

Epidemiological issues related to Parkinson's disease in Romania

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Abstract

The introduction of the advanced technologies into the medical field entails the increase in the average age of the population, fact which has as a major impact on the increase in the number of the medical disorders reported, cases which burden the medical system which is supposed to ensure medical assistance, at least of primary degree, to any particular situation. In this work, we bring forward the casuistry related to Parkinson's disease both at the level of Romania and at the level of the Moldavia region in order to estimate the effort which must be made towards identifying the model of optimal management to be used in order to minimize human and material costs when approaching this medical disorder. Due to the high average age, the issues related to Parkinson's disease become more important as the occurrence rate is particularly high, around 60-65 years.

Keywords: epidemiology, Parkinson's disease, parkinsonian syndrome.

Introduction

Medicine has evolved from the simple

procedures of symptomatic treatment to the management of the entire medical process which includes the treatment of the cause of the disease (9). The final diagnosis is not anymore just the result of interpreting anamnesis and evident clinical signs. The diagnosis is the result of a complex interdisciplinary activity. When talking about Parkinson's disease we mean diagnosis, treatment, results, costs, quality of life, etc (2). The management of Parkinson's disease requires that all data should be analyzed and considered followed by a decision liable to guarantee the optimal average for the patient and for the medical system of the completion of this process. Treatment evolved from symptomatic approaches to focusing on cause and its removal (5) (13). At the beginnings of diagnosing Parkinson's disease, a long time ago, the signs such as tremor, muscle stiffness or loosing balance were classified as Parkinson's disease. These are evident clinical signs, evident at first sight. Nowadays, it has been proved that Parkinson's disease means more than these three types of symptoms. In the equation are also included cognitive symptoms, dementia, depression, etc. (12) and specific

management approach must be considered (4). The problem evolves from the fact that the increasing number of diagnostics increases the load on the health public system. The epidemiological data has a great impact on the managing such already public disease.

Method

We are interested on the paper on the epidemiological impact of this disease. The literature was studied, some international data are presented. Local data from the Direction of Public Health is described as well. The aim is to create a good Parkinson management model for our geographical area.

As far as the case of Romania is concerned, we will present as follows some epidemiological data which come from the Direction for Public Health. For an average population of 21,544,036 persons during 2005-2009, Figure 1 presents the average value according to the age groups in 2005-2009.

Considering the demographic information mentioned above, we present as follows the incidence of Parkinson’s disease and of Parkinson’s syndrome, the cases being reported by the family physicians.

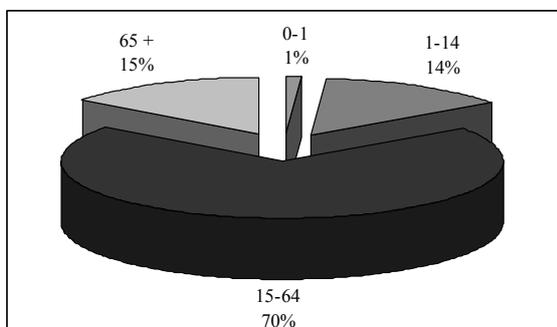


Figure 1 The population of Romania according to age groups, average values in 2005-2009

Results

Figure 2 indicates the incidence of Parkinson’s disease at the level of the population in Romania during 2005-2009, according to age groups. Out of the total population represented on the diagram, we can notice that most of the cases are reported for the age group over 65 years. In spite the fact most of the cases reported are included in the over 65 years group, this medical condition was revealed for the range 15-64 as well.

We can notice that for the age groups 0-1 years and 1-14 years, there are no cases reported. For the age groups 15-64 years and 65+, the number of cases which were reported increased by almost 75% from 2005 to 2009.

Figure 3 presents the number of cases suffering from the parkinsonian syndrome reported for the period 2005-2009. There are less cases than Parkinson’s disease reported for the same period and undergoing a fall from 2005 to 2009.

The data we obtained allowed the distribution of the reported cases for the region of Moldavia, according to counties. Figure 4 and Figure 5 present the incidence of Parkinson’s disease and of Parkinson’s syndrome for the period 2007-2009. The distribution is relatively equal for all the counties. Only in 2007, the county of Suceava reported an almost double incidence (per 100,000 inhabitants) in comparison with the average value of the other counties.

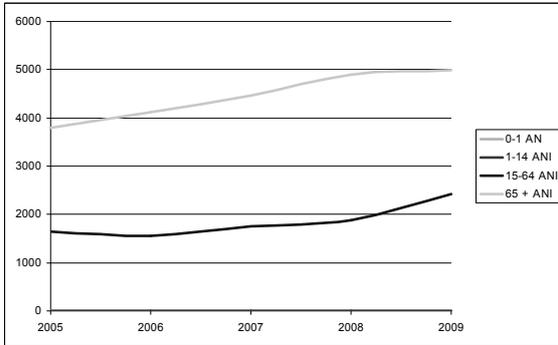


Figure 2 Cases of Parkinson's disease reported according to age groups

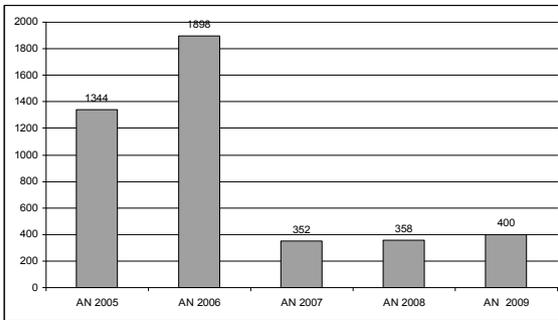
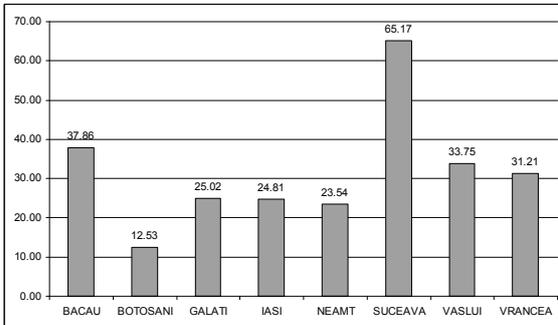
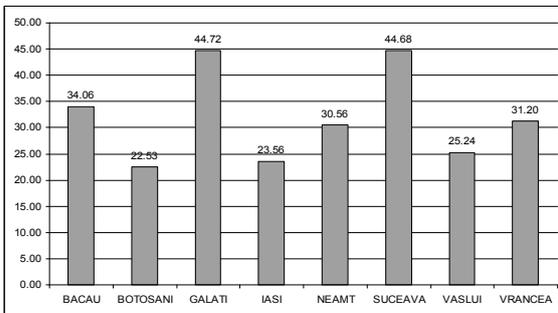


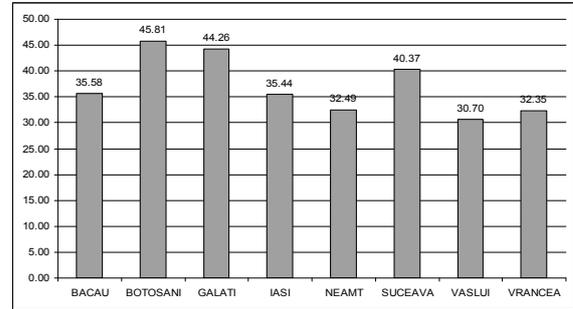
Figure 3 The incidence of the parkinsonian syndrome for the period 2005-2009 (the number of cases)



A

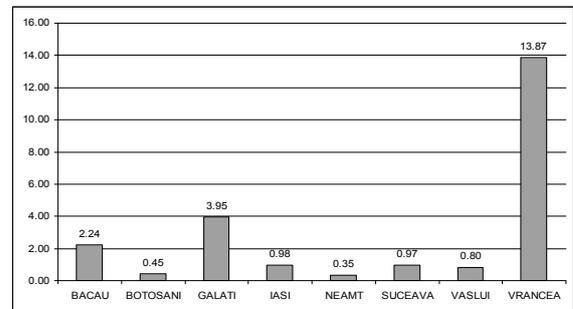


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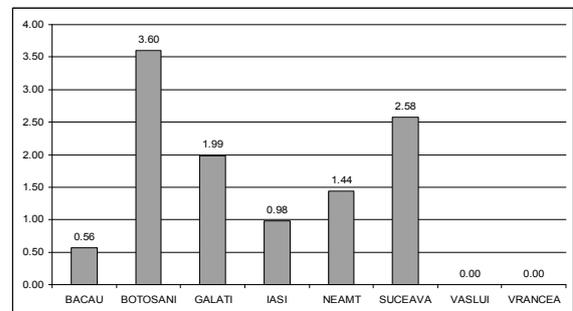


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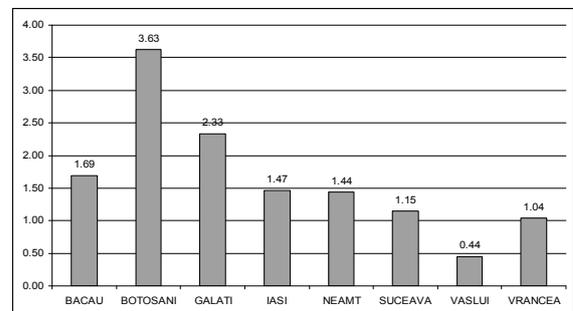
Figure 4 The incidence of Parkinson's disease calculated for the counties of Moldavia for the year **A** 2007, **B** 2008 și **C** 2009



A



B



C

Figure 5 The incidence of the parkinsonian syndrome calculated for the counties of Moldavia for the year **A** 2007, **B** 2008 și **C** 2009

Discussions

The management of Parkinson's disease, one of the well-known neurodegenerative disorders (more than 1 million Americans aged over 60 suffer from the disease (1)), the second only after Alzheimer, has become a true challenge of the present times (14). It involves several stages as anamnesis, diagnosis, decision over the treatment and treatment administration and the identification and monitoring of results. 20% of 1 million persons suffering from Parkinson's disease in the United States of America do not present any of the classical signs of the disease, such as the resting tremor. That is why this aspect has determined over the years the false diagnosis of Parkinson's disease. For example, the essential tremor has been many times confounded with Parkinson-type tremor. Nevertheless, clinical studies (6) showed that the symptom that best describes this type of medical disorder is the resting tremor, the response asymmetry of one part in relation to the other and a good response to levodopa. This type of differential diagnosis is however not absolute. There are several parkinsonian symptoms. Primary Parkinsonism or Parkinson's disease is characterized by tremor, bradykinesia, stiffness and postural instability and from a pathological point of view, by losses of pigmented neurons of the black substance and eosinophilic cytoplasmic inclusions (Lewy bodies). Nevertheless, Parkinsonism may be produced by injuries of basal ganglia in cerebrovascular diseases, infections and toxins, also known as secondary Parkinsonism.

As the images shows, the most cases are identified on the range of 65+, an important number occurs on the range of 15+64 years old and very few cases bellow

15 years old. Most of the Romanian population is squeezed on the range of 15-64. If we correlate the numbers, it seems that the number of cases is important enough comparing the population age and ranges. The thing is that the high technology and opportunity of treatments increase these numbers also and this disease, if not yet, will become a problem of public health. That's why, the preventive approach impose the early diagnostics of such medical condition. It is less costly to prevent than to treat. The thing is that the Parkinson managements at this moment are quite limited for us. Either we do not have enough data from the field or not affordable procedures are available.

For the last about 30 years, Levodopa was the most used efficient treatment. In spite of the very good results on the short time basis, the long term can add more issues on the patient. The motors symptoms could escalate.

The neurosurgery using brain stimulators is an alternative for some patients (about 5%). Using invasive procedures, certain brain areas are stimulated using electrodes. These electrodes are connected by cables to a controlling and processing box under the clavicle. This technique is quite efficient on managing the tremors, the rigidity and movement Parkinson related disorders. There are restrictions though. This procedure cannot be proposed to the patients suffering of this illness for more than 5 years and can be applied only to those without neurological complications. If the age is not a selection item, the general health status must be pretty good.

Conclusions

1. Parkinson's disease is nowadays a complex medical disorder which does not

involve only problems related to the voluntary motor system, but it is also associated with non-motor and neuronal manifestations. Due to this fact, approaching the disease over the past years evolved from the simple treatment to the management of the whole process of identification, control and monitoring.

2. The cost-related problems involved by the numerous medical disorders which society has to manage, require an approach which is superior to the classical allopathic approach according to which a disorder had a solution which could be solved. The diseases became complex or better said, in order to understand them better, inter- and multidisciplinary are absolutely necessary. Owing to this, the solutions evolved as well, from the simple curative drugs to the medical procedures for treatment, for the systemic approach of the disorders. The solutions are in their turn inter- and multidisciplinary. The aim of simply treating the disease evolved from the simple "recovery" to the improvement in the quality of life which, most of the time, becomes the main objective. The personal objective is that related to the quality of life while the social objective is that of minimizing the social impact of the individual on the society and that of the society on the individual. The relation is mainly a cost-related and efficiency-based relation.

3. The reported epidemiological data regarding Parkinson's disease and the parkinsonian syndrome point out a considerable incidence which should determine us to search for methods and models for the management of casuistry (8). An important issue is that case reporting is very much related to the specialist physician who diagnoses a case

and especially to the preventive education of the patient who should see a doctor when the symptoms begin to manifest and not do this at a great distance in time when these symptoms lead to the patient's immobility. Even more so, considering the present economic situation due to the economic crisis we are passing through and whose duration we do not know, the early identification with the purpose of carrying out procedures for the management of the disease at the early stage, would save many resources and would relieve the system of health insurances as well as the system of social security of additional expenses. The model primarily used by patients is that of seeing the doctor when the medical disorders overwhelm them and prevent them from carrying out the daily activities. Therefore, they get into a situation in which they are brought as medical urgencies to the hospital where the costs of recovery, treatment and monitoring are much higher than a process of prevention previously performed would have involved. The reported casuistry for our country determines us to identify methods for raising the patients' awareness to see the doctor in due time in order to maximize the therapeutic approach.

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