



## Study of the population assisted by F.O.R by using an Electronic Medical Record.

### Geocoding.

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Epidemiology is the scientific discipline that studies the distribution, frequency, determinants, relationships, predictions and control of factors related to health and disease in human populations. The epidemiology, in the strict sense, that could be called human, has a special place in the intersection of the biomedical sciences and social sciences and used the methods and principles of these sciences to the study of health and disease in definite human populations.

To carry out this study, in epidemiology there had been studies and descriptions on the health and diseases occurring in a certain population, taking into account a number of "patterns of disease": time in which it appears and it is most frequent, the place where the illness have appeared, and those people most likely to suffer it.

Dentistry, as well as other activities in the health area can not be done effectively, without accurate and timely information. This information must be inherent to the patient and his problems, to procedures suitable for his care, his benefits and limitations (Wallace 1994). This information is the final result of data processing and help in making decisions. Decision making is based on data and clinical knowledge. The data vary from person to person, while clinical knowledge is applied to them. Health records are essential when you need to gather information from a particular patient (Shortliffe, Perrault et al 1990).

From the Hippocratic era, the diagnosis has been a milestone for the proper health practices. The diagnosis is the determination of the nature of a health or disease condition, thru a careful investigation of the history, signs and symptoms. (Cohen Burns 1999). Without a diagnosis an appropriate treatment, which will asses the prognosis possibilities could not be possible. It is possible to count with the anamnesis, the observation, the palpation, the recording of the information on a medical history, and an ordered and analytical evaluative thinking which allows making a judgment. (Giglio, Nicolosi 2000) The Medical Record or Health Record is a systematic collection of facts relevant to the life of a person and his health and disease history. Tomes (1994) define it as "a collection of information about health care." The provision of a computerized format for the HC allows to improve the conditions for retrieving information, solving problems of storage and, most of all, of encouraging the distance actual time or delayed interconsultants. (Reig Redondo 1995). The computerized dental records, could act as a tool to simplify and unify the information. This requirement is essential for assessing the oral status of patients within a social context, and moreover it allows to follow the treatments already done. (Racciatti 2006). The computerized medical record, insert the Technology and Communication Information in the core of health care and it gives an important conceptual shift. The HC is not longer an only record of information generated between the patient and the professional but a part of integrated clinical information. (Carnicero 2003). In previous studies Racciatti (2003) conducted an HCI specially designed for the clinical needs of the Post grade specialization in Endodontic.

**OBJECTIVE:** The aim of this study was to conduct epidemiological analysis of data collected in a Model of Computerized Medical Record designed for the care of patients treated endodontically.

**MATERIALS AND METHODS**

A retrospective linear study in the specialty of Endodontic was performed in patients treated during the period 2009/2010. There were loaded data of (n = 328) patients. For epidemiological analysis there were taken into account the following variables:

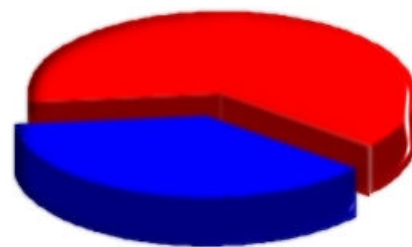
- Full Name.
- Address (to analyze the geographical distribution of service demand).
- Age.
- Gender.
- Studies.
- Socioeconomic level.
- Most frequent pathology.
- Affected teeth.

For statistical analysis the test of proportions for paired data was used, by means of SPSS package by Windows Standard Version 10.0.1. Rosario city was divided according to the municipal districts. Processing of geo-referenced data was carried out through Arc View software

**RESULTS:**

Within the variable GENDER it was found that 37.1% were male and 62.9% female.

As regards the Age the 34.8% of patients were between 21 and 40 years with an average of 33.4 years.



■ Male ■ Female

**Graphic 1:** Gender.



■ Less than 9 years old ■ From 10 to 20 years old  
 ■ From 21 to 40 years ■ From 41 to 60 years old  
 ■ More than 61 years old

**Graphic 2:** Age.

**Chart 1:** Age.

Age	%
Less than 9 years old	3,6
10 to 20 years old	27,2
21 to 40 years old	34,8
41 to 60 years old	24,3
More than 61 years old	10,2
<b>Total</b>	<b>100,0</b>

The N° 46 was the most affected tooth with a frequency of 10.6% .

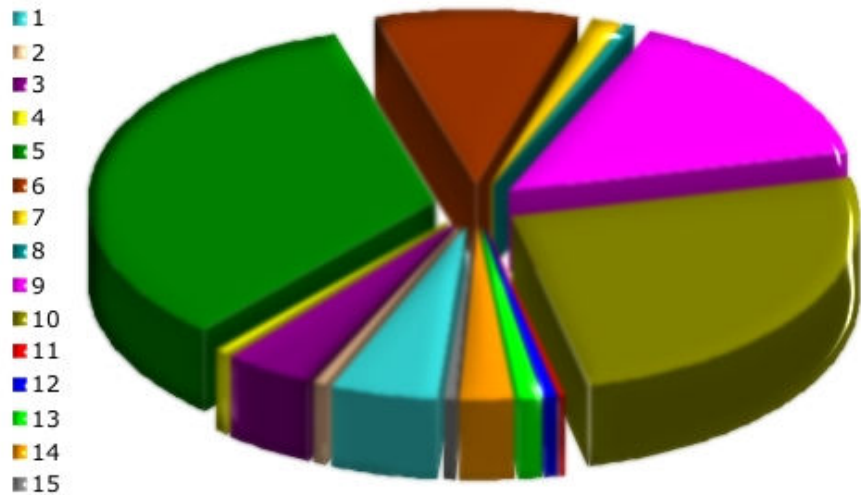
**Chart 2:** Piezas dentarias

PD	%
11	8,7
12	5,3
13	0,9
14	3,4
15	3,7
16	6,5
17	3,7
18	0,3
21	8,1
22	3,4
23	1,2
24	3,1
25	2,8
26	6,2
27	1,6
31	0,6
32	1,2
33	1,2
34	0,9
35	1,9
36	9,9
37	2,8
38	0,6
41	1,2
42	0,9
43	1,6
44	1,2
45	1,2
46	10,6
47	4,7
48	0,3
<b>Total</b>	<b>100,0</b>

As regard to the most common pathology, it was found that 33.4% were Pulp Death Processes: Gangrene.

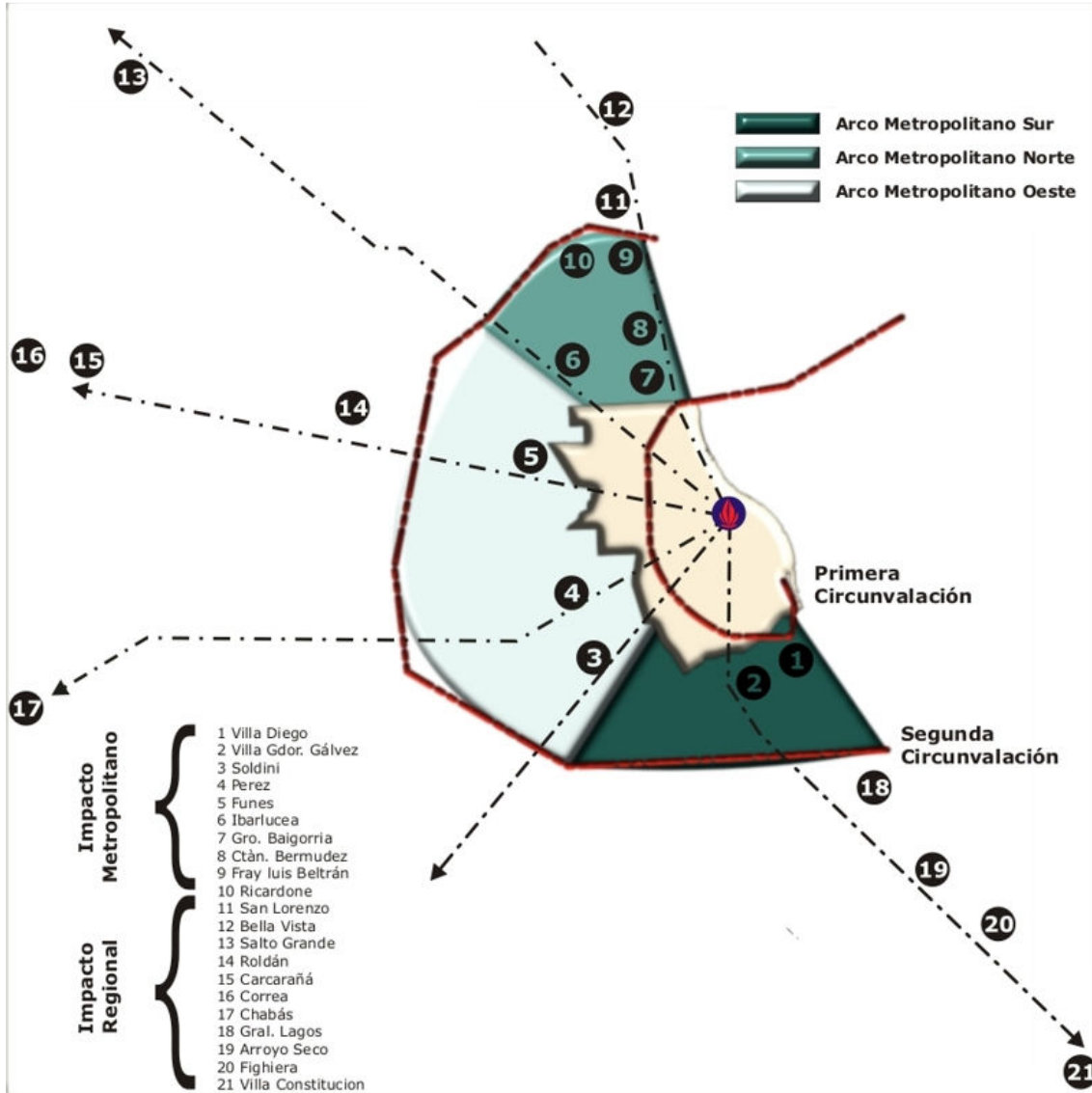
**Chart 3:** Pathologies.

Ref.	Patología	%
01	No Respondieron	4,9
02	Proceso De Envejecimiento Fisiologico	0,6
03	Proceso De Envejecimiento Patologico	4,3
04	Procesos Congestivos	,6
05	Procesos De Muerte Pulpar: Gangrena	33,4
06	Procesos De Muerte Pulpar: Necrosis	9,5
07	Procesos Endoperiodontales	1,5
08	Procesos Hiperreactivos	0,3
09	Procesos Inflamatorios Asintomaticos	14,7
10	Procesos Inflamatorios Sintomaticos	25,2
11	Procesos Periapicales Asintomaticos: Absc. Cronico	0,3
12	Procesos Periapicales Asintomaticos: Granuloma Periapical	0,3
13	Procesos Periapicales Sintomaticos: Absc. Periap Agudo	1,2
14	Procesos Periapicales Sintomaticos: Periodontitis	2,5
15	Reabsorciones Cemento-Dentinarias	0,6
<b>Total</b>		<b>100,0</b>



**Graphic 3:** Pathologies

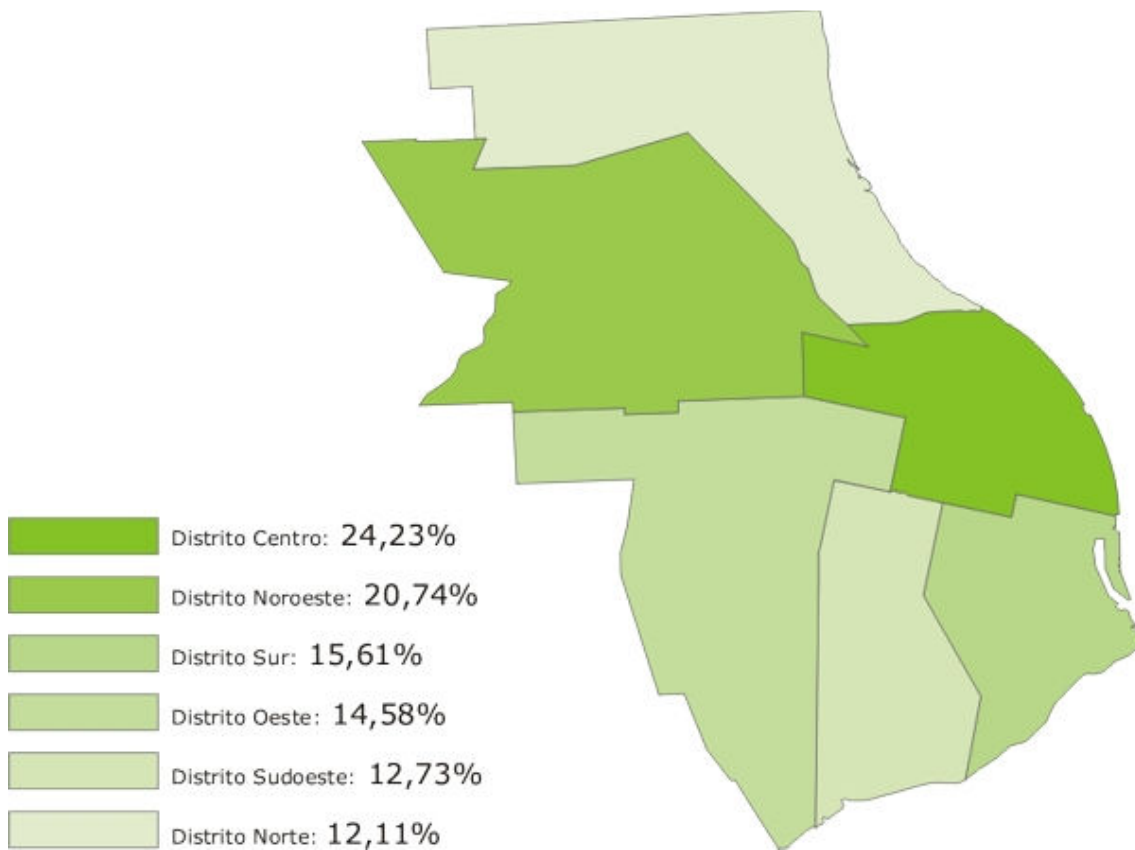
Considering the place of residence, el 86,5% belongs to Rosario city, the 13,5% comes from the metropolitan area; which percentage, southern metropolitan arc (Villa Gobernador Gálvez + Villa Diego) is the biggest incidence: 31,58%.



**Graphic 4**  
 Regional and Metropolitan incidence.  
 Shade scale.

Regarding the territorial scope into Rosario city:

- Downtown District: 24,23%
- North-western District: 20,74%
- South District: 15,61%
- West District : 14,58%
- South-western District: 12,73%
- North District: 12,11%



**Graphic 5**

City Districts. Concurrence percentages per district.  
Monochromatic scale.

## **DISCUSSIONS AND CONCLUSIONS:**

Having a data computerized registry, allowed to speed up the statistical analysis time. While assessing the variable gender, it appears that the female population has been prevalent (62.9% women and 37.10% men). Articulated to age variable, the result was that, taking into account the etarios groups the percentage was distributed as follows: 3.6% for patients younger than 9 years, the 27.2% for patients between 10 to 20 years, the 34.85% means people between 21 to 40 years, the 24.3% for patients between 41 and 60 years and the 10.2% for patients over 61 years. These data indicates that the most attended people were young adult women.

Referring to pulp and periapical prevalent disease, studies of these groups correspond to pulp death processes, being the first left molar the most affected.

Two territorial impacts can be read; one circumscribed to the administrative borders where the scope is relatively homogeneous; and a second one summing up the from the Downtown District the southern and south-western second outer-ring, the South and South-western Districts and the southern metropolitan arc, where the scope is significant.

As a conclusion it could be consider that there is a population of young women at dental risk as regards the premature loss of teeth and that it should be established regulations to preserve dental health and to make people reach older ages with a better quality of life.

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