THE HOSPITAL OF THE SANTA CARIDAD OF SEVILLE: STUDY OF DISEASES AND DRUG TREATMENTS DURING THE NINETEENTH CENTURY.

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The objective of this communication is to analyse the disease and its consequences during the nineteenth century, as well as the drug treatments used in the Hospital called “of the Santa Caridad of Seville”. This hospital was founded in 1665 by Mr. Miguel Mañara to receive the poor people who were affected by incurable diseases and who were rejected by the rest of the hospitals of the city (1,2,3,4).

The investigation we have made of the Private Archives of the Santa Caridad, has allowed us to find the *Book of Deaths* of the hospital which, although there is a lack of documentation, have been very helpful to make this lecture. The priest wrote down on the *Books of Deaths* not only the day of the death, but, in many cases, he also wrote the cause of the death, as well as the age and the origin of the deceased. We have used different years as reference, spacing them out each five year, and showing both the number of deaths per year and the total number of deaths, and also the causes of the deaths. Bearing all this information in mind, and comparing them with the current situation, we have been able to get a quite accurate idea of the welfare activity in that time (5).

We have studied the years 1840, 1845, 1850, 1855, 1860, 1865, 1895 and 1900. In the following chart, we can see the number of deaths of each year:

1840	**1845**	**1850**	**1855**	**1860**	**1865**	**1895**	**1900**
32	58	51	70	66	57	64	49

-Graphic I-

The total number of deaths in the Hospital of the Santa Caridad during those years was 447. [Graphic I]. We should pay attention to the rise of deaths during the period between 1855 and 1860, what, probably, was the result of the epidemics of cholera that affected Seville in that time.

With regard to the causes of death and according to the *Books of Deaths*, we know that the people received in the hospital of the Santa Caridad died, above all, from respiratory, digestive or Cardiovascular System diseases.

We must emphasize that more than a half of the deaths (50.78%) were produced by respiratory and digestive diseases, what was usual in this century. Besides, if we compare this with the information that Dr. Antonio Ramos Carrillo shows in his studies about the hospital of the Cinco Llagas (Central Hospital), hospital of reference in Seville in the nineteenth century, we can see that the percentage is quite similar, although a bit higher (53.27%).

With respect to diseases which affect the Respiratory System, there are 132 archived cases, which represent 29.53% out of the total. Among these ones, we can name cases of asthma, bronchopneumonias, chronic bronchitis, pulmonary cold, pulmonary congestion, chronic pneumonia, tuberculosis and lung ulcer. This high number of respiratory diseases was probably the result of the dirtiness of the streets and squares, together with the lack of efficient drugs to fight against these respiratory pathologies, although in the hospital there were measures to avoid contagions.

In second place of importance we should stress the diseases referred to the Digestive System, with 95 cases that represent 21.25% out of the total. As some examples we can say cases of nervous colics, diarrhoeas, dysenteries, chronic enteritis, chronic gastritis, chronic gastroenteritis and chronic hepatitis. Among these ones, the dysenteries are the most important, constituting almost a third out of the total (33.68%). If we look at the time when the deaths took place, we realise that they rise enormously in summer time, so we suppose that most of the cases would have been viral gastroenteritis which, together with the malnutrition and the advanced age of the patients, would lead to the fatal ending. On the other hand, the conservation and hygiene of the food would not have been the most correct, due to, among other factors, the hot weather of our city. This fact would have favoured the alimentary toxi-infections, which were quite important.

We have also analysed the ages of the deceased people, organising them in five ranges: younger than 50 years [the total number of deaths was 111 (24.83%)], between 50 and 60 years [the total number of deaths was 47 (10.51%)], between 61 and 70 years [the total number of

deaths was 65 (14.54%)], between 71 and 80 years [130 deaths (29.08%)] and over 80 years [94 deaths (21.02%)].

If the life expectancy at birth in the nineteenth century in Spain was of 30.51 years, according to Muñoz Pradas (6), it is surprising that more than a half of the deaths in this hospital were of people over the 70 years. A possible explanation would be that most of the vagrants of Seville in this century were kids and old people, and these old people, who lived in very poor conditions, were who would be treated in the hospital of the Santa Caridad. When we check the information about the diseases against the age, we observe that most of the people younger than 50 years who died in the hospital, died from tuberculosis. So the hospital of the Santa Caridad was like a residence for patients with respiratory diseases during the nineteenth century.

Regarding to the origin of the patients and after analysing the information, we realise that most of them were form Seville. Curiously we could see that, in most cases, the priest even wrote down the parish church which they belong to. Bearing this in mind, we could observe that the number of the patients who belong to the parish church of Santa Ana in Triana was quiet higher than those from other parish churches. This would be explained due to the proximity of that parish church to the hospital, fact that made it more accessible.

It is also important the number of patients that were from Seville but who were not from the capital city. Most of them were from the towns of the region of the Aljarafe (Mairena, Coria, Tomares…) and from the towns of the Sevillian countryside (Utrera, Estepa, Ecija, Marchena…). There also were patients who were not from Andalusia.

With regard to the professions, the majority of them were day labourers, carpenters, shoemakers, bricklayers, cigarette makers and, in many cases, it is only named the branch of work. We find, as well, professions of a higher level such as surgeons, pilots, lawyers, ecclesiastical notaries and, of course, some pharmacists.

Although nowadays the drug treatments are provided by a pharmacy that doesn't belong to the hospital, there are some rooms inside the hospital where the medicaments are kept and watched. We have not found, so far, any documents which give us information about the drugs used to treat the mentioned pathologies. Nevertheless, in the *Books of Current Accounts* there are proofs of *Expenses of Hospitality by the Pharmacy (7)*, as well as expenses for flat and empty glasses for the pharmacy of the hospital (8). There are some evidences that in the eighteenth century the drugs were provided to the hospital by some pharmacists who belonged to the brotherhood, and that they gave them as alms.

"[…] for the expense of a tart that should be sent to the pharmacist who gives the medicaments as alms" 37 copper reals 12th Book of Accounts and Tresaury.

Nevertheless, since we know more or less the drugs that were used in this city to treat the diseases(9), we can venture to propose some of the medicament used in the hospital and which were, probably, from pharmacies from the outside of it.

Regarding the drug treatment that were used and bearing in mind the most commonly ones used in Seville, we can establish the couple DISEASE-DRUG TREATMENT(10).

STOMACHAL CONDITIONS: BISMUTH AND COAL
PULMONARY CONDITIONS: AMMONIA, TAR, BLACK MAIDENHAIR FERN
ASTHMA: CAMPHOR, JIMSON WEED, BELLADONNA
BRONCHITIS: .JUJUBE, TOLU BALSAM, IPECACUANHA, MALLOW FLOWER
HEART PAINS: CAMPHOR, VIOLET FLOWER, OPIUM
CHRONIC COLDS: TOLU BALSAM, RED SQUILL, IPECACUANHA
DIARRHEA: CRYSTALLINE LEAD ACETATE, RICE, COAL
DYSENTERY: AMMONIA, BISMUTH, MORPHINE, RHATANY, IPECACUANHA
DYSPEPSIA: BIRTHWORT FLOWER, MAGNESIA, CAMOMILE
EDEMAS: POTASSIUM ACETATE, AMMONIA, POTASSIUM NITRATE, RED SQUILL
PNEUMONIAS: MUSCK, TARTARIC ACID, MINERAL KERMES
PARALYSIS: AMMONIA, ARNICA, STRYCHNINE, BIRTHWORT FLOWER
SYPHILIS: BITTERSWEET, MERCURY IODIDE, PORASSIUM IODIDE, ELDER FLOWER
TUBERCULOSIS: BELLADONNA LEAVES, IPECACUANHA

If we analyse this drug treatments, the diarrhoeas, as symptoms of diseases such as gastritis, enteritis, dysenteries or nervous colics, were treated with *albuminous water*, *phenolic water*, *syrup of red roses*, *Dower's powder*, *quina aluminate powder* and *compounds of opium*, among others. The *syrup of red roses* was made from red roses, hot water and simple syrup.

There was also a *syrup of pale roses*, which was made from pale roses, hot water and simple syrup, and which was used in cases of constipation. The *Dower's powder* was composed by potassium sulphate, potassium nitrate, ipecacuanha, liquorice and dry opium extract. The *albuminous water* was formed by 3 to 6 egg whites whipped in a litre of water. The quina aluminate powder was used to cure stomach diseases, chronic diarrhoeas and chronic ulcers and its formula had quina calisaya 30.00, aluminium potassium sulphate 8.00, cinnamon 2.00, camphor 2.00.

Respiratory processes such as bronchitis, chronic pneumonia, asthma and, above all, tuberculosis, whose principal symptoms were cough and disorders in the expectoration, were treated with *albuminous water, tar-water, Bañares' water, pectoral tisane* and *poppy syrup, pectoral decoction of Hispania, pectoral syrup, white looc* and *houndstongue pills*, among others.

Albuminous water was formed by 3 to 6 egg whites whipped in a litre of water.

Tar-water, the vegetal tar is a product of the combustion of the pine tree wood and the fir tree wood. It was used in cases of herpes, impetigo and psoriasis. To make tar-water we should put into water 30 g of washed vegetal tar, which should be let soak during ten days in cold water and, then, we should filter it (*Codex*). If the tar is breathed when it is vapour or as tisane was used in cases of pulmonary tuberculosis.

Bañares' Water in different forms, such as sulphurous, chlorided and so on, was used in intestinal occlusions, in herpes and in chronic bronchitis. According to the 5th Edition of the Spanish Pharmacopoeia, it can be a laxative in a dose between 115 and 180 g.

Pectoral tisane could have poppy bulbs, mallow leaves, violet flowers and pulmonaria leaves, water and sugar.

The pectoral decoction of Hipania was used to treat colds and pneumonias. It was a treatment based on boiling the pectoral area with a demulcent result and it was made of jujube, common fig and liquorice among other ingredients. 5th Edition of the Spanish Pharmacopoeia.

The pectoral syrup was composed by water, sugar, Zante currant, gum Arabic and calf lungs.

The white looc, also known as amygdalin looc, was used against mild colds in adults and children, and also against bronchitis. According to the 5th Edition of the Spanish Pharmacopoeia, it was made of sweet almonds 14.00, bitter almonds 2.00, white sugar 2.00, gum tragacanth 0.80, orange blossom water 14.00 and common water 115.00.

Houndstongue pills have, among other substances, houndstongue root and opium extract and it was used to ease the cough and try to make the patients sleep. According to 5th Edition of the Spanish Pharmacopoeia, it was composed by houndstongue root bark 58.00, opium extract 11.00, saffron 18.00, castoreum 22.00, sugar 7.00 and gum Arabic 14.00.

Hot footbaths were used in the processes that affected the Nervous System, mainly in the paralysis and apoplexies. These footbaths were a therapeutic method of revulsion, in which the feet are submerged in hot or cold water, during a period of time. The energy of the footbath is activated with 250 g of mustard, 500 g of grey salt and with 15 g of hydrochloric acid. The hot footbaths should last a quarter of hour, what would cause the dilatation of the vessels and the redness of the skin. Arnica infusions, also known by some authors as quina of the poor, were also used in these cases due to the fact that it dropped the fever. The flower was used as energetic stimulating of the nervous system and the infusion made of it was used to treat knocks on the head, rheumatism and paralysis.

They also used the called "spirits", which were liquid products obtained by distillation. To treat diseases of the nervous system were used the spirit of sulphuric ether, which was stimulating, and it was made, according to Fr, of ether 192.00, alcohol 348.00 and sweet wine oil 9.00, and the volatile spirit, which came from the distillation of animal materials, such as deer antiers, and that was anti-hysterical.

In cardiovascular processes the mainly used treatments were the common foxglove and the violet flower, using in cases of edemas, the tincture of Spanish flies. As a important type of tincture we could name the alcoholic tincture of Spanish flies which, besides being used in edemas, was also a rubefacient and, used internally, was an aphrodisiac. And the emollient iodided cataplasm could be used in cases of heart attacks.

To treat processes referred to the reproductive system, for example the syphilis, they used *mercury iodide, mercurial ointment* and *mercurial powder*, which were composed by double mercury of Hanemann, opium and gun tragacanth. They also used the *Robs*, which were medicinal tisanes that were used as usual drink for the patients, that's why the concentration of active principles of the *Robs* was quite low. They were prepared by solution, soaking or cooking. Among others, we have found the *anti-syphilitic Robs of Arnoud*, used to treat the persistent syphilis. Its

formula, according to Fr, is antimonium sulphide 50.00, guayaco 8.00, torvisco bark 8.00, common spindle bark, fish tail 8.00, sarsaparilla 60.00, and water 1500.00.

Definitely, the population of Seville in the nineteenth century was very similar to the rest of Spain, since most of the people lived in unhealthy houses, undernourished, and with many hygienic lacks, and all this helped to the appearance of diseases.

After analysing the diseases that caused the deaths in the Hospital of the Santa Caridad of Seville since 1840, we conclude that most of them were related to this lack of hygiene and the unhealthy situation of the people. The most common diseases were the digestive diseases, whose principal symptom was diarrhoea, and the respiratory diseases, information which coincides in that time with the one of the reference hospital of the city (Central Hospital).

The relation of diseases and drug treatment would surely be wider, but the absence of documental evidence, up to now, of the existence of the pharmacy in the hospital of the Santa Caridad of Seville, has made us to focus on the most used drugs of that century in our city and venture to state that they came from pharmacies from the outside of the hospital.

BIBLIOGRAPHY:

(1) Beatificationis et canonizationes venerabilis servi dei Michaelis Mañara, equitis de Calatrava et fundatoris nosocomii vulgo “de la Santa Caridad” (1679). Positio supervirtutibus ex officio concinnata. Roma Polig. Vatic. (1978) Redactor principal P.F. Martin Hernández.

(2) Breve noticia histórica de la Hermandad de la Santa Caridad de nuestro Señor Jesucristo y descripción de su Iglesia y Hospital. José Sebastián y Bandaran, Pbro. de la misma Hermandad. Con licencia eclesiástica 3ª Edición. Tipografía Andaluza. Amor de Dios 23, Sevilla.

(3) Piveteau, O.: D. Miguel Mañara frente al mito de D. Juan. 2 volúmenes, Sevilla, Cajasol Fundación Obra Social (2007).

(4) Valdivieso, E. y Serrera, J. M.: El Hospital de la Caridad de Sevilla. Valladolid, Editorial Server-Cuesta (1980).

(5) Books of Deaths, numbers: 5-6-7-8-10.

(6) Muñoz Pradas, F.: Geografía de la mortalidad española en el siglo XIX: Una exploración de sus factores determinantes. Barcelona (2005).

(7) Book of Current Accounts nº 10 (1845-1851) and Book of Current Accounts (1852-1854).

(8) 10th Book of the Treasury Department, folio 130, September (1867).

(9,10) Ramos Carrillo, A.: La Sanidad sevillana en el siglo XIX: El Hospital de las Cinco Llagas. Sevilla, Diputación Provincial de Sevilla (2003).