Women in Spanish Cardiology Research

To the Editor:

Understanding the role of females in the various scientific fields is of interest, and many studies have signalled poor representation in the field of cardiology.[1,2]

With the aim of analysing women's participation in cardiology research in Spain, we analysed studies published in *Revista Española de Cardiología* between 2002 and 2006 broken down by sex. Of the 2828 authors contributing to the publication, 2065 (73.02%) were men and 763 (26.98%) were women. We observed a decrease in the percentage of women as the productivity threshold increased (Figure 1), which dropped from 29.82% among authors who published a single study to 4.08% of the "prolific authors" (>9 studies). Statistical analysis revealed the existence of significant differences ($P<.05$) in the number of published works, with a mean (standard deviation) of 2.13 (2.66) studies per male author and 1.54 (1.29) studies per female author.

To offer an explanation for this low representation, we can point to a series of factors that make the specialty of cardiology less attractive to women,[1,2] and to negative psychological and sociological attitudes that affect men and women alike.[3]

However, we should stress some positive aspects, such as the increase in the percentage of female authors during the analysis period, which rose from 21.35% (2002) to 26.64% (2006). The same tendency was also observed in the percentage of signing researchers, which rose from 18.5% (2002) to 23.89% (2006). This tendency is holding today (Figure 2), given that 2008 saw the highest percentage of female authors (27.75%) and signing researchers (25.25%). It is also significant that female participation is similar to and even exceeds that seen in some leading foreign journals and professional societies in this specialty.[4] According to data provided by the Spanish Society of Cardiology (2008), 16% of its cardiologists are women (n=339), meaning that the percentage of female authors contributing to the publication is noticeably higher than that of Society members responsible for editing it, and the proportion is higher than that of cardiology societies such as the American College of Cardiology, whose membership in 2005 was 6% female.[5] Other aspects which we observed apply in general to nearly all biomedical specialties and geographic regions, although they are more marked for the cardiology specialty.[6]

In order to combat low participation from women, working groups from the British Cardiac Society[2] and the American College of Cardiology[1,7] proposed a series of recommendations, which may also be valid in Spain given the similar tendency that we observe. The aim is to remove any restrictions on a fundamental part of the discipline's knowledge-generating potential and its professional undertaking, which would also have a positive effect on some of the specialty's problems have appeared in *Revista*

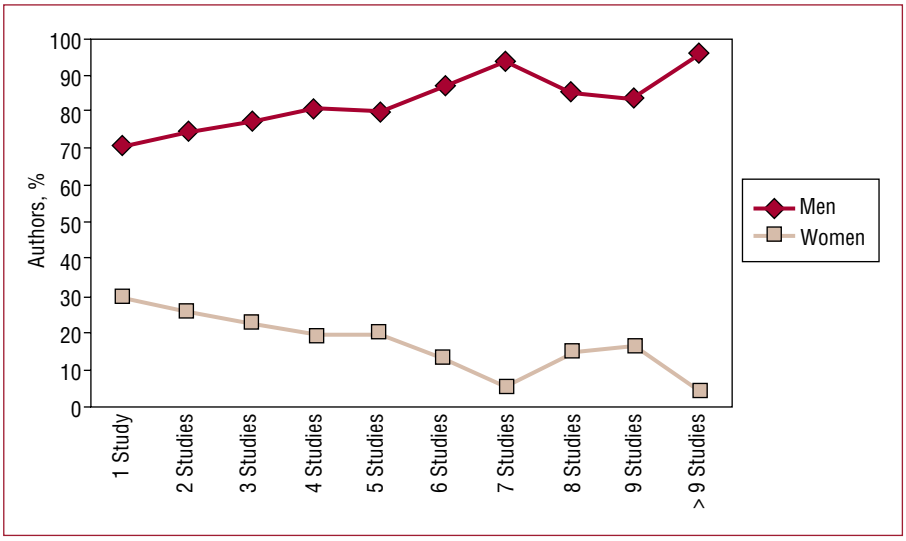

Figure 1. Distribution of productivity by percentage of males and females (2002-2008) in the Revista Española de Cardiología (percentage of authors).

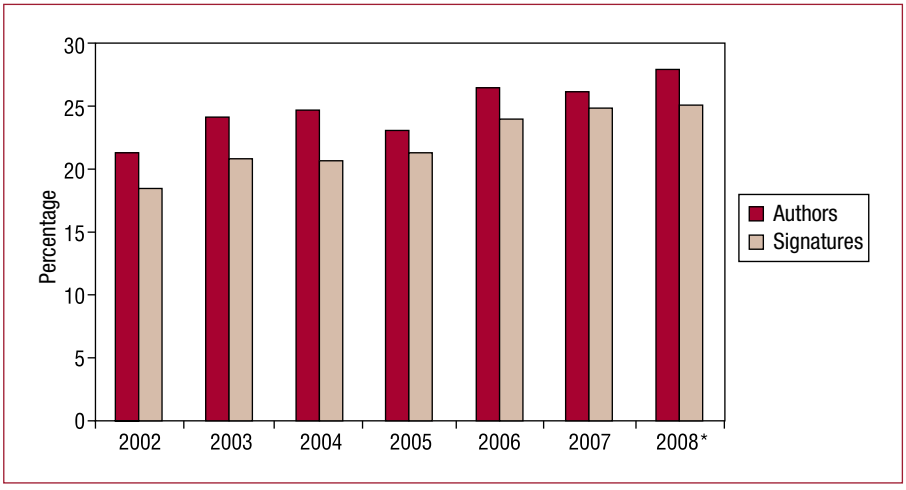

Figure 2. Annual distribution of the percentage of female participation (2002-2008) in the *Revista Española de Cardiología* (percentage of authors and signing researchers). *Journal Issues 1 to 11.

Española de Cardiología, such as the imbalance between the supply and demand for cardiologists within an ageing population.[8]

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