External Validity and Representativeness of Telotron® Database: A Reliable Source for Real-World Evidence Research in Spain

RWD25

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Conclusions

- The Spanish database TELOTRON effectively mirrors the Spanish population in demographic and health-related data with respect to the data sources consulted.
- TELOTRON is shown as a reliable source for real-world evidence research in Spain in terms of representativeness and external validity of its records.

Introduction

Databases integrating electronic medical records (EMRs) offer great potential for observational research and evidence generation.

Objectives

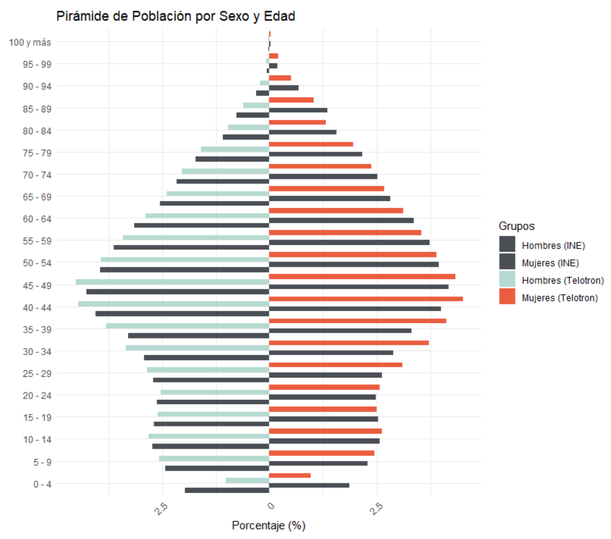
This study evaluates the population representativeness and external validity of TELOTRON as a source for retrospective observational research.

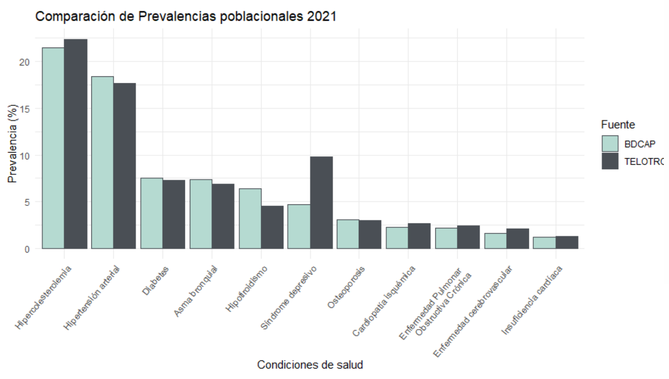
Methods

- An observational-retrospective study was carried out based on the Spanish anonymized database TELOTRON . The database, established in 2012, contains longitudinal real-world-data from primary care, specialties and hospital, encompassing approximately 2.2 million Spanish patients.
- Population representativeness was assessed comparing TELOTRON 's demographic distribution with 2022 Spanish population data from the National Institute of Statistics.
- External validity was evaluated comparing disease prevalences (arterial hypertension, diabetes, dyslipidemia, bronchial asthma, chronic obstructive pulmonary disease, depressive syndrome, hypothyroidism, osteoporosis, ischemic heart disease, cerebrovascular disease and heart failure) with 2022 report of the Spanish National Health System (BDCAP) and drug dispensations by Anatomical
- Therapeutic Chemical Classification (ATC) with 2023 Ministry of Health data.
- Descriptive statistics and Pearson's correlation were used to determine concordance

Results

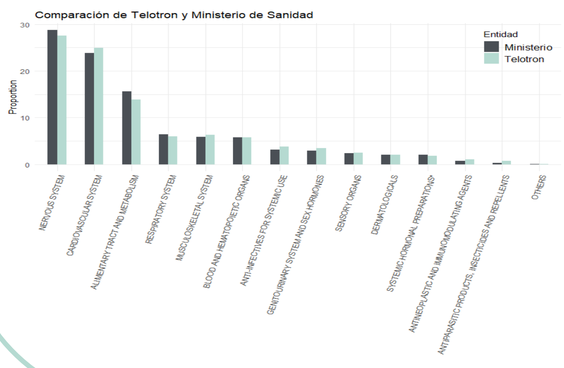
- TELOTRON population distribution (age and sex) was comparable to Spanish population (r=0.971), with an average difference of 0.2%. For disease prevalences, the average difference was 0.96%, median 0.46%. Depressive syndrome showed the greatest difference (4.7% BDCAP; 9.8% TELOTRON), followed by hypothyroidism (6.4% BDCAP; 4.5% TELOTRON).
- The most prevalent disease was dyslipidemia (21.5% BDCAP; 22.4% TELOTRON) and the least prevalent was heart failure (1.2% BDCAP; 1.3% TELOTRON).
- Prescription data showed strong correlation with Ministry of health data, r=0.997 (ATC1), r=0.994 (ATC2) and r=0.982 (ATC3), with an average difference of 0.50%. The biggest difference was observed in the therapeutic group A02 (1.8%).

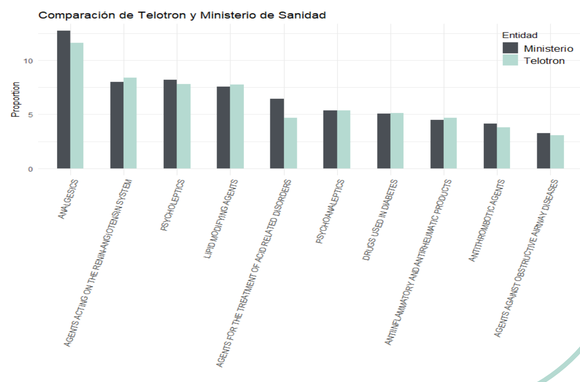




Condiciones de salud (prevalencias poblacionales) - 2021

	BDCAP	Telotrón
Hipertensión arterial	18,4	17,7
Diabetes	7,5	7,3
Hipercolesterolemia	21,5	22,4
Asma bronquial	7,4	6,9
Enfermedad Pulmonar Obstructiva Crónica	2,2	2,4
Síndrome depresivo	4,7	9,8
Hipotiroidismo	6,4	4,5
Osteoporosis	3,1	3,0
Cardiopatía isquémica	2,3	2,7
Enfermedad cerebrovascular	1,6	2,1
Insuficiencia cardíaca	1,2	1,3





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