

Research in Primary Care: 1994-2003

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Objectives. To analyse the characteristics of the original articles published in the journal ATENCIÓN PRIMARIA (Primary Care) during the last 10 years.

Design. Literature study.

Setting. Primary health care.

Participants. Original articles published in ATENCIÓN PRIMARIA between 1994 and 2003.

Main measurements. The professional category of the authors, whether it was a multidisciplinary or multicentred study, the autonomous community of origin, the topic, the type of study, and if it had a grant or financial assistance.

Results. 1229 articles have been reviewed. In 40.0% of them a family doctor is included in the authorship. 31.4% can be considered multidisciplinary and 20.5% multicentred. The Communities of Valencia, Madrid, Andalusia, and Catalonia took up 60% of the volume of publications. The most common topic is the provision and organisation of the health services (40.5%). Only 4.3% of the designs are experimental. A grant or financial aid is stated in 16.2% of the articles.

Conclusions. Although the situation as regards the previous years has not varied too much, some positive findings, such as the emergence of research groups, increasing presence of multicentre and multidisciplinary studies, better access to sources of finance, etc, suggest that we are in a process of improving the quality of research in primary care.

Key words: Research. ATENCIÓN PRIMARIA. Literature studies.

INVESTIGACIÓN EN ATENCIÓN PRIMARIA: 1994-2003

Objetivos. Conocer las características de los artículos originales publicados en la revista ATENCIÓN PRIMARIA en los últimos 10 años.

Diseño. Estudio bibliométrico.

Emplazamiento. Atención primaria de salud.

Participantes. Artículos originales publicados en ATENCIÓN PRIMARIA entre 1994 y 2003.

Mediciones principales. La categoría profesional de los autores, si se trataba de un estudio multidisciplinario y si era multicéntrico, la comunidad autónoma de procedencia, el tema, el tipo de estudio y si constaba alguna beca o ayuda.

Resultados. Se han revisado 1.229 artículos. En el 40,0% figura la autoría de un médico de familia. El 31,4% se puede considerar multidisciplinario y el 20,5% multicéntrico. Las comunidades valenciana, madrileña, andaluza y catalana acaparan más del 60% del volumen de publicaciones. El tema más común es el relacionado con la prestación y organización de los servicios sanitarios (40,5%). Sólo un 4,3% de los diseños es experimental. En el 16,2% de los artículos consta alguna beca o ayuda.

Conclusiones. Aunque la situación respecto a años anteriores no ha variado demasiado, algunos hallazgos positivos, como la emergencia de grupos de investigadores, la presencia cada vez mayor de estudios multicéntricos y multidisciplinarios, el mayor acceso a fuentes de financiación, etc., sugieren que estamos en un proceso de mejora de la calidad investigadora en atención primaria.

Palabras clave: Investigación. ATENCIÓN PRIMARIA. Estudios bibliométricos.

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Introduction

Research is essential in every health care field and for all health professionals, since clinical practice, research, and teaching form a group which defines work quality.^{1,2} However, up to the beginning of the 1980's, research in primary care (PC) was anecdotal: between 1974 and 1983, less than 1% of medical articles published was related to PC.³ From then on it increased, reaching 4.1% of articles appearing in the IME (Spanish Medical Index) in 1994,⁴ owing to the reform of PC and the creation of the speciality of Family and Community Medicine (FCM).⁵ After this period of growth another of stagnation followed, which is where we are today.⁶ The number of projects, as well as financing of studies originating from PC by the FIS (Health Research Fund), have followed a similar pattern, and has been at a standstill since the beginning of the 1990s at around 4%.⁶⁻⁸ In general, although it has increased considerably in the last 20 years, research in PC is still considered to be limited.⁹

As regards the quality of the research in PC, it has been said that it is questionable and improvable, with poor discussions, design faults, most of the studies descriptive, with invalid surveys, carried out on general populations, with small samples, with few multicentre studies, etc.¹⁰⁻¹² Multicentre studies and the lines of investigation which they follow are few,⁹ since the majority of the publications are sporadic contributions and only 4% of authors publish regularly (more than 5 publications in 10 years).¹³ Also, the scientific output from PC has a very low impact factor; the quotable articles coming from PC constitute only 0.4% of the total.¹³

In short, although there is more research than before, the quality remains the same.

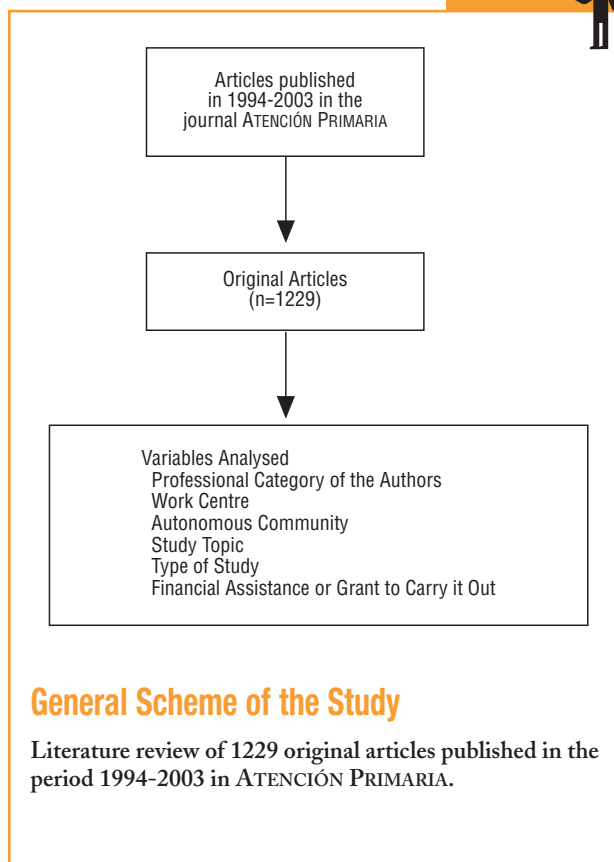
In this context, we propose to analyse the articles published in the journal *ATENCIÓN PRIMARIA* during the last 10 years, by way of introducing the current state of research in PC and to find out, who, what and how it is being done.

Materials and Methods

This is a literature study in which original articles published in the journal *ATENCIÓN PRIMARIA*, from the first issue in 1994 until the last issue of 2003, are reviewed. The following variables were collected:

- Professional category of all the authors, distinguishing between family doctor, paediatrician, specialist in preventive medicine, other medical specialties, health technician, teaching unit coordinator, nurse, family medicine resident, pharmacist, psychologists, university professors, statisticians, and others. The category was recorded as shown in the article; in the case where there was more than one author, all were noted, while if none was given it was noted as “not stated.”

Material and methods



- If it was a multidisciplinary study: relationships of the various professional categories between the authors.
- Type of work centre which appeared in the article, distinguishing between health centre, health administration (management, department of health, or similar), hospital, family medicine teaching unit, school of public health, research unit, support unit (family guidance centre, mental health unit or similar), research group (although it is not really a place of work, it was agreed to include it in this section), and others. In the case where there is more than one centre, all were noted.
- If it was multicentred: participation of several centres in the study, if they were different institutions (university, management, health centres, etc) or several centres of the same type.
- Autonomous community of origin. Where the authors came from several communities, all were recorded. To calculate the scientific productivity by community, the publication rate per 100 doctors was calculated for which the data from the Annual Report of Health and Medicine in Spain 2004,¹⁴ with regards to staffing levels in 2002, were used.
- Study topic: classification based on that of the Canadian College of Family Doctors.¹⁵ The following categories are distinguished: provision of services, epidemiology, clinical, psychosocial aspects, methodology aspects, prevention activities, training and research. The cataloguing of the topics was carried out by a single investigator after reading the summary, or the full article if it was necessary.
- Type of study: observational descriptive, observational analytical, or experimental. Qualitative studies and economic evaluation.

tions were considered descriptive, while meta-analyses were classified as experimental.

– Evidence of any grant or financial assistance for carrying out the work.

Results

A total of 1229 articles have been reviewed. In 47.9% of the originals the professional category of the authors is not stated. As can be seen in Figure 1, after family doctors, the most frequent categories are residents of CFM and nurses. 31.4% of the articles are multidisciplinary.

As regards the work centres of origin of the authors (Figure 2), the majority are from health centres (62.0%). They are followed by health administration (23.0%), hospital centres (20.1%), family medicine teaching units (18.7%), and universities (16.2%). 20.5% could be considered multicentred.

By autonomous communities (Figure 3), Valencia, Madrid, Andalusia, and Catalonia took up 60% of the volume of publications. If we take into account the number of medical staff in PC to evaluate the scientific productivity of each community (Figure 4), we find that Murcia occupies first place (12.4 articles for every 100 doctors in PC), followed by Catalonia (9.7), Asturias (8.9), and Castile-La Mancha (6.1). As regards the research topic (Figure 5), the most common block is related to the provision and organisation of health services (40.5%), which includes studies on the use of the services, health costs, home care, inter-professional consultations, emergencies, etc. Epidemiology studies follow (22.5%), then clinical studies (19.3% with a rising trend in the last 4 years), and those related to psychosocial and behavioural aspects of the population (19.2%).

From a clinical point of view, the disease groups which appear most frequently in the articles published are: metabolic endocrinology (11.9%), cardiovascular (10.7%), infections (9.4%), and mental health

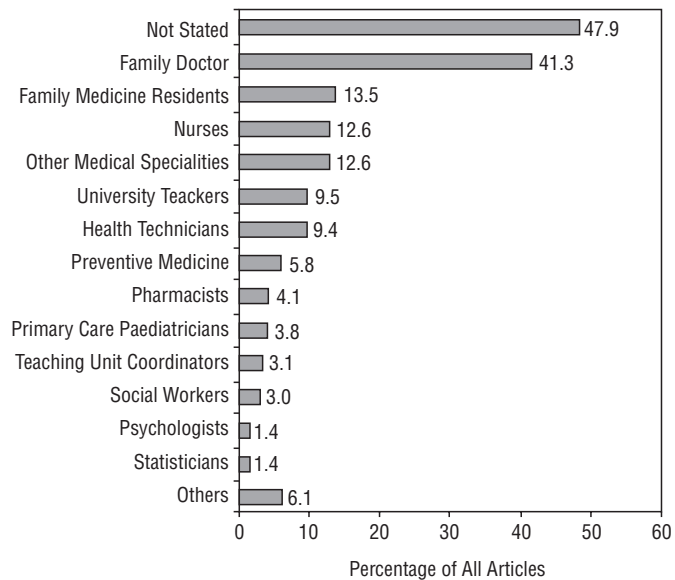


FIGURE 1

Professional category of the authors.

(8.7%) (Figure 6), with diabetes (6.3%) and arterial hypertension (7.1%) being the most common diseases studied (Figure 7).

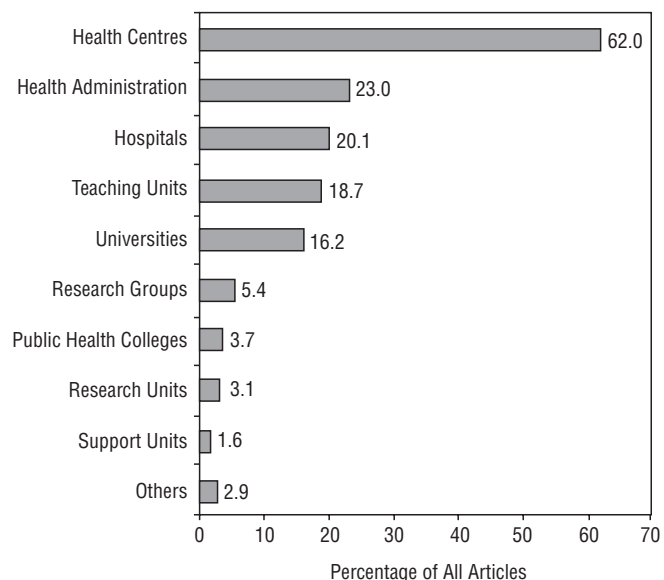
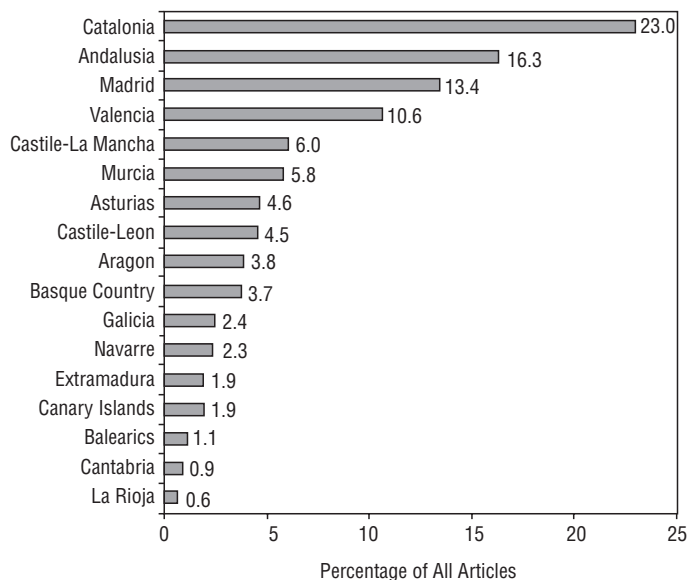
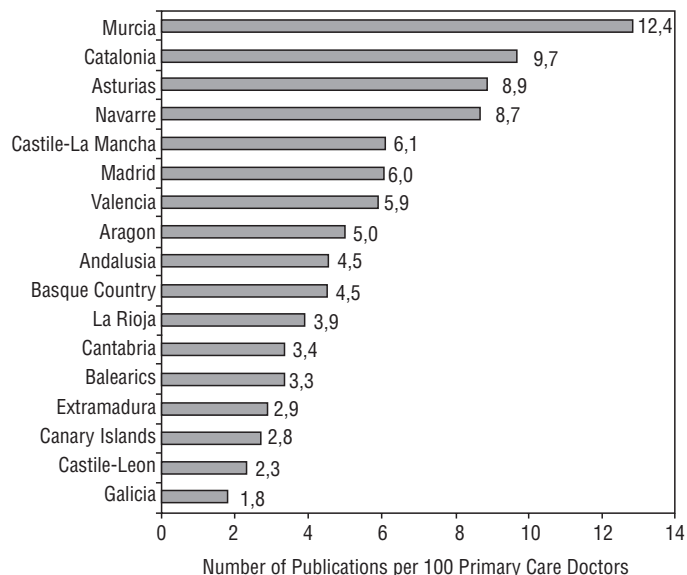


FIGURE 2

Work centres of the authors.

**FIGURE 3**

Origin of the articles according to autonomous community.

**FIGURE 4**

Origin of the articles according to autonomous community. Rate per 100 primary care doctors.

The large majority of the articles reviewed are based on descriptive, observational designs (94.2%), while analytical (1.4%) and experimental (4.3%) observational ones are scarce. Certain types of studies, such as qualitative ones,

cost evaluations or systematic reviews (meta-analysis), are still rare (2.1%, 1.6%, and 0.3%, respectively), although a rising trend is seen in recent years. 16.2% of the articles involve some type of grant or financial assistance.

Discussion

The ATENCIÓN PRIMARIA journal was chosen due to it being the main reference for research publication in PC in our country and carries more than half the published studies.^{4,16} Obviously, other journals have not been reviewed, therefore our results should be evaluated with caution, since the presence of bias cannot be excluded. Also, we have to consider that not all studies end up being published.

It must also be taken into account that the categories of the different variables have been collected just as they appear in the articles, which may give rise to an under evaluation, for example, those published by family doctors (probably many of them are health experts or teaching unit coordinators, but they do not appear as such) or the masking of the studies carried out in health centres as being performed in management or teaching units. As regards authors, it is not surprising that the majority are family doctors, followed by residents and nurses. These results are similar to those in another study carried out in Catalonia between 1989 and 1991.¹⁷ What appears interesting, as it involves the scientific and professional enrichment of these studies, is that almost a third were multidisciplinary. Unfortunately, we have not found any reference to compare this figure and evaluate its progression over time.

In agreement with the study carried out by Fernández de Sanmamed, et al¹⁵ on doctors from Catalonia, the normal profile of the PC researcher is a family doctor after an internal medicine residency, 25-35 years old, who works in an urban teaching centre and has

methodology and support resources.

As regards the centre of origin, the presence of FCM teaching units stands out, very much associated with research by several authors,^{17,18} Administration centres (with higher figures than the previous studies^{3,18}) and the increasing appearance of “research groups.” On the other hand, the limited (in our opinion) appearance of studies originating from research units has to be pointed out, which if confirmed in subsequent studies, ought to make us rethink their strategy and location.¹⁹ We have found a large number of multicentre studies in our study, much higher than that observed by other authors,^{3,13,17} by 6%–9%. Perhaps the difference is due to the use of different criteria at the time they were considered, although we believe that this form of investigation may have been influenced by the growth in research groups.

As regards the geographic origin, there have been few changes compared to the 1984–1993 period,¹³ except that Andalusia has unseated Madrid from second place and the Community of Valencia now occupies the position that Aragon occupied.

The topic diversity observed is enormous and indicates that the field of PC research is very wide, as much as it is in family medicine. The volume of articles on “health provision and organisation” (almost 40%), is about the same as that observed by other investigators.^{2,18,20} The fourth group is made up of “clinical studies,” with an upward trend in recent years, perhaps due to a change in the editorial strategy of the Journal. More attention is given to “methodology” and “training” than the rest of the Spanish journals (1.8%),⁴ which has lead the search for a suitable model in PC and the its relative maturity.² The low percentage of studies on “prevention activities” (slightly less than other studies¹⁸) should be pointed out in a field where prevention should have a stronger role.

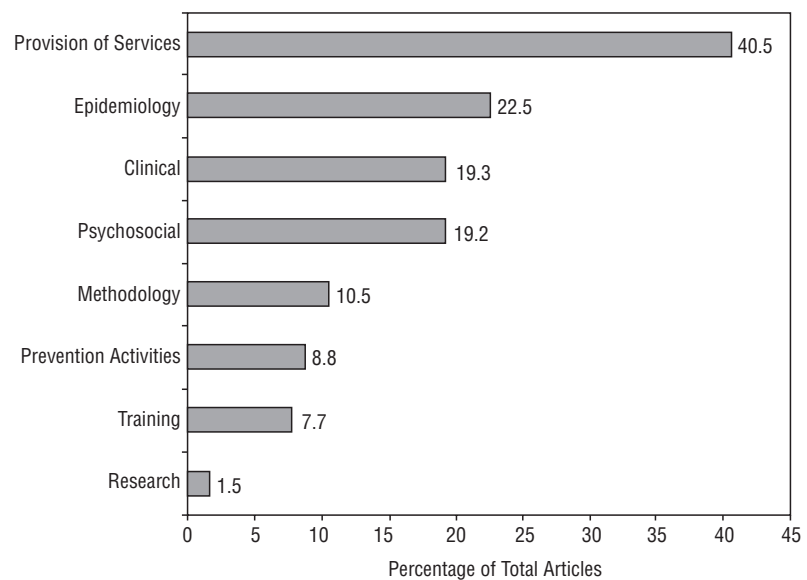


FIGURE 5 Investigation subjects.

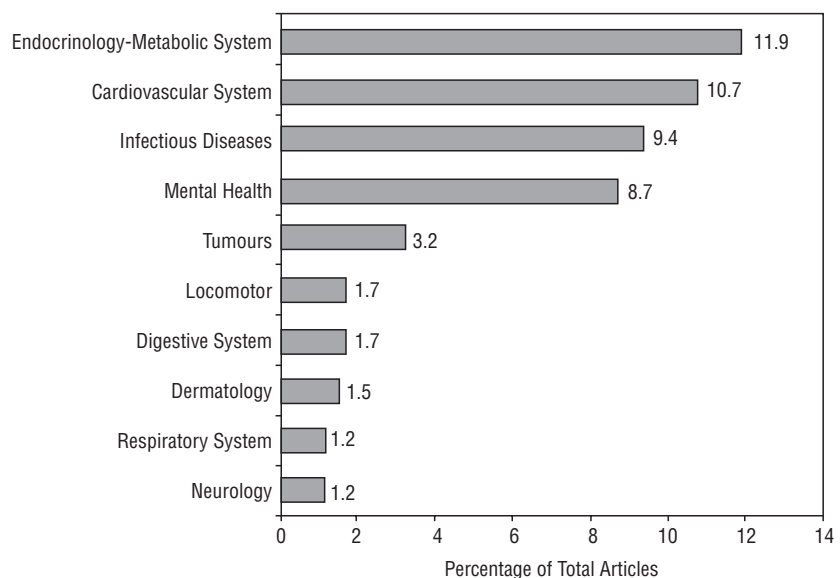
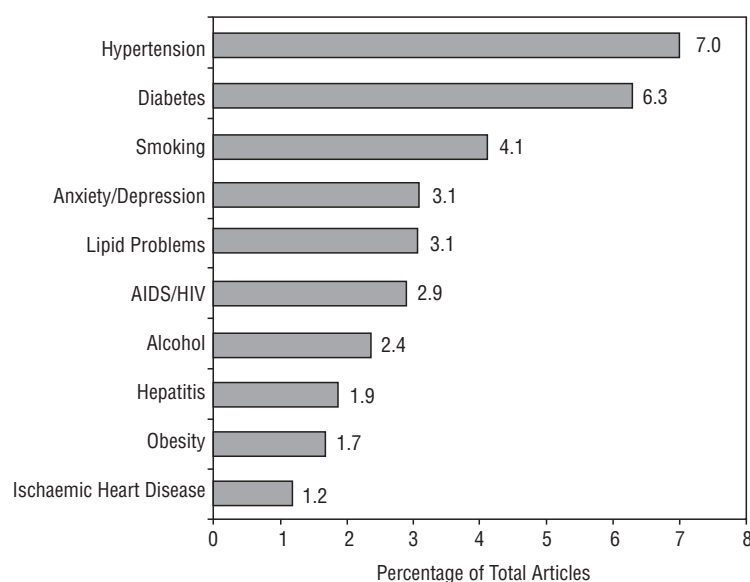


FIGURE 6 Clinical subjects.

In general, the topic analysis has not only confirms the large variety of research in PC, it also coincides with the interests established by the experts²¹⁻²³: doctor-patient relationships, behaviour which leads to requesting care,

**FIGURE 7**

Principal diseases.

**Discussion
Key points****What Is Known About the Subject**

- Although it has increased a lot in recent years, research in primary care is still limited.
- Both the number of projects and financial assistance from FIS for works originating from PC have hardly changed from around 4% since the beginning of the 1990's.
- Its quality has been very questionable, particularly due to the lack of experimental designs and multicentre studies.

What This Study Contributes

- The main topic in the period 1994-2003 was the provision of health services.
- Research groups and multicentre studies have increased.
- Accessibility to sources of finance by the researchers of primary care also appear to have increased.

performance, satisfaction, accessibility, continuity, effectiveness of prevention activities, efficiency, etc. In general, research in the health services and aspects which are related to clinical practice.

The lack of experimental studies is common in PC^{3,17,18,20,24} and reflects the difficulty of carrying out clinical trials in a field in which, apart from drugs, works with programs, advice, or prevention activities; where the doctor-patient relationship makes it more difficult to control, randomise and blind the studies; where efficacy is sought more than effectiveness and, for this reason, observational studies can also be valid.²⁵

It is also possible that clinical trials, normally multicentred and with the participation of hospitals, are sent to other journals for publication. Despite all this, it is clear that the number of clinical trials in PC is

very low, especially as compared to other countries, where they are up to 10% of the articles published in PC journals.²⁴

In contrast to the figures from previous years^{17,20} (around 5%-6%), the fact that a sixth of the articles published have received financial assistance or a grant means positive progress in the access to financial sources by PC researchers.

In short, although it continues investigating little, some positive aspects, such as the emergence of research groups, the increasing presence of multicentre and multidisciplinary studies, the access to sources of finance, etc—solutions proposed by the experts to improve the quality of research^{9,24,26}—suggest to us that the many obstacles for research in PC²⁶⁻²⁸ are being overcome little by little.

Lastly, we believe that the periodic carrying out of literature studies, such as this one, can help us find out the research situation in PC and increase our awareness that we have to incorporate it into normal practice if we want to improve the care we provide to our citizens.

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COMMENTARY

Research in Primary Health Care: Do We Do What Is Needed?

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The article by López de Castro, et al is a new contribution to the knowledge and analysis of the research situation in primary health care (PHC) in our country. It uses a literature study of the articles in the journal ATENCIÓN PRIMARIA over the last 10 years. This type of study has the limitation of only analysing research exclusively from publications.

Besides, this study uses data from only one journal which, despite being a reference for the publication of research in PHC in Spain, it is a known fact that certain studies (probably those which the researchers consider more important) are sent for publication to other journals with a higher impact factor. However, these limitations do not detract from the interest value of the data contributed by this study.

Firstly, it confirms that we are in a phase of stagnation as regards the volume of publications, which started approximately 10 years ago, and as been condemned on different occasions.^{1,2} It is true that in some autonomous communities the situation appears somewhat better (Catalonia, Valencia, Madrid, and Andalusia, together, generate more than 60% of the publications), but even in those it is still very far from what is hoped for and desired as regards the importance of PHC in the in the health system as a whole. We should ask ourselves what is different in these autonomous communities as regards research, but also a more general and important question is, why are we not capable of overcoming this phase of stagnation?

It is true that there are numerous difficulties in carrying out research studies in PHC, many of which have been identified in different studies, such as the recent one by Cevallos, et al,³ which agrees with the majority of the factors identified. The professionals normally claim the lack of incentive, motivation and support by the administration and health managers, as the most important limiting factors. However, we must recognise that the professionals of PHC themselves are, to a large extent, responsible for the current situation since, although recognising the importance of research as a source of evidence in which to base our clinical practice, there does not appear to be sufficient interest to carry out studies directed at answering the relevant questions in PHC in our field.⁴ In fact, on many oc-

Key Points

- The difficulties in carrying out research in primary care are often used as excuses for not carrying it out.
- We need to identify the true reasons of why there is not sufficient research in primary care.
- We need studies which approach the questions relevant to primary care.
- We must earn the prestige of research in primary care by ourselves.

casions, the difficulties, although real, rather than the true barriers, are used as excuses to not carry out these types of activities. If we want to look for solutions and alternatives to overcome this stagnation phase it is essential to identify the true reasons for not carrying out research in PHC, using qualitative methodologies, as suggested by March, et al.⁵

The data on the topics published confirm the predominance of studies related to the organisation of the services (40%). On the other hand, studies related to psychosocial and behavioural aspects of the population are less frequent (only 19%), particularly as they are key points in family and community medicine (FCM). But, perhaps the result which attracts most attention is the relatively reduced presence of studies related to clinical topics (only 19%). Although this fact has been pointed out earlier, this apparent lack of interest in carrying out research on clinical topics is strange if we take into account that they would be studies with a significant impact potential in PHC clinical practice. It seems as if health professionals from PHC will accept that the other health care fields are those who will specify the health service guidelines, even in our own field. As regards the study designs used, it is verified that the situation has not changed significantly and that the research

carried out continues to consist almost exclusively of descriptive studies (94%). It is still surprising that, despite the fact that FCM is one of the specialties which has most rapidly incorporated the necessities of evidence based medicine (EBM) and most insistent in the need to base clinical practice and recommendations on health interventions on evidence originating from randomised clinical trials, so few experimental studies are carried out in PHC (only 4.3% of the publications). It is true that the professionals in this field are participating more and more in clinical trials, but the majority are studies sponsored by the pharmaceutical industry in the process of developing new drugs (and it participates in only 5% of the clinical trials carried out in our country, despite the fact that PHC is the environment where it ends up prescribing the majority of these drugs) and on many occasions this participation is sought exclusively as a source of patients (often when the hospitals have not been able to include the required number), without any real intellectual contribution to their design. It would be an important achievement if the PHC professionals were included in the groups who design these studies and have an influence in assuring that they are directed towards resolving the questions of major interest to them. It would also be important in assuring that they were capable of designing and carrying out trials which answer the questions which are really relevant to their clinical practice, and with a pragmatic approach which facilitated the applicability of their results.

Lastly, the anecdotal presence (practically the absence) of systematic reviews which summarise the evidence on a topic and may be useful for clinical practice guidelines, is also remarkable, as are qualitative studies which permit a more suitable approach to many of the problems relevant to PHC.

In 2003, the prestigious journal *The Lancet*, on the subject of its editor attending a WONCA international conference in Canada, where theoretical approaches prevailed but very little quality research in PHC had been presented, published an editorial article, where it was asked if research in PHC was not a lost cause⁶. We must be capable

of showing that this is not so, and that research in PHC is necessary and important, as defended in an article in that same journal one year later⁷. Despite involving some additional difficulties, research in PHC is preferable to the simple extrapolation of the results of studies carried out in other health care environments.

Research in PHC continues to have the desirable volume, relevance, the quality and the impact. As professionals we normally complain about the problems of developing these types of activities, but we do not make sufficient efforts to resolve them, but we do limit ourselves, on many occasions, to hoping that others will do it and complain if they do not do it. We must earn the prestige of research in PHC by ourselves and not trust that someone else will achieve it without having giving us the credit for it. We must demonstrate to the scientific community that we are capable of approaching, with rigour, the questions that interest us and obtain answers which will contribute to improving the care we provide to our patients.

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