significant. According to our results malnourishment was a lot more prevalent among patients in the year 1955, which was expected when taking into consideration the standard of living and living conditions during that period generally and especially the living conditions of chronic schizophrenic patients. In the year 2008, obesity was a lot more prevalent, also connected to the standard of living and antipsychotic drugs.

The predominant diseases today- hypertension, diabetes, dyslipidemia, anemia, were not even registered in the year 1955, partly due to a lack of routine monitoring of laboratory parameters and blood pressure but also because of a higher rate of risk factors, including obesity and smoking, for these illnesses today. Second or new generation antipsychotics have certainly influenced increased rates of obesity and indirectly led to the development of dyslipidemia, diabetes and hypertension (American Diabetes Association & American Psychiatric Association 2004, Cassidy et al. 1999, Kohen 2004).

In conclusion, it is evident from the data presented that in the year 1955, there was an expected higher rate of tuberculosis and chronic lower respiratory tract diseases, whereas today we are faced with a significantly higher rate of cardiovascular disease, diabetes and dyslipidemia. It is impossible not to find cause for this, partly in the changes in standard of living. Today we have significantly less cases of tuberculosis whereas diabetes, hypertension, dyslipidemia and consequently the development of cardiovascular disease is one of the leading causes of death. One of the reasons for this is the use of new generation antipsychotics, which are proven to contribute to the development of obesity and in doing so indirectly the development of diabetes, hypertension and dyslipidemia. Finally, the widespread, routine diagnostic testing for these illnesses, in all hospitalized patients today, must be mentioned (American Diabetes Association & American Psychiatric Association 2004).

We are lacking in studies which would systematically approach and monitor comorbid somatic illnesses in psychiatric patients. It is obviously a field shaped by many factors (general and specific trends, modification of clinical symptoms during time, changes in the availability and advances in diagnostic and therapeutic methods), but in a time when the quality of life of psychiatric patients is a very important determinant in the care of these patients it is important to examine all factors that may have an impact. The well known and emphasized role that new generation antipsychotic have on metabolic changes cannot be ignored but not emphasized enough is the positive role they play in the reintegration of patients, treated with these drugs, back into society. This integration has allowed even chronic psychiatric patients to again be included in health care with the general population, without being singled out, their somatic illnesses regarded differently or as less important.

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