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# Gender analysis of papers published in ACTAS ESPAÑOLAS DE PSIQUIATRÍA (1999-2006)

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**Introduction.** The governments and organizations responsible for scientific policies try to encourage equality of gender, among their priorities that of obtaining equal participation and full integration of women in all aspects of the scientific profession. The study analyzes the scientific production of women in the areas of psychiatry by means of the bibliometric study of the papers published in ACTAS ESPAÑOLAS DE PSIQUIATRÍA.

**Method.** A total of 458 papers published from 1999-2006 period were downloaded from the Science Citation Index-Expanded database, these including original research papers, review articles and clinical cases. A bibliometric study broken down by gender was carried out to determine the existence or inequalities between men and women regarding scientific productivity, type of document, order of author signatures, on the institutional and geographical level.

**Results.** The papers were published by 1,194 different authors. The gender of 977 authors was identified, 587 (60.08%) men and 390 (39.92%) women. The percentage of women authorship has risen from 29.92% in 1999 to 38.86% in 2006. A total of 42.92% of authors having one published article were women, while «the multiple article producing women» (those with more than 9 articles) only accounted for 33%.

**Conclusion.** Bibliometric studies on scientific activity provide essential information to promote gender equality. An annual increase over 1% in the number of female authors in the journal has been observed, which if it continues, will lead to a parity in coming years.

**Key words:**  
Gender analysis. Scientific journals. Bibliometric analysis. ACTAS ESPAÑOLAS DE PSIQUIATRÍA.

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## Análisis de género de los trabajos publicados en la revista ACTAS ESPAÑOLAS DE PSIQUIATRÍA (1999-2006)

**Introducción.** Las políticas abordadas por los órganos gestores de las políticas científicas persiguen como tema central conseguir la igualdad de género y tienen entre sus prioridades la participación equitativa y la plena integración de la mujer en todos los aspectos de la profesión científica. Este estudio analiza la producción científica de las mujeres en el área de la psiquiatría mediante el estudio bibliométrico de los trabajos publicados en ACTAS ESPAÑOLAS DE PSIQUIATRÍA.

**Metodología.** Se descargaron de la base de datos Science Citation Index-Expanded 458 trabajos correspondientes al período 1999-2006 entre artículos originales, revisiones y casos clínicos, realizando un estudio bibliométrico para analizar la distribución de hombres y mujeres por niveles de productividad, tipología documental, orden de las firmas a nivel institucional y geográfico.

**Resultados.** Los artículos fueron realizados por 1.194 autores diferentes, habiéndose identificado el género de 977 de ellos, de los que 587 (60,08%) son hombres y 390 (39,92%) mujeres. La autoría correspondiente a las mujeres ha pasado del 29,92% en 1999 al 38,86% en 2006. El 42,92% de los autores con un trabajo son mujeres, mientras que las «grandes productoras» (autoras con más de 9 trabajos) suponen únicamente el 33%.

**Conclusiones.** Los estudios bibliométricos de género de la actividad científica proveen una información esencial para establecer las políticas correctoras necesarias que conduzcan a la igualdad. Se ha observado una tendencia positiva en el incremento de mujeres que han publicado en la revista, por encima del 1% anual, que de continuar así dará lugar a la paridad en los próximos años.

**Palabras clave:**  
Análisis de género. Revistas científicas. Análisis bibliométrico. ACTAS ESPAÑOLAS DE PSIQUIATRÍA.

## INTRODUCTION

Except for Italy, the universities of the Old Continent were exclusively for men until the 19<sup>th</sup> century and in some countries even until the 20<sup>th</sup> century<sup>1</sup>. Traditionally, science has been constructed from the point of view of men, however, at the beginning of the last century, the first women scientists initiated a process of struggle and desire for equality, successfully leading to a continuous increase of the presence of women in scientific research and production. The current scientific and academic situation of women is the result of a late incorporation to the scientific institutions, a stunning increase of their participation in the last decades of the 20<sup>th</sup> century and, on occasions, contributions have been high scientific level and contained intervention in the management of science<sup>2</sup>.

Beginning in the 1970s, above all in the United States of America, there was a marked interest in promoting equality of gender in the investigating and teaching career in the University in all the settings and specifically in Science and Technology. Based on these attempts, the Association for Women in Science<sup>3</sup> was founded in 1971. In the 1980s in the European Community, initiations arose to promote this equality of gender, although recent documents show that the progress has been very slow<sup>4</sup>. In 1988, the European Committee, European Parliament, Council and Member States showed their concern on the aspects of gender of the scientific policy of the European Union. Thus, they decided to create a work group in charge of elaborating the ETAN report in order to examine the situation of women in Science and Technology. They described the lack of representation of women scientists in research policies and proposed actions to improve their situation and lessen the problems they detected<sup>5,6</sup>. Parallely, in 1999, the Helsinki Group of Women and Science from by representatives of 30 countries was created. Fifteen of these countries at that time formed a part of the EU and the remaining 15 countries were associated to the 5<sup>th</sup> Framework Program of the European Community for research actions, technological development and activities (1998-2002). Among its objectives were those of promoting debate and an exchange of experiences on the measures and policies elaborated and applied on the local, regional, national and European level to encourage participation of women in scientific research, providing statistical breakdowns by gender and developing indicators sensitive to gender in order to control the participation of women in European research<sup>7</sup>. There have been new initiatives in recent years, such as the European Platform of Women Scientists (EPWS). Its objective is to represent the voice and interest of woman scientists through dialogue with the responsible politicians in research material and to promote connection networks between the different groups of woman scientists<sup>8</sup>.

In Spain, the increase of Spanish women who have entered into the University in the last two decades has been spectacular, but this growth decreases as they climb up the

professional ladder. Due to this, different initiatives have arisen to promote the role of women in science, such as creation of the University Association on Women's Studies (AUDEM) and the Association of Women Investigators and Technologist (AMIT), that arose in December 2001 in order to promote equality of women and men in the access to the research activity in the entire area of knowledge<sup>9</sup>. Another milestone that stands out regarding the institutional concern on the role played by the women in the scientific setting is that of the creation of the Unit of Women and Science (UMYT)<sup>10</sup>, in Agreement with the Council of Ministers on March 4, 2005, an organization belonging to the Ministry of Education and Science whose mission is to favor the incorporation of women under conditions of equality to the Spanish scientific and technological system. On the other hand, one of the most significant decisions, related to the promotion of equality of opportunities between men and women was the creation of the Institute of the Woman in 1983. The actions of this new institution have been basically developed in regards to Plans for Equality of Opportunities of Women. Their objective has been to promote participation of women in the political, economical, cultural and social life in our country<sup>11</sup>.

The reasons that explain the limited participation of women at present in Science and Technology have several sides. On the one hand, they are due to social and cultural factors, the influence of the family setting acquiring a critical role<sup>12</sup>. On the other hand, authors such as Wenneras and Wold indicate that female investigators from the United States of America, Finland and Norway who have children are much more productive than those who have no children. They state that the reason for the decreased progress of women in the research career has to be looked for in gender discrimination within the academic system itself. This is especially noticeable in the professions related with responsibility posts and not in the family and care of children<sup>13,14</sup>.

It could be stated that equality between men and women, and thus the massive incorporation of the woman into the University in this century, is already a fact. Sometimes, the percentage of women is even greater. However, this statement is true only when we refer to the lower steps on the promotion ladders of the university or, what is the same, to the student body. As we go up the category level, the levels decrease and thus it goes from 60% of female Spanish graduates to being only 32% of the Spanish university staff professors. This evolution shows that which is commonly known as the «scissors effect». This reflects the progressive loss of women in the teaching career, this becoming progressively worse and reaching its maximum amount on the head professor level, with only 13% of women in this category<sup>15,16</sup>.

The purpose of this paper is to identify the scientific production of women, from the perspective of gender, by means of a bibliometric study in the area of psychiatry, ana-

lyzing their participation in the journal ACTAS ESPAÑOLAS DE PSIQUIATRÍA during the years 1999-2006.

## METHODOLOGY

The registries published in ACTAS ESPAÑOLAS DE PSIQUIATRÍA during the period of 1999-2006 that make up the study were downloaded using the database of the Science Citation Index-Expanded (SCI-Expanded) through the Web of Knowledge platform produced by Thomson Scientific. Restriction regarding documental typology was used, selecting original articles, reviews, and clinical cases and excluding special articles, book reviews, editorials and letters to the editor from the studies since their appearance was sporadic and their inclusion would have led to dispersion regarding documental typology. After, they were reviewed and corrected according to the on-line version of the journal<sup>17</sup>, since the database SCI-Expanded applies its own criteria when assigning documental typology to the works. For the standardization of the authors and institutions and their subsequent analysis, the bibliographic registries that were downloaded were introduced into a relational database designed ad hoc using Microsoft Access 2003 software. During the procedure of standardizing the registries of the SCI-Expanded database, it was necessary to carefully unify the multiple variants in which one same author appeared: with a single last name and name, with a last name and initial of the name, with two last names and name, with two last names and initial of the name, with the last names joined together as only one, with the second last name followed by two initials, it being possible that the two initials referred to a compound name or to the initial of the first last name and to the initial of the name. The possible typing errors in the database also had to be added to this great variety. Furthermore, a problem arose when trying to identify the first name of the authors, since they were not always identified in the complete text of the journal or in the electronic format in the printed version. Thus, it was necessary to search for the name of each author through the staff directories of the organizations they belonged to (known through the institutional signatures of the works) or as a last resort, through the existing search engines in Internet and that faithfully demonstrated their correct allotment. Once the names were identified, gender was assigned, M (man) and W (woman), as appropriate.

Regarding the institutions, the different variants were unified by using the annual information 2008 of the National Catalogue of Hospitals of the Ministry of Health and Consumer Affairs as a model or by consulting the Web for the individual institutional pages. At times, there were bibliographic registries that allocated two or more institutional connections within the same signature. In order to not underestimate the scientific productivity of these institutions, we assigned as many signatures as macro-institutions that could be individualized. This standardization was completed by assigning the province, regional community and country of each participating institution.

The indicators and measurements calculated to determine the existence of differences according to gender were: distribution of men and women in relationship with years of publication of the papers; in relationship with the documental typology; by levels of productivity; according to order of signing of the works, according to participation on the institutional and geographic level by Regional Communities.

## RESULTS

A total of 458 registries published in the journal ACTAS ESPAÑOLAS DE PSIQUIATRÍA in the period ranging from 1999-2006 have been analyzed. These works were made by 1,194 different authors with at least one published work during the years studied. Gender for 977 authors (81.83%) was identified. The remaining 18.87% include 16 authors who signed as a group and 201 unidentified authors. The production threshold of the unidentified authors was low, except for A. Fernández with 6 articles and A. Rodríguez with 5. Of the 977 different authors identified, 587 (60.08%) were men and 390 (39.92%) women. These authors were responsible for 1,729 signature, 1,111 (64.28%) of whom corresponded to men and 618 (35.74%) to women. The chronological distribution, seen in table 1, shows a slow increase in the number and percentage of women. This went from 29.92% in 1999 to 38.86% in the year 2006 and reached its highest level in the year 2002 with 42.11%. Regarding to the signature, the increase is very similar to the number of authors, going from 28.13% in 1999 to 37.88% in 2006. If this growth continues in this way, it could be thought that there would be equality of gender regarding scientific production in the area of Psychiatry in the second decade of the XXI century, always using the journal of ACTAS ESPAÑOLAS DE PSIQUIATRÍA as a model.

In regards to distribution according to documental typology, it can be seen in table 2 that there is no tendency of women to publish in a specific typology, since the number of women authors ranges from 41.77% in clinical cases and 36.71% in reviews. When analyzed by the number of signatures, the data do not vary greatly regarding the previous ones, these being between 40.76% and 34.81%, respectively.

Figure 1 shows the distribution of men and women in relationship with the productivity of the authors. A slight decrease is observed in the less productive women authors (1 to 4 works), which becomes equal with that of men in the threshold of the women authors with 8 works. However, the range of the authors publishing 9 works completely corresponds to the men (100%). The maximum level of productivity (more than 10 works) corresponds to 2 women (M. Paz Gonzalez Garda Portilla with 12 works and Enriqueta Ochoa Mangado with 10), and to 4 men (Julio Bobes Garcia (20 articles), Jose Luis Carrasco Perera (13), Jeronimo Saiz Ruiz (12) and Enrique Baca Baldomero (11).

**Table 1** Distribution of men and women in relationship to years of publications of the works (number of authors and number of signatures)

Years	Number of authors					Numbers of signatures				
	M	% M	W	% W	Total	M	% M	W	% W	Total
1999	89	70.08	38	29.92	127	115	71.88	45	28.13	160
2000	117	65.00	63	35.00	180	139	63.18	81	36.82	220
2001	116	65.9	60	34.09	176	134	64.73	73	35.27	207
2002	110	57.89	80	42.11	190	133	60.45	87	39.55	220
2003	124	64.25	69	35.75	193	142	66.05	73	33.95	215
2004	128	65.31	68	34.69	196	143	65.60	75	34.40	218
2005	123	61.50	77	38.50	200	141	62.67	84	37.33	225
2006	140	61.14	89	38.86	229	164	62.12	100	37.88	264
Total	587	60.08	390	39.92	977*	1,111	64.26	618	35.74	1,729

\*The value of the total authors does not coincide with the total values broken down by years because there are authors who have published in different years, while in the total, the different authors are calculated in all the period. M: men; W: women.

When the analysis is made by genders for the order or position of the signatures, shown in figure 2, it is seen that the greatest percentage of women sign as the third author (42.95%), second (38.56%) and fourth (36.15%). When the order of signing in the most privileged positions is analyzed, there is a mild decrease (34.02%) regarding when they sign as the first author, a situation that is more important if they sign in the last positions (28.57%). The percentage in which the women sign in the last position decreases to 25.69%. In the registries where the woman is the last signer, the highest levels are found in the works made by four authors, with 23.53%, and by two, with 21.57%, while 10.78% are individual signers.

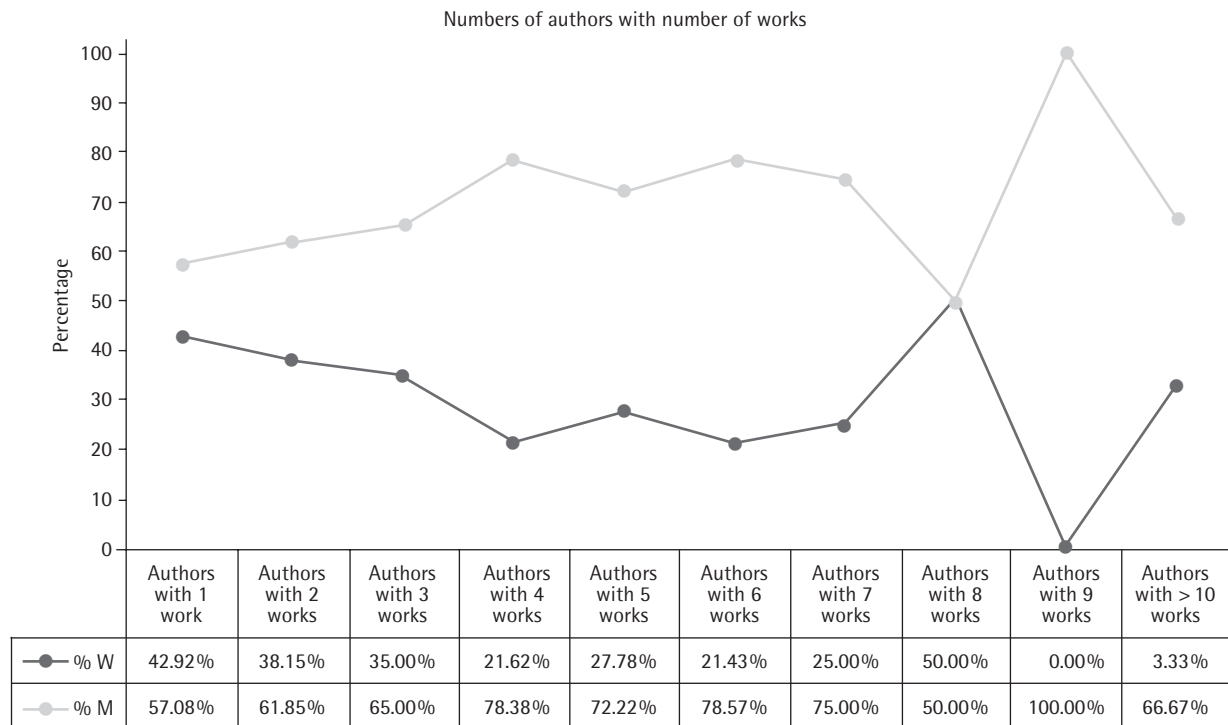
A total of 374 different institutions have been identified, 13 of which have participated in more than 9 works. Regarding the distribution of men and women on the institutional level, it is seen that none of the most productive institutions have a greater percentage of women than men. However, equality (50%) was achieved in the Hospital Clínico

San Carlos, the Fundación Jiménez Díaz-UTE and the Fundación Hospital Alcorcón so that they have a higher percentage of women, considering all the works analyzed in this study. The levels of the women in the remaining institutions that are most productive are close to the mean of all the works (39.92%), except for the Autonomous University of Madrid (25.58%) and the University of Valencia (26.42%), where they are greatly below the global data. In regards to the signatures, all the institutions have a mild decrease regarding number of authors, the 3 institutions having greater participation of women going from the previously mentioned 50% to approximately 45%. Table 3 shows all the values and percentages of the authors and signatures broken down by gender in the institutions that have published 10 or more works.

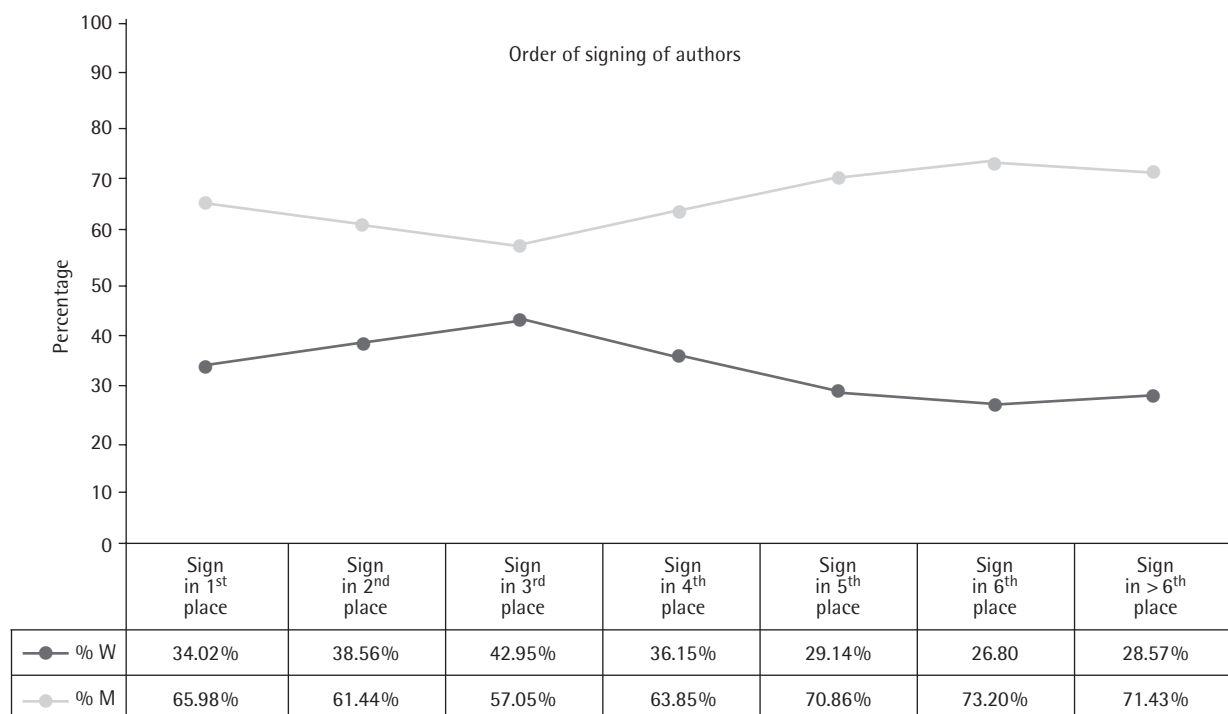
Table 4 shows the participation of men and women by Regional Communities. Aragon is the community in which the most women participate in the scientific production of their region, with 45.24%, followed by Castilla-La Mancha with 44.44% and the Community of Madrid with 40%. These

**Table 2** Distribution of men and women in relationship with documental typology of the works (number of works, number of authors and number of signatures)

Documental typology	Number of works	Numbers of authors					Numbers of signatures				
		M	% M	W	% W	Total	M	% M	W	% W	Total
Articles	293 (63.97%)	459	60.88	295	39.12	754	796	64.77	433	35.23	1,229
Clinical cases	62 (13.54%)	92	58.23	66	41.77	158	109	59.24	75	40.76	184
Reviews	103 (22.49%)	150	63.29	87	36.71	237	206	65.19	110	34.81	316
Total	458	701	61.01	448	38.99	1,149	1,111	64.26	618	35.74	1,729



**Figure 1** | Percentage distribution of men and women in relationship with productivity of the authors. M: men; W: women.



**Figure 2** | Percentage distribution of men and women in relationship with order of signing of the authors (% of number of authors). M: men; W: women.

**Table 3** Distribution of the participation of men and women on the institutional level (number of works, number of authors and number of signatures)

Institutions	Numbers of works	Numbers of authors					Numbers of signatures				
		M	% M	W	% W	Total	M	% M	W	% W	Total
Hospital Ramón y Cajal (Madrid)	37	44	61.11	28	38.89	72	87	63.97	49	36.03	136
Universidad de Oviedo	23	36	63.16	21	36.84	57	76	62.30	46	37.70	122
Hospital Clínico San Carlos (Madrid)	22	23	50.00	23	50.00	46	40	54.05	34	45.95	74
Hospital Clínic i Provincial de Barcelona	21	41	65.08	22	34.92	63	76	65.52	40	34.48	116
Universidad de Valencia	19	39	73.58	14	26.42	53	72	73.47	26	26.53	98
Hospital Universitario de La Princesa (Madrid)	18	23	65.71	12	34.29	35	38	69.09	17	30.91	55
Hospital Universitario Puerta de Hierro (Madrid)	15	29	72.50	11	27.50	40	51	78.46	14	21.54	65
Fundación Jiménez Díaz-UTE (Madrid)	13	14	50.00	14	50.00	28	27	55.10	22	44.90	49
Universidad Complutense de Madrid	12	21	60.00	14	40.00	35	35	67.31	17	32.69	52
Hospital Universitario La Fe (Valencia)	12	15	62.50	9	37.50	24	32	65.31	17	34.69	49
Fundación Hospital Alcorcón (Madrid)	11	7	50.00	7	50.00	14	17	56.67	13	43.33	30
Universidad de Granada	11	16	69.57	7	30.43	23	30	75.00	10	25.00	40
Universidad Autónoma de Madrid	10	32	74.42	11	25.58	43	37	77.08	11	22.92	48

M: men; W: women.

3 communities are the only ones that surpass the percentage of women in the group of works. Furthermore, on the other extreme and representing the lowest female participation and at about 10% below the mean of the total authors are the Regions of Murcia (27.78%), Andalucía (28.04%) and Navarra (28.81%). It should be mentioned that La Rioja has not participated with any work in this study. Included in this distribution, mention should be given to the 80 works in which foreign institutions participated. These include 144 collaborators, 48 of which came from Mexico and 28 from the USA, and in which 261 authors from foreign institutions have participated, 78 (29.89%) of whom are women.

## DISCUSSION

The situation of the woman in the area of Psychiatry has been studied through the journal ACTAS ESPAÑOLAS DE PSIQUIATRÍA (AEP). Total accuracy could not be achieved since it is known that studies broken down by gender for the analysis of scientific publications are hindered as they do not include the complete name of the authors of the articles published through their signatures since most of the journals only mention the initials of the name, with the

added limitations inherent to making a bibliometric analysis focused on a single journal. The reason we chose AEP to identify the participation of women in Psychiatry was based on several circumstances. It is the only Spanish journal in the Psychiatry setting that is indexed in the SCI-Expanded, out of the 94 that make up that area in the *Journal Citation Reports* (edition 2007). Besides spreading psychiatric research, it has a training function, both in the setting of specialists in Psychiatry as well in that of other professionals who are interested in mental health. It is a scientific information resource of known quality, as demonstrated by its inclusion in the principal bibliographic indexes of the world: *SCI-Expanded*, *Current Contents*, *Index Medicus* and *Excerpta Medica*. It has been published since 68 years ago, founded in the year 1940, continuing from *Actas Luso-Españolas de Neurología, Psiquiatría y Ciencias Afines*. It has a distinguished Editorial Board made up of prestigious experts in the international setting, it has favorable impact indicators, both nationally and those given by the Journal Citation Reports, and it has been evaluated as the Spanish psychiatric journal of greatest formal quality<sup>18,19</sup>.

The results obtained have made it possible to confirm that there is a yearly increase in participation of women in

**Table 4** Distribution of the participation of men and women on geographic level by regional communities (number of works, number of authors and number of signatures)

Regional community	Numbers of works	Numbers of authors					Numbers of signatures				
		M	% M	W	% W	Total	M	% M	W	% W	Total
Madrid Community	167	186	60.00	124	40.00	310	385	65.59	202	34.41	587
Catalonia	99	170	61.59	106	38.41	276	277	63.68	158	36.32	435
Foreing Country*	80	183	70.11	78	29.89	261	235	69.73	102	30.27	337
Valencian Community	44	72	62.07	44	37.93	116	138	67.32	67	32.68	205
Andalusia	40	77	71.96	30	28.04	107	129	78.66	35	21.34	164
Principality of Asturias	29	44	65.67	23	34.33	67	89	64.49	49	35.51	138
Castilla y Leon	27	53	67.09	26	32.91	79	92	73.60	33	26.40	125
Navarra	22	42	71.19	17	28.81	59	70	76.92	21	23.08	91
Galicia	20	40	62.50	24	37.50	64	59	68.60	27	31.40	86
Castilla-La Mancha	19	25	55.56	20	44.44	45	34	53.97	29	46.03	63
Basque Country	18	44	69.84	19	30.16	63	63	72.41	24	27.59	87
Aragon	15	23	54.76	19	45.24	42	38	59.38	26	40.63	64
Cantabria	12	29	63.04	17	36.96	46	39	68.42	18	31.58	57
Extremadura	12	22	64.71	12	35.29	34	32	69.57	14	30.43	46
Balearic Islands	10	20	64.52	11	35.48	31	26	66.67	13	33.33	39
Canary Islands	9	15	68.18	7	31.82	22	25	73.53	9	26.47	34
Region of Murcia	7	13	72.22	5	27.78	18	16	72.73	6	27.27	22

\*Countries included in this block:: Argentina, Brazil, Chile, Colombia, Costa Rica, Cuba, Ecuador, the United States of America, France, Holland, Hungry, Italy, Mexico, Peru, Portugal the United Kingdom. M: men; W: women.

the psychiatric scientific production in Spain, since it has increased by 8.94 percentage points in 7 years. This reflects a greater integration in this discipline if compared with other areas of the biomedical field in Spain. Such is the case in the area of Drug Dependence and Infectious Diseases and Clinical Microbiology, in which the increase in the number of women has only been close to 1% per year<sup>20,21</sup>. In other disciplines such as Neurology, this has only increased by 0.69% during the years 2002-2006<sup>22</sup>. When studies on gender conducted in Spanish biomedical journals are analyzed, it is seen that the percentage of women authors is close to 40%. In the journal *Adicciones*<sup>18</sup>, participation of women was 38% during the period of 1999-2004, while in *Enfermedades Infecciosas y Microbiología Clínica*<sup>19</sup> it was 43.6% during the period of 2001-2005. In the *Revista de Neurología*<sup>20</sup> it was 42.26% (2002-2006). These results are much greater than those obtained, for example, in the Mexican journal of *Anales Medicos*, in which it was 21.8% between 2000-2004<sup>23</sup>.

The studies broken down by gender in the Spanish biomedical journals<sup>18-20</sup> have the phenomenon known as «scissor effect», according to which the number of women decrease as the number of works published increase. This phenomenon also occurred in this study, but not in such a marked way. In addition to observing a peak in the women who published 8 works that reached equality (50%) and a

considerable percentage of large female producers represented with 33% of women who published more than 10 works.

Regarding order of signing, differences were also seen since the men have a higher proportion of signing the works in the first position (65.98%) and they also have a higher percentage as signers in the last position (74.31%). This demonstrates how the high hierarchal levels continues to be held by men, since those who sign in the first position or in the last one are generally the responsible persons and directors of the research groups<sup>24</sup>.

One fact observed in recent years is the greater incorporation of women into medical studies, above all in developed countries such as Canada. In Canada, in 1968, only 11% studied medicine versus 53% in 1999 and 34% of the psychiatrists were women in 2002. In the United States, the number of women psychiatrists went from 14% to 25% between 1982 and 1996<sup>25</sup>. In Spain, according to the data from the National Institute of Statistics, between 1999 and 2005, the number of investigators employed in R+D activities went from 32.7% to 26.7%, while the number of students registered in the third cycle and the PhD dissertations approved between the years 1998-2005 in the area of Experimental and Health Sciences corresponding to women went from 53.8% to 58.5% (third cycle) and in the case of

the dissertation, they have been able to pass the 50% threshold, going from 45.3% to 52.1%. These data reflect that the incorporation of the women into the scientific and research career over time has been taking on force and sometimes even surpasses masculine participation<sup>26</sup>. However, this increase has been decreasing, and is sometime absent, as the woman incorporates into upper hierarchical positions of the scientific research, both in research sites and in the universities, R + D departments of businesses and in all the areas of knowledge<sup>27</sup>, specifically in that of Psychiatry, as seen in the Greenfield Report<sup>28-30</sup>.

According to the human resources data for the year 2006 of the Superior Council of Scientific Research (CSIC), the principal research organization in Spain, the proportion of women for the all the research areas was 33.23%. Standing out among these are Sciences and Technology of Foods with 47.30% women and Biology and Biomedicine, which includes Psychiatry with 31.70%. If the distribution is analyzed by professional category, differences in gender are also found. Thus, the percentage of women decreases as the professional category increases. For the highest hierarchical level, corresponding to a research professor, it is lower than the mean, although a mild decrease is observed over time, going from 15.07% in 2005 to 20% in 2007<sup>31</sup>. The «scissor effect» or «bottleneck» is also produced in the University in the academic evolution of men and women. At the beginning of the academic and research career, there are more women than men. As they go up in academic and research categories, the opposite occurs, that is, there is a greater presence of men and less presence of women<sup>32</sup>. According to the Spanish Foundation for Science and Technology in its last report presented at the end of the year 2007, 14 out of every 100 head professors of the Spanish public university are women<sup>33</sup>.

According to Wilson and Eagles<sup>34</sup>, women have a series of positive skills and attitudes for Psychiatry, such as their superiority in psychopathology grading, their great emotional intelligence versus their homonyms and their innate capacities. These traits would contribute to making Psychiatry a more attractive specialty as a professional option. Furthermore, they consider that it fits in better to their family life than with other biomedical disciplines. These factors make up which the authors have called «feminization» of Psychiatry. All this, together with the results obtained from this study, corroborate that the incorporation of the women into the Spanish psychiatric area is more entrenched than in other biomedical disciplines and that the women are playing an increasingly greater role in the providing of psychiatric services. A sample of this is the fact that it can still increase even more since 15 renown women Spanish psychiatrists have formed a Section of Women Psychiatrists, experts in Gender Psychiatry, within the Spanish Society of Psychiatry in order to further study the clinical and research approach of the mental diseases and to facilitate the professional promotion of the woman. At present, 40% of the 4,500 psychiatrists are women<sup>35</sup>.

The scientific activity studies broken down by gender aim to show the participation and know the true situation of the women, since they are a potential source of talent in Science and Technology. In this way, the analyses collected can help to strengthen and incorporate the skills, policies, programs and indicators aimed at extending the participation of the women in scientific research on an international, national and regional level.

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