

## THESES

URBAN PREVALENCE OF EPILEPSY: A STUDY OF THE POPULATION OF SÃO JOSÉ DO RIO PRETO - BRAZIL (ABSTRACT)\*. **THESIS. SÃO JOSÉ DO RIO PRETO, 2002.**

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**Introduction.** The purpose of this study was to survey the prevalence of epilepsy in the urban population of São José do Rio Preto, a medium-sized city, 360,000 inhabitants, at northwest of São Paulo state, Brazil.

**Method:** This population cross-sectional epidemiological study was carried out into two stages. The first was to access validation of the screening questionnaire on a neighborhood of the city; the second was the study of the prevalence in a randomly, stratified large-scale survey on the population of the city. A gold standard protocol, clinical history and neurological examination, was used to diagnose all the positive cases. The false negative cases were obtained after the validation of results by a mathematical model. For assessing prevalence Chi-square test and Confidence Interval (CI 95%) were used to analyze the results ( $p$ -value  $\leq 0.05$ ).

**Results:** The Validation of the screening questionnaire showed a sensitivity of 95.83% and a specificity of 97.8%. There were 17,293 individuals in the studied sample; the distribution according to sex, age group and race was similar to the general population. Lifetime crude prevalence of epilepsy was 18.6/1000 inh. (CI 95%;16.6-20.6); 8.2(CI 95%;6.8-9.5) for active and

10.4(CI 95%;8.9-11.9) of inactive ( considering at least one seizure in the last two years). The prevalence was 4.9(CI 95%;3.9-6.0) in the age group of 0 to 4 years old; 11.7 (CI 9%;10.0-13.3), 5 to 14 years old; 20.3 (CI 95%;18.2-24.4), 15 to 64 years old; and 32.8 (CI 95%;30.1-35.4), over 65 years old. The prevalence on the **A** economic class was 3.6(CI 95%;2.2-4.5), **B**, 9.0(CI 95%;7.6-10.5), **C**, 21.6(CI 95%;19.4-23.8), **D**, 26.3(CI 95%;24.0-28.7) and on **E**, 10.6(CI 95%;9.0-12.9) . The prevalence of partial seizures was 14.0(CI 95%;12,2-15,7). The prevalence of cryptogenic seizure was 10.4(CI 95%;8.9-11.9).

**Conclusion:** The prevalence lifetime and active epilepsy was high; similar to some developing countries, such as the ones of Latin America. The prevalence of epilepsy in childhood was low; while in the elderly was high, similar to developed countries. The lifetime prevalence was greatly associated with the economic status classes. These results showed that the prevalence of epilepsy in São José do Rio Preto has characteristics of developed and developing countries.

**KEY WORDS:** epilepsy, epidemiology, prevalence, Latin America.

\*Prevalência urbana da epilepsia: estudo populacional na cidade de São José Do Rio Preto - Brasil (Resumo). Tese de Doutorado, Faculdade de Medicina de São José do Rio Preto (FAMERP) (Área: Ciências da Saúde, Epidemiologia).Orientadora: Dirce Maria Trevisão Zanetta.

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DEVELOPMENT OF TARGET CENTERED ARC APPARATUS FOR NEUROSURGICAL STEREOTACTIC PROCEDURES (ABSTRACT)\*. **THESIS. RIO DE JANEIRO, 2002.**

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The neurosurgical stereotactic procedures presents prominence in modern neurosurgery, for its accuracy and minimally invasive character. Stereotactic localization is essential to perform with precision intracranial biopsies, guided craniotomies, nervous tissues ablation for movement disorders and pain treatment, catheteres and endoscope placement, and like a guide for radiosurgery. The target centered arc apparatus (isocentric) for neurosurgical stereotactic procedures have been

the most used for the two last decades in the whole world.

The objectives of this study are: to present to technical-scientific environment the development of an apparatus for neurosurgical stereotactic procedures based on target centered arc principle, with technology entirely national; to diffuse the stereotactic technic in neurosurgical environment, demystifying this neurosurgical technic, for its easy handling, without ne-

cessity of special software to calculate the cartesian coordinates. Are described its development and technic of use, and reported the author's experience with its use, specially in the treatment of movement disorders and to make intracranial biopsies, performed at *Instituto de Neurologia Deolindo Couto, Universidade Federal do Rio de Janeiro*, since 1997.

The author developed a simple and practical apparatus, achieving a system that permits the direct measurement of X, Y and Z cartesian coordinates on the proper monitor of computed tomography. The stereotactic apparatus is composed by a head ring, that is fixed to skull with three or four stainless steel screws, a rulers system that permits movements of the arc to front or back, to up or down, to inside or outside, and moreover two types of free angulation: of the cilinder and of the needle in the arc. The patient performs the brain computed tomographic scan with the head ring fixed with the screws, which extremities touch the external bone skull board and do not permit any movement. At the side of the ring, are placed localizing plaques, in the right

and left, that permit the direct correlation between the tomographic scan target to the tridimensional coordinates, related to the ring. So, the zero point (X0, Y0, Z0) is the center of the ring circumference, at its superior surface. The movements are performed with the linear sliding, millimetred in the three cartesian axis (X, Y, Z), and there is no neccessity to the calculation of any angle. With the coordinates calculated and in the operation room, the apparatus is set, fixed to the ring. The rulers movements are performed in the three axis, permitting that the needle point touch the target point pre-fixed.

The free angulations permit movements to choice the best way to touch the target. The developed apparatus presents precision comparable to the target centered arcs apparatus in use nowadays (2 mm). It presents technology entirely national, easy handling, and its development has been diffusing in technical-cientific enviroinment, specially through the reports of author's experience with its use.

**KEY WORDS:** stereotactic neurosurgery, intracranial biopsy, functional neurosurgery.

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## DEPRESSION IN PARKINSON'S DISEASE: STUDY OF 60 CASES (ABSTRACT)\*. THESIS. SÃO PAULO 2001.

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Neuropsychiatric disorders, specially depression, are frequent in Parkinson's disease (PD), however these symptoms are often underrecognized by neurologists. The objectives of this study were: 1) to emphasize the need of a better approach to neuropsychiatric symptoms in PD by the neurologists, in order to ensure an early diagnosis and proper treatment of depression. 2) to evaluate the clinical characteristics and the frequency of depression in PD. 3) to study the correlations of depression in PD with other variables, discussing the neurophysiological mechanisms of depression in PD.

Sixty patients who fulfilled the clinical criteria for PD (primary), 56.6% male, non demented, ages ranging from 44 to 85 years old, in different stages of the disease (Hoehn & Yahr modified), were submitted to the UPDRS-III, V and VI, Clinical Interview Schedule – revised edition (CIS-R), a semi-structured interview in order to detect neuropsychiatric symptoms and the Hamilton depres-

sion scale (HAM-D), applied by the examiner/author.

The most prevalent psychiatric symptoms were sleep disorder (40%), depression + depressive ideas (38.33%), worry (30%), anxiety (25%), obsessions (23.33%), concentration (18.33%), irritability (11.66%), panic (8.33%), compulsions (5%), phobias (5%). There was not significant correlation between depression and: sex, age of onset, current age and cognitive function. A significant correlation was found between depression and UPDRS-III, V and VI. A significant correlation was also found between depression, anxiety and irritability.

The frequency of depression in PD in this study was around 40% and had its own characteristics. The utilization of structured interviews and evaluation scales is essential for an accurate diagnosis and proper treatment of depression in PD.

**KEY WORDS:** Parkinson's disease, depression.

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