

Conflicts of interest

The authors state that they have no conflicts of interest.

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Endocrinology and nutrition: Evolution of the choice of specialty in the last years[☆]



Endocrinología y nutrición: evolución de la elección de la especialidad en los últimos años

The practice of Endocrinology and Nutrition in Spain requires a Medical Degree as well as specific training in this specialty.¹ To have access to such specialized training the student must first pass a state examination organized on an annual basis by the Spanish Ministry of Health (*Ministerio de Sanidad, Servicios Sociales e Igualdad* [MSSSI]), called the MIR (*Médico Interno Residente* or Resident in Training exam). Following the examination, the candidates receive a score and order number allowing them to choose a specialized training position.² The higher the score, the better the assigned order number, i.e., a candidate with the highest score becomes the first to choose his or her specialized training position. The positions are offered and assigned by the MSSSI, and the data are made public. Endocrinology and Nutrition is one of the specialties offered each year. This Letter analyzes the offers of and the demand for the specialty in recent years and provides a map of the Spanish

Autonomous Communities and centers requested, with the best MIR examination scores. The study is based on the official specialty position assignment data of the MSSSI covering the period from the MIR examination of 2006 to that of 2015, which corresponds to the assignment of positions that took place in 2016. The analysis presents the mean, maximum and minimum values, as well as the median and percentiles 25 and 75 of the order number. Due to the asymmetrical distribution of the order numbers, medians were used for purposes of comparison.

In the period 2006–2015 the number of positions offered in Endocrinology and Nutrition ranged from a minimum of 56 in the year 2006 to a maximum of 76 in 2012. The number of positions offered increased gradually up until 2012. A slight decrease was recorded after that year, in parallel to the decrease in total residency positions, with a total of 72 positions offered in 2015.

During the period 2006–2015 the minimum order number with which the specialty of Endocrinology and Nutrition was chosen was 3, with a maximum of 4143—the latter representing the last chosen position in the period under consideration. The median order number for choosing the specialty in that period was 1394, with a mean of 1503.7. On limiting the analysis to the final 5-year period, the median was 1624.5, and the mean 1696.1. The annual evolution of the median experienced slight variations, influenced in part by the number of positions in Endocrinology and Nutrition offered each year. The maximum or highest median was recorded in 2012, with a value of 1915, and that same year a total of 76 positions in Endocrinology and Nutrition were offered (the largest number of positions offered).

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Table 1 Ranking of the Autonomous Communities distributed according to median order number, with the data corresponding to the period 2011–2015. The hospital in each Community with the lowest order number for that period is shown.

| Ranking according to Autonomous Communities and hospitals in each Community in the period 2011–2015 | | | | | | | |
|---|-----|--------|---------|---------|--------|--------|--------|
| | No. | Mean | Minimum | Maximum | p25 | Median | p75 |
| <i>Basque Country</i> | 10 | 1071.7 | 527 | 2318 | 706 | 839 | 1282 |
| H. U. Cruces | 5 | 965.4 | 527 | 1672 | 545 | 801 | 1282 |
| <i>Asturias</i> | 5 | 1097.6 | 317 | 2737 | 509 | 864 | 1061 |
| H. U. Central de Asturias | 5 | 1097.6 | 317 | 2737 | 509 | 864 | 1061 |
| <i>Navarre</i> | 10 | 1321.8 | 23 | 4143 | 559 | 887 | 2095 |
| Clínica Universidad de Navarra | 6 | 1363.7 | 205 | 4143 | 559 | 887 | 1501 |
| <i>Valencian Community</i> | 29 | 1081.1 | 14 | 2743 | 563 | 987 | 1467 |
| H. U. i Politècnic la Fe | 5 | 230.4 | 14 | 563 | 96 | 160 | 319 |
| <i>Madrid</i> | 95 | 1309.8 | 55 | 3119 | 743 | 1248 | 1877 |
| H. U. Puerta de Hierro | 10 | 661.4 | 132 | 1321 | 298 | 515.5 | 1258 |
| <i>Catalonia</i> | 60 | 1391.3 | 60 | 3923 | 470.5 | 1289.5 | 2197 |
| H. Clínic de Barcelona | 10 | 709.5 | 60 | 1669 | 157 | 244 | 1472 |
| <i>Aragon</i> | 10 | 1597.7 | 267 | 3092 | 1149 | 1539.5 | 2078 |
| H. U. Miguel Servet | 5 | 1091.2 | 267 | 1757 | 706 | 1149 | 1577 |
| <i>Murcia</i> | 11 | 1784.3 | 532 | 3169 | 867 | 1756 | 2577 |
| H. Clínic. U. Virgen de la Arrixaca | 4 | 843.5 | 532 | 1313 | 597 | 764.5 | 1090 |
| <i>Cantabria</i> | 5 | 1759.4 | 884 | 2289 | 1421 | 1946 | 2257 |
| H. U. Marqués de Valdecilla | 5 | 1759.4 | 884 | 2289 | 1421 | 1946 | 2257 |
| <i>Andalusia</i> | 50 | 2071.9 | 447 | 3778 | 1431 | 2135.5 | 2681 |
| H. Virgen de la Victoria | 5 | 1213 | 447 | 2603 | 511 | 698 | 1806 |
| <i>Galicia</i> | 19 | 2345.9 | 632 | 3689 | 1362 | 2444 | 3374 |
| C. H. U. A Coruña | 5 | 1631.2 | 632 | 2603 | 1208 | 1362 | 2351 |
| <i>Canary Islands</i> | 21 | 2419.2 | 525 | 3861 | 1796 | 2481 | 3237 |
| H. U. Insular de Gran Canaria | 6 | 2036.2 | 525 | 3532 | 681 | 2000 | 3479 |
| <i>Castilla-La Mancha</i> | 8 | 2493.8 | 108 | 3577 | 2314.5 | 2748.5 | 3069.5 |
| C. H. U. de Albacete | 3 | 1844 | 108 | 2886 | 108 | 2538 | 2886 |
| <i>Balearic Islands</i> | 10 | 2706.4 | 1595 | 3658 | 2076 | 2788.5 | 3182 |
| H. U. Son Espases | 5 | 2367 | 1595 | 3397 | 1899 | 2076 | 2868 |
| <i>Castile and León</i> | 20 | 2554 | 232 | 3848 | 1634 | 2904 | 3261.5 |
| H. C. U. de Valladolid | 2 | 1176 | 232 | 2120 | 232 | 1176 | 2120 |
| <i>Extremadura</i> | 5 | 2800.6 | 1285 | 3629 | 1844 | 3618 | 3627 |
| C. H. U. de Badajoz | 5 | 2800.6 | 1285 | 3629 | 1844 | 3618 | 3627 |

C., clinic; C. H. U., university hospital complex; H., hospital; No., total number of positions offered during the period; p25, percentile 25; p75, percentile 75; U., university.

By contrast, the lowest median corresponded to the year 2006, with a value of 792.5, and with a total of 56 positions offered (the lowest number during the period 2006–2015).

With regard to the choice of Endocrinology and Nutrition with respect to other medical specialties, the pooled data corresponding to the period 2011–2015 showed Endocrinology and Nutrition to be in 11th position in the list of specialties. A specific analysis of the year 2015 showed Endocrinology and Nutrition to rank 12th out of the 44 specialties offered.

On analyzing the situation according to the Autonomous Communities, Madrid offered the largest number of positions in Endocrinology and Nutrition in the period 2011–2015 ($n=95$; 25.8% of the total). It was followed by Catalonia ($n=60$; 16.3%) and Andalusia ($n=50$; 13.6%). The Communities offering the fewest positions were Asturias, Cantabria and Extremadura, with 5 positions each.

On analyzing the ranking according to the Autonomous Communities for the period 2011–2015, the Basque Country

showed the lowest median order number (839), followed by Asturias (864) and Navarre (887). Table 1 shows the Autonomous Communities distributed from best to worst median order number. Likewise, the table shows the hospital in each Community with the lowest order number for that period. In Asturias, Cantabria and Extremadura the Community and hospital data coincide, since these Communities had a single center offering Endocrinology and Nutrition.

The ranking of the 10 hospitals in Spain in terms of choice according to the pooled data from 2011 was headed by the university hospitals Politècnic la Fe, Clínic de Barcelona and Puerta de Hierro. Their median order numbers were 160, 244 y 515.5, respectively. These three hospitals were followed by Mar-Parc de Salut Mar, Santa Creu i Sant Pau, Virgen de la Victoria, Ramón y Cajal, Virgen de la Arrixaca, Clínic San Carlos and Cruces—the latter hospital having a median order number of 801 in this period.

Endocrinology and Nutrition is an attractive option and a favorite among the specialties on offer. The median choice

status of the specialty has varied little over the years, and the existing variation is influenced in part by variations in the number of positions offered. The ranking according to the Autonomous Communities and centers shows important variations in the median order number, suggesting that certain predilections are relatively constant. The data presented correspond to an objective analysis of the choice of Endocrinology and Nutrition based on the official information of the MSSSI. Our study does not propose to provide an analysis of the care or teaching quality of the different resident training centers as this aspect has been addressed in other studies.^{3,4} The choice of medical specialty and resident training center is influenced by a number of personal factors such as perception of the specialty, prestige, geographical preferences, etc.,⁵⁻⁷ that have not been evaluated in this study. Nevertheless, this simple analysis presents data regarding the general level of interest in the specialty, and depicts the geographical and resident training center preferences of future residents.

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Influence of iodine status on maternal thyroid function during pregnancy[☆]



Influencia del estado de yodación sobre la función tiroidea materna durante la gestación

Iodine deficiency is an important public health concern and much time and effort has been spent in seeking to eradicate the problem over the last 80 years.¹ Pregnant women are particularly sensitive in this regard, due to their increased iodine requirements during pregnancy. The World Health Organization (WHO) recommends a daily iodine intake of 250 µg. A median urine excretion (ioduria) of 150-249 µg/l is indicative of adequate intake, while <150 µg/l is considered

insufficient, 250-499 µg/l is above what the body needs, and >500 µg/l is considered excessive.²

Iodine nutritional status in the Spanish population is currently adequate.³ In contrast to iodine deficiency, excesses from dietetic sources are infrequent here. However, the generalized use of iodized pharmacological supplements in pregnant women, together with the largely uncontrolled increase in the iodine contents of dietetic sources (silent iodophylaxis), and other potential contributing factors such as the use of iodized antiseptics, can result in excessive intake - with consequent but less well-known repercussions upon maternal thyroid gland function.⁴

A study was made of 106 healthy pregnant women with normal thyroid function and negative thyroid immune findings. We determined the levels of TSH, FT3 and FT4 in the first (week 10-12) and third trimester (week 34-36) with a chemiluminescence microparticle immunoassay in an ARCHITEC analyzer (Abbott Ireland Diagnosis Division, Lina-muck, Longford, Ireland). In the case of TSH the sensitivity of the assay is ≤0.01 µIU/ml, and the normality value (NV) ranges from 0.49 to 4.67 µIU/ml; the specificity of the assay is <10% cross-reactivity with TSH, FSH and hCG. In the case of FT4, the limit of detection is ≤0.4 ng/dl, and the NV is

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