

Mandatory notification and epidemiological surveillance of infectious diseases in the province of Barcelona during the period 1982-1986

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Abstract:

Purpose And Objectives: The purpose of this research is to use the epidemiological method to achieve the following objectives: 1) To know the magnitude and tendency of Diseases of Obligatory Declaration (EDO), in the province of Barcelona, establishing national and international comparisons. 2) Evaluate the Epidemiological Surveillance (VE) activities that have been generated from the Compulsory Illness Notification (NOE). 3) Analyze the behavior of certain variables (age and delays in notification) in different samples of declared diseases. The diseases under study have been Brucellosis, bacillary and amoebic dysentery, typhoid fever, pulmonary tuberculosis, other tuberculosis and other rickettsial diseases. The geographical scope for comparisons has been that of Catalonia, Spain, European countries, EE. UU., Australia, Japan and Canada. The temporal scope has been the period 1982-1986, which coincides with the first five years in which a new NOE system was put into operation in Catalonia. This system recognizes three categories of declaration: the numerical, the individualized and the urgent, not mutually exclusive. The diseases studied are all individually declared, and the doctor must fill in the forms that exist for this purpose as soon as he has clinical suspicion. In these forms, in addition to data to locate the patient and the reporting physician, the date on which the first symptoms appeared, the date of declaration and the data if the declaration is made only on suspicion or with analytical confirmation must be recorded. For each of these diseases, once the local health worker or the provincial epidemiologist has knowledge, he must also carry out an epidemiological survey that includes Clinical Data, Analytical Data, Epidemiological Data and Data on the measures adopted.

Materials And Methods

Objective 1: The materials used were 16,719 declaration forms received at the Public Health Territorial Service of Barcelona, the Epidemiological Bulletins (Weekly and of Catalonia), the

Statistical Yearbooks of the INE and the WHO Statistical Yearbooks. . From these data, the annual incidence rates of the eight diseases in the province of Barcelona have been obtained. In the other communities and countries, the rates found have been adjusted according to age by the indirect method. To adequately assess the importance of this set of entities not only in terms of disease, but in terms of cause of death, mortality rates have been calculated for parasitic infections (adjusting for age by direct method) and proportional mortality by this same

Objective 2: The materials used have been the same as those previously mentioned and 10,503 epidemiological surveys. The following data have been collected from the forms: number of forms generated per case, age and sex, if the patient's data are available, if the doctor's information is available and if the statement has been made with analytical confirmation. Of the surveys, the data reported were: number of surveys generated per case, presence of clinical data, analytical data, of data on the source of infection or the transmission mechanism and data on adapted sanitary measures. In addition, to know the opportunity or punctuality of the NOE, the intervals of time between the onset of symptoms and the date of the declaration (Delay 1), between the declaration and the epidemiological survey (Delay have been studied in each case). 2) and the sum of both (Delay 3). For the quantitative variables, measures of central tendency and dispersion have been calculated and for qualitative variables only two possibilities have been considered: that data appear or that they do not appear.

Objective 3: Based on the data collected in the 10,503 declarations and their corresponding epidemiological surveys, Inferential statistical techniques have been applied to study the behavior of the variables Delay 1, Delay 2, Delay 3 and Age. The verification of the normality hypothesis of the studied variables was carried out with the Kolmogorov-Smirnoff test, using the Student "t" test when the variables followed a normal distribution and the non-parametric "U" tests of Mann-Whitney and Kruskal- Wallis when they did not.

Results And Discussion In all the entities studied, except in the Other rickettsiosis, the incidence rates of the province of Barcelona have always been lower than those of Catalonia. Likewise, in Brucellosis, Dysentery, Typhoid Fever and Viral Hepatitis, Barcelona rates have always been lower than those in Spain. Among the countries compared, Spain is the country that has the highest incidence rates of five entities. In contrast, both the mortality rates due to infectious and parasitic diseases and the proportional mortality due to this cause obtained in Spain occupy a discrete intermediate position in the series compared. The smallest average age corresponded to the meningococcal infection and the highest to pulmonary tuberculosis. The values obtained for Delays show that there are great variations according to the diseases and that with the exception of Tuberculosis, in the other entities, Delay 2 has always been greater than Delay 1. Since this Delay 2 depends exclusively on the effectiveness of the VE system, it is necessary to focus efforts on decreasing this interval to increase the effectiveness of the system. Regarding the completion of the different sections of the statements and surveys worth highlighting two facts: 1) The percentage of statements made with analytical confirmation is high (in six diseases is more than 60%) and also increases as the system of consolidation is consolidated notification.

Therefore, it is necessary to carry out educational activities so that the medical care physicians can notify at the mere clinical suspicion. 2) In all the diseases studied, the contribution of clinical data is greater than that of analytical data, and that of data on the source of infection or transmission mechanisms. Therefore, it is necessary to reorient VE activities and devote more efforts to obtain epidemiological data of interest, since the contribution of clinical and analytical data consumes resources without translating into operational results for the VE. From the result of the application of inferential statistical techniques to know the behavior of age and of the delays studied in different samples of declared diseases, the conclusions drawn are the following: 1) Both Delay 2 (interval between the declaration and the survey) as Delay 3 (interval between the onset of symptoms and the completion of the survey) are greater in those situations in which analytical data are included in the surveys and in those in which the statement is made after having the analytical confirmation. This means that the contribution of analytical data is detrimental to the speed, a quality that must be present in any NOE system. 2) In those samples in which, due to the existence of a certain type of completion, there are greater delays in the timing of the declarations and epidemiological surveys, the age averages are also higher. This suggests that the statements and surveys of the youngest members of the community are carried out more quickly than those of older people. 3) Those samples in which sections are completed on the source of infection and / or on sanitary measures and those with a greater number of completed sections correspond to declared cases whose average age is lower. This suggests that surveys of the youngest individuals in the community are better completed both quantitatively and qualitatively.

Keywords: Prevenció (Medicine) Malalties de Declaració Obligatòria (EDO) Malalties transmissibles

Reference

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