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SERAFIM-BR: a proposal for a research agenda in family and community medicine in Brazil

SERAFIM-BR: uma proposta de Agenda de Pesquisa em Medicina de Família e Comunidade no Brasil

SERAFIM-BR: una propuesta de Agenda de Investigación en Medicina Familiar y Comunitaria en Brasil

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Abstract

Introduction: Family and community medicine (FCM) is essentially the medical specialty that operates in primary health care. In Brazil, we have the organization of the health system being built based on primary health care. The latest national data on Family Health Strategy coverage in November 2022 was 48,601 teams). **Objective:** The objective of our study was to develop a proposal for an FCM research agenda. **Methods:** Quantitative and qualitative study that combined and adapted the Delphi and CHNRI methodologies. Through wide dissemination, FCM doctors from all over Brazil (only SBMFC associates), were invited. The SERAFIM-Q1 questionnaire was then sent to each FCM physician. In addition to sociodemographic information, they were asked to send 2 suggestions for research topics in FCM in Brazil. In the second phase, a new questionnaire (SERAFIM-Q2) was sent to all FCM doctors who participated in the first phase, where the 20 most frequent topics of SERAFIM-Q1 were presented and the respondents were asked to give a score (zero to 10) for each topic. Finally, the scores of each respondent were added and hierarchized. **Results:** A total of 304 FCM physicians responded to SERAFIM-Q1. After exclusions, 200 participants were obtained, who generated 397 responses (three individuals sent only 1 topic) with suggestions for research topics in FCM. The 20 most frequent topics were: teaching FCM; Health management — macro level; Access; Mental health; Teaching FCM in undergraduate medicine; Quaternary prevention; Care coordination; Communication skills; FCM in supplementary health; Teaching FCM in medical residency; Health management — micro level; Planetary health; Health technology — telemedicine; Health of rural population; FCM tools — clinic management; Teaching FCM— training of preceptors; Quality assessment — health indicators; FCM performance indicators; Access — access models; and Public health. In SERAFIM-Q2, the list of 10 priority themes was: 1) Access; 2) Mental health; 3) Teaching in undergraduate medicine; 4) Teaching FCM in medical residency; 5) Quaternary prevention; 6) Quality assessment — Health indicators; 7) Teaching FCM; 8) Communication skills; 9) Teaching FCM — training of preceptors; and 10) Care coordination. **Conclusions:** This is, a priori, the first study that proposes a FCM research agenda in Brazil. We hope that the 10 most voted priority research topics will help investigators, both by guiding studies in this field and by improving the health of all Brazilians.

Keywords: Family practice; Health research agenda; Primary health care.

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Resumo

Introdução: A Medicina de Família e Comunidade (MFC) é a especialidade médica que atua essencialmente na atenção primária à saúde. No Brasil, temos a organização do sistema de saúde sendo construída com base na atenção primária à saúde. O último dado nacional sobre a cobertura da Estratégia de Saúde da Família em novembro de 2022 era de 48.601 equipes. **Objetivo:** O objetivo do presente artigo foi desenvolver uma proposta de agenda de pesquisa em MFC. **Métodos:** Estudo quanti-qualitativo que combinou e adaptou as metodologias Delphi e CHNRI. Por meio de ampla divulgação, MFC de todo o Brasil, associados da SBMFC, foram convidados. Em seguida, foi enviado para cada MFC o questionário SERAFIM-Q1. Além de informações sociodemográficas, foi solicitado que enviassem 2 sugestões de temas para pesquisa em MFC no Brasil. Na segunda fase, foi enviado para todos os MFC que participaram da primeira fase um novo questionário (SERAFIM-Q2) onde eram apresentados os 20 tópicos mais frequentes do SERAFIM-Q1 e solicitado que eles dessem uma nota (zero a 10) para cada tema. Por último, as notas de cada respondente foram somadas e hierarquizadas. **Resultados:** Um total de 304 MFC responderam ao SERAFIM-Q1. Após exclusões, obteve-se 200 participantes, que geraram 397 respostas (três MFC enviaram apenas 1 tema) com sugestões de temas de pesquisa em MFC. Os 20 temas mais frequentes foram: Ensino de MFC; Gestão em saúde — Nível macro; Acesso; Saúde mental; Ensino de MFC na graduação médica; Prevenção quaternária; Coordenação de cuidados; Habilidades de comunicação; MFC na saúde suplementar; Ensino de MFC na residência médica; Gestão em saúde — Nível micro; Saúde planetária; Tecnologia em saúde – Telemedicina; Saúde da população rural; Ferramentas do MFC — Gestão da clínica; Ensino de MFC — Capacitação de preceptores; Avaliação de qualidade — Indicadores de saúde; Indicadores de desempenho do(a) MFC; Acesso — Modelos de acesso; Saúde Pública. No SERAFIM-Q2, a lista dos 10 temas prioritários foi: 1) Acesso; 2) Saúde mental; 3) Ensino de MFC na graduação médica; 4) Ensino de MFC na residência médica; 5) Prevenção quaternária; 6) Avaliação de qualidade — Indicadores de saúde; 7) Ensino de MFC; 8) Habilidades de comunicação; 9) Ensino de MFC — Capacitação de preceptores; 10) Coordenação de cuidados. **Conclusões:** Este é, a priori, o primeiro estudo que propõe uma agenda de pesquisa em MFC no Brasil. Esperamos que os 10 temas prioritários de pesquisa mais bem votados auxiliem os pesquisadores, tanto norteando as pesquisas nesse campo quanto melhorando a saúde dos brasileiros e brasileiras.

Palavras-chave: Medicina de família e comunidade; Agenda de pesquisa em saúde; Atenção primária à saúde.

Resumen

Introducción: La Medicina Familiar y Comunitaria (MFC) es la especialidad médica que actúa fundamentalmente en la atención primaria de la salud. En Brasil, la organización del sistema de salud se hace a partir de la APS. El último dato nacional de cobertura de la Estrategia de Salud de la Familia de noviembre de 2022 ha sido de 48.601 equipos. **Objetivo:** El propósito de este artículo fue desarrollar una propuesta de agenda de investigación en MFC. **Métodos:** Estudio cuantitativo y cualitativo que combinó y adaptó las metodologías Delphi y CHNRI. Por medio de una amplia difusión, MFC de todo Brasil, asociados de la SBMFC, han sido invitados a participar. Posteriomente, se les envió el cuestionario SERAFIM-Q1. Además de información sociodemográfica, se les solicitó enviar 2 sugerencias de temas de investigación en MFC en Brasil. En la segunda fase, fue enviado un nuevo cuestionario (SERAFIM-Q2), donde se presentaron los 20 temas más frecuentes de SERAFIM-Q1 y se les pidió que dieran una puntuación (cero a 10) para cada temática. Finalmente, se sumaron y clasificaron las puntuaciones de cada participante. **Resultados:** Respondieron a SERAFIM-Q1 un total de 304 MFC. Después de las exclusiones, se obtuvieron 200 participantes, lo que generó 397 respuestas con sugerencias de investigación en MFC (tres MFC enviaron un tema solamente). Los 20 temas más frecuentes han sido: Enseñanza de la MFC; Manejo de la salud — Nivel macro; Acceso; Salud mental; Enseñanza de la MFC en la carrera médica; Prevención cuaternaria; Coordinación de la atención; Habilidades de comunicación; MFC en la salud complementaria; Enseñanza de la MFC en la residencia médica; Manejo de la salud — Nivel micro; Salud planetaria; Tecnología de la salud – Telemedicina; Salud de la población rural; Herramientas del MFC — Manejo de la clínica; Enseñanza de la MFC — entrenamiento de preceptores; Evaluación de la calidad — Indicadores de salud; indicadores de desempeño de los MFC; Acceso — Modelos de acceso; Salud pública. En SERAFIM-Q2, los 10 temas prioritarios fueron: 1) Acceso; 2) Salud mental; 3) Enseñanza de la MFC en la carrera médica; 4) Enseñanza de la MFC en la residencia médica; 5) Prevención cuaternaria; 6) Evaluación de la calidad — Indicadores de salud; 7) Enseñanza de la MFC; 8) Habilidades de comunicación; 9) Enseñanza de la MFC — entrenamiento de preceptores; 10) Coordinación de la atención. **Conclusiones:** Este es, en principio, el primer estudio que propone una agenda de investigación en MFC en Brasil. Esperamos que los 10 temas prioritarios más votados ayuden a los investigadores, tanto para orientar la investigación en este campo como para mejorar la salud de la población brasileña.

Palabras clave: Medicina familiar y comunitaria; Agenda de investigación en salud; Atención primaria de salud.

INTRODUCTION

Family and community medicine (FCM) is the medical specialty that operates essentially in primary health care (PHC), a level of care characterized by its high complexity and low technological density, limited to a set of illnesses or a specific age group. The family and community doctor is understood as a specialist in people. This doctor cares for the health of individuals at all stages of the life cycle, considering the social, psychological, cultural, family and community context in which they exist. Thus, FCM is a

specific discipline for 3 reasons: it has a unique epidemiology, the context of care is extremely relevant and it presents an intense connection and responsibility with the community.[1,2]

In Brazil, the care model has its structure centered on PHC as the gateway to the Unified Health System (SUS). Therefore, making it strong and qualified implies strengthening the entire system. In a country of continental dimensions with an enormous diversity of socioeconomic and cultural contexts, the challenge of qualifying PHC involves not only the practical understanding of its essential attributes but also the adaptation and application of these to the most varied social and care contexts.[2-4]

The applicability of these attributes is closely related to the availability of qualified professionals to exercise them. Among the more than 500 thousand doctors registered in Brazil, it is expected that the 11,255 specialists in FCM are professionals duly trained for this application. Despite there being a marked increase in specialists in the area — around 30% in the last 2 years (absolute increase of 1,663 professionals) — the number of FCM physicians is still insufficient for adequate national coverage of the SUS user population.[5]

The most current data from the indicator panel of the Primary Health Care Secretariat of the Ministry of Health on PHC (November 2022) showed a population coverage of the Family Health Strategy (ESF) of approximately 153 million people and a total of 48,601 Family Health teams.[6]

The coverage of Brazil's ESF considerably reflects the quality of access offered to the population. Understanding the gaps, studying the needs and designing strategies to improve this essential attribute of PHC are significant axes of research topics that must form part of the design of a research agenda in FCM, which can be structured, receive specific resources and contribute to the qualification of health care in Brazil.[1,2,7-13]

The World Health Organization (WHO) argues that developing research priorities – in a transparent and reliable format – can contribute to the three billion target of its strategic plan ("one billion more people benefiting from universal health coverage; a billion more people better protected from health emergencies; and a billion more people enjoying better health and well-being"). The international literature is rich in research agendas in areas of focal specialties.[14-17]

Just as the need for research in these areas is essential and unquestionable, the organization and systematization of research in PHC and FCM must also be understood as essential for promoting advances in the quality of health care. PHC should not only be a priority in health policies, but it also needs to become a research priority. Since the WONCA European conference in 2009, when the "Research Agenda for General Practice/Family Medicine and Primary Health Care in Europe" was presented, there has been discussion of the importance of having a research agenda that serves as a basic guiding document and reference manual for FCM, researchers and policy makers. By identifying evidence gaps and research needs, a basis is built for planning and funding research to address evidence gaps. In a country with an area as extensive as Brazil, listing research priorities, as was done in 2018 in the document "Agenda of Research Priorities of the Ministry of Health", is a powerful and necessary organizational path, which aims to align current health priorities with scientific, technological research and innovation activities and direct available resources for investment in strategic research topics for FCM.[8-18]

This undertaking is also significant considering that research on FCM and PHC in Latin America is at an incipient stage when compared to Europe and North America. A research agenda that guides the capacity for qualified scientific production in Brazil can contribute to reducing this academic gap, strengthening an area in the process of maturing and solidifying, which is the case of FCM. This work is based on the assumption that the consolidation of PHC and FCM in the country involves strengthening them as an area of scientific knowledge.[19-21]

Accordingly, our objective here, using the SERAFIM-BR study (Setting the Research Agenda for Family Medicine — BRazil), was to outline a research agenda in FCM that can optimize the allocation of technical, human and financial resources, contributing to the improvement of health indicators and the strengthening of FCM in the country. Setting research priorities is useful not only to promote research in areas that are of importance to the patient, but also to reduce unnecessary research initiatives that do not use or improve existing evidence and thereby reduce the waste of scarce research resources.[12,18-21]

METHODS

Design

The study was conducted in a quantitative and qualitative way, combining and adapting the Delphi and Child Health and Nutrition Research Initiative (CHNRI) methodologies in two phases. Following the logic of the Delphi methodology, which is characterized as a "process of effective collective communication, allowing a group of individuals to deal with a complex problem", data were collected through consultation with a panel of FCM experts and then ranked according to the CHNRI method. This latter method measures the collective optimism of researchers regarding various components of proposed research ideas, using previously agreed criteria.[20-27]

To carry out the research, the free Google Forms online platform was used, and the analysis of responses was conducted using Google Spreadsheets® tools. It should be noted that the study was conducted in Portuguese. Data were analyzed using descriptive statistics and thematic analysis.

Participants

The selection of consultants (panel of experts) plays a essential role in ensuring the quality of research results. In this context, the decision was made to invite FCM physicians associated with the Brazilian Society of Family and Community Medicine (SBMFC), from all regions of Brazil. This choice was based on the consideration that SBMFC members are specialized professionals who demonstrate an interest in staying up to date and improving their professional qualifications, also reflecting the desire to improve the FCM work scenario in the country.

Phase 1 (SERAFIM-Q1)

A first form (SERAFIM-Q1) was prepared using the Google Forms platform, which included an informed consent form and a question related to SBMFC membership. Only those who answered affirmatively to this question were included in the study. Furthermore, in the form, information was collected about the profile of the participants, including variables such as age, sex, professional training (undergoing medical residency or passing the SBMFC title test), time practicing FCM (categorized into <1, 1-5, 6-10 and >10 years), place of activity (public, private sector or both; in predominantly urban or rural area; region of working in the country) and areas of activity (patient care, research, teaching and/or management). Additionally, participants were asked to send two suggestions for "Priority topics for the FCM research agenda in Brazil" in open response format. This questionnaire was available for responses for a period of 45 days.

All data collected in this phase, including sociodemographic data, were downloaded and transferred to a Microsoft Excel spreadsheet for analysis. First, an FCM physician analyzed all responses and generated a list of topics. Another FCM doctor then reviewed the responses and topics generated by the first. Subsequently, the two FCM specialists met to discuss common points and discrepancies, with the ultimate objective of reaching a consensus on the topics obtained. The biomedical informants were responsible for analyzing the sociodemographic data.

It is worth mentioning that the SERAFIM-Q1 form was submitted for approval to all members of the research group before its dissemination. The form was then disseminated virtually through various digital media platforms, including WhatsApp, Twitter, Instagram, SBMFC and emails. All members of the research group were responsible for wide dissemination among FCM groups and networks on social media.

Phase 2 (SERAFIM-Q2)

Using the email addresses of participating FCM doctors who met the SBMFC membership criteria and responded to SERAFIM-Q1, a second form called SERAFIM-Q2 was sent. The open period for responses was thirty-six days, occurring between April and May 2021. In this second questionnaire, the 20 most frequent FCM research topics, generated from the first form, were presented, and respondents were asked to give a single score from 0 to 10 for each topic. In this assessment, a score of 0 represented that the topic was not relevant, while a score of 10 indicated that the topic was extremely relevant. The evaluation considered four aspects globally: effectiveness (ability to truly improve the health levels of Brazilians), cost (resources needed to research the topic), impact potential (theoretical potential to largely reduce the burden of disease/suffering) and equity (offer care according to individual needs, prioritizing those who need it most).

After completing the SERAFIM-Q2 questionnaire, the collected data were downloaded and transferred to a Microsoft Excel spreadsheet. Next, the scores attributed by each participant to the 20 priority research topics were analyzed. Subsequently, the scores given by each respondent for each of the 20 themes were added together and ranked in descending order of scores. This entire analysis process was conducted by the same FCM specialists and biomedical informants who participated in phase 1.

Ethical aspects

The study and the informed consent form received approval from the Research Ethics Committee of the Hospital das Clínicas of the School of Medicine of Ribeirão Preto, University of São Paulo, under Approval No. 3.681.235 and CAEE No. 21160819.8.0000.5440.

RESULTS

Phase 1 (SERAFIM-Q1)

The SERAFIM-Q1 form was available for responses during the period of December 2020 to January 2021. At the end of January 2021, receiving responses to the form ended. Because of the open and broad nature of the dissemination, it was not possible to determine the exact number of people who received the link to calculate the response rate.

In the first phase, a total of 304 people responded to the invitation and filled out the form. Among these, 80 responses were excluded for responding negatively to SBMFC affiliation, and 3 responses left the affiliation field blank. Of the 221 responses identified as members of the SBMFC, 12 filled out the form more than once with the same email address, where only the first response was considered. Therefore, 209 original responses remained, of which nine left the answer to the question regarding the suggestion of two priority topics blank and were therefore also excluded. Another 3 participants responded to only 1 of the 2 topic suggestion fields, while 197 responded in both fields according to the requested format, thus totaling 200 FCM participants and 397 responses with suggestions for priority research topics in FCM in Brazil (Figure 1). The sociodemographic data of the participants are given in Table 1.

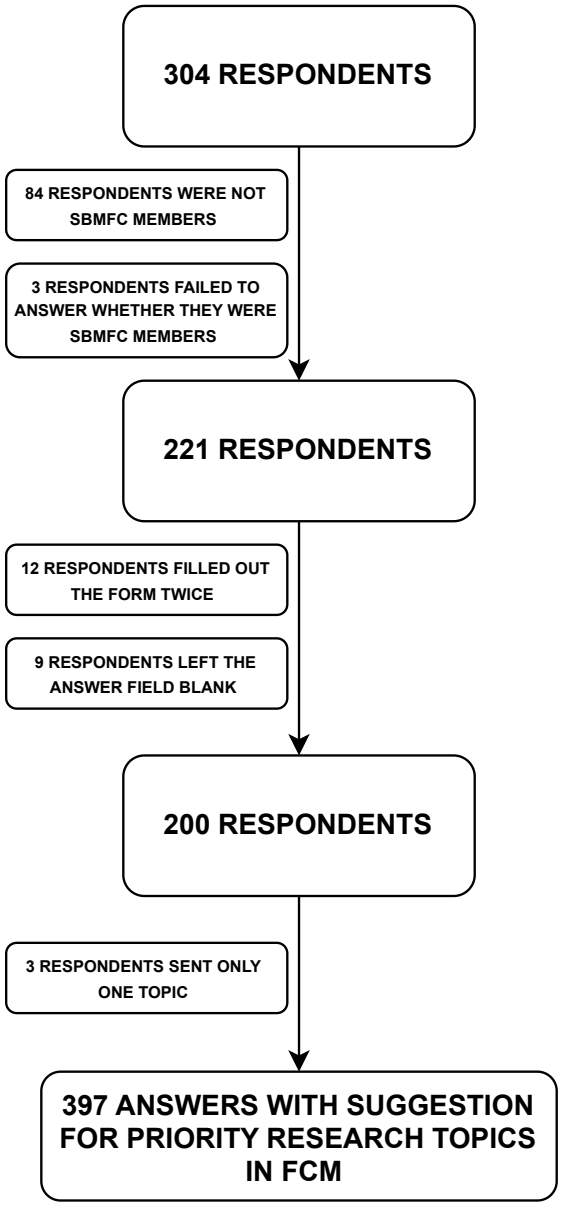

Figure 1. Final number of respondents and responses.

Table 1. Sociodemographic data of participants of SERAFIM-Q1.

Sociodemographic characteristics - SERAFIM Q1	Information	Results
Mean age, years (range)		39 (25–73)
Females		49%
Time practicing FCM (years)		
	>10	95 (48%)
	6-10	37 (18%)
	1-5	58 (29%)
	<1	10 (5%)
Size of the city where working		
	>500,000	108 (54%)
	100,001–500,000	51 (26%)
	50,001–100,000	13 (6%)
	20,001–50,000	6 (3%)
	10,001–20,000	6 (3%)
	5,000–10,000	5 (2%)
	<5,000	11 (6%)
Areas/Domains		
	Care	37 (18%)
	Care + teaching	63 (32%)
	Care + research + teaching	32 (16%)
	Care + teaching + management	10 (5%)
	Teaching	8 (4%)
	Teaching + research	9 (4%)
	Teaching + management	5 (2%)
	Care + management + research	3 (2%)
	Research	2 (1%)
	Research + care	4 (2%)
	Research + teaching + management	5 (2%)
	Management	1 (<1%)
	All areas	12 (5%)
Care (work in)		
	ESF (SUS)	122 (72%)
	SUS, but not ESF	15 (9%)
	Private sector	32 (19%)
Care (zone)		
	Urban	145 (83%)
	Rural	18 (10%)
	Both	11 (6%)
Teaching (institution)		
	Private	64 (50%)
	Public (federal)	41 (29%)
	Public (state)	18 (12%)
	Public (municipal)	20 (14%)

Continue...

Table 1. Continuation.

Sociodemographic characteristics - SERAFIM Q1	Information	Results
Teaching (FCM)		
	Yes	134 (92%)
	No	11 (8%)
Research (work with post-graduation)		
	Yes	47 (69%)
	No	21 (31%)
Research (part of CNPq research group)		
	Yes	28 (32%)
	No	60 (68%)
In 5 years, will you be working with FCM?		
	Yes, definitely	115 (57,5%)
	Probably, yes	79 (39,5%)
	Probably, no	6 (3%)
	Definitely, no	0 (0%)

Due to the wide variety of suggested topics, which included similar ones, some detailed and others more general, the researchers grouped the suggestions for research priorities in FCM into broad or specific topics, taking into account the wording of each response. Longer responses that covered more than one topic were categorized into multiple topics to avoid loss of content. For example, in the thematic axis "Teaching", there were responses that ranged from the general term "Teaching in FCM" to more specific responses, such as "Rural FCM curriculum/skills in the heterogeneity of territories, information systems for health assessment/monitoring rural areas, access strategies and qualification of rural health services". This variety required categorizing the first response into a single topic, "Teaching FCM", and the second response into three different topics, namely "Teaching FCM — rural context"; "Access — rural context"; and "Care coordination — rural context".

After thematic analysis of the responses and categorization into topics, the topics were listed in descending order of response frequency, resulting in the 20 most frequent topics suggested by participants in SERAFIM-Q1 (Table 2).

In total, 397 valid responses were obtained and analyzed. These responses were categorized into 1 (n=370), 2 (n=26), 3 (n=2) or up to 4 (n=1) topics, depending on the response format, which could be more specific or general. After this categorization, the initial 397 responses resulted in a total of 432 responses, considering the multiple topics. Responses with similar topics were grouped quantitatively to create an ordered list based on frequency. For example, the broader topic "Teaching FCM" was suggested by 24 participants, while the more specific topic "Teaching FCM — training preceptors" was suggested by 5 participants. Likewise, the theme "Access" was suggested by 21 participants, and the topic "Access — access models" was suggested by 4 participants.

The majority of responses were sent by doctors with medical residency in FCM (70%). Of the FCM physicians that responded that they worked with patient care, 81% worked in SUS and 83% in urban areas. Of those who worked in education, 45% worked in private institutions and 55% in public institutions. Lastly, 69% reported working in research. It is important to note that, in the Brazilian reality,

Table 2. The 20 main topics (SERAFIM-Q2).

Teaching FCM
Health management in–macro level
Access
Mental health
Teaching FCM in undergraduate medicine
Quaternary prevention
Care coordination
Communication skills
FCM in supplementary health
Teaching FCM in medical residency
Health management – micro level
Planetary health
Health technology – telemedicine
Health of rural population
FCM tools – clinic management
Teaching FCM – training of preceptors
Quality assessment – health indicators
FMC performance indicators
Access – access models
Public health

many FCM doctors work simultaneously in care, teaching and/or research, which was also demonstrated in our study.

Phase 2 (SERAFIM-Q2)

In SERAFIM-Q2, a total of 200 emails were sent to all FCMs that contributed to SERAFIM-Q1. As detailed in the methods, they were asked to assign a score from 0 to 10 for each of the topics, taking into account, overall, the following four criteria: I) effectiveness, II) cost, III) impact potential and IV) equity. At the end of this phase, 142 valid responses were obtained.

The list of twenty priority topics (comprehensive or specific) was then hierarchized, resulting in the 10 main FCM research topics, classified in descending order of score, that is, from the best evaluated topic to the tenth (Table 3).

DISCUSSION

SERAFIM-BR is, as far as we know, the first exclusively national study that proposes a specific Brazilian research agenda for FCM, although there are studies that have developed research agendas for PHC (state and national level).[9,13,21]

The results of SERAFIM-BR, especially the 10 topics best scored by the FCM physicians participating in SERAFIM-Q2, are extremely relevant. “Access” appears as the most voted topic, which

Table 3. The 10 priority research topics in family and community medicine.

1.	Access
2.	Mental health
3.	Teaching FCM in undergraduate medicine
4.	Teaching FCM in medical residency
5.	Quaternary prevention
6.	Quality assessment – health indicators
7.	Teaching FCM
8.	Communication skills
9.	Teaching FCM – training of preceptors
10.	Care coordination

FCM: family and community medicine.

is an essential attribute of PHC. It is also important to highlight that four of the 10 highest-scoring topics are related to the "Teaching" axis. The proposed topics of SERAFIM-BR differ from the ELECT study, which developed a proposed research agenda for PHC in the state of São Paulo. One of the main factors that differentiates the two studies is that the present study selected only FCM associated with SBMFC. ELECT invited health professionals, managers and researchers who worked with PHC (not necessarily FCM).[9]

A very important topic for FCM, Quaternary prevention (P4), appeared in fifth position in the ranking of the 10 priority research topics. P4 is defined as an action taken to identify a patient at risk of overmedicalization, to protect them from further medical invasion and to suggest to them ethically acceptable interventions. P4 can be practiced by all specialties, however, not by chance; it is FCM that takes a very close look at this issue. Therefore, it is not surprising that this prevention was ranked fifth among the main topics.[28-30]

The main characteristics of the FCM respondents were an average age of 39 years, having practiced FCM for more than 10 years and working in cities with more than 500 thousand inhabitants. Most of the FCM doctors worked in ESF (SUS) and in urban regions. An interesting — and considerable — finding was that 98% of participants think they will still be working in the FCM specialty in 5 years.

Despite all the efforts of the working group, with intense reinforcement on social media for participation in the study, the number of respondents ended up being relatively low. Furthermore, another limitation of SERAFIM-BR was not including PHC managers and users as research participants. Their participation would have been valuable and allowed the study to also investigate priority research needs for these specific groups, who have different perspectives on what is a priority for FCM in the country. However, it is worth noting that the working group's decision to invite only FCM doctors associated with SBMFC also took place with the objectives of: I) seeking professionals who are specialists in FCM, who experience the challenges of this specialty, and; II) filter the number of participants according to the workforce capacity of the working group itself, which did not receive any type of funding from a research funding agency.

Among the 10 priority research topics in FCM found, four are related to the topic "Teaching". It was decided to divide this topic into four because of the differences within the same topic. Unifying them only under "Teaching" would imply the loss of valuable information about this rich axis. The preponderance of

this topic is probably due to the high number of participants who work in medical teaching and education. It is known that people who work in teaching and research are better responders.[31]

Another limiting point of this study was that we did not analyze regional differences, since Brazil is a country of continental proportions. SERAFIM-BR combined responses from different regions of the country. Future studies to build research agendas in FCM should carefully examine the differences between the five major regions of Brazil, according to the Brazilian Institute of Geography and Statistics (IBGE).

Despite some limitations, SERAFIM-BR is very important in the long road that FCM still has ahead of it, to establish itself as a specialty, as important as the other already established ones. We still have, for example, little scientific evidence that shows the positive impact of FCM training in PHC. We also need more initiatives to develop research agendas in FCM, both in Brazil and abroad. To achieve this, it is essential that we advance our research skills. Only in this way will it be possible for FCM to reach maturity in PHC.[12]

The study was impacted by the COVID-19 pandemic, as the main data collection took place at the end of 2020 and beginning of 2021. Many of the authors/researchers involved, mostly FCM physicians, had to interrupt their contributions to SERAFIM-BR temporarily to dedicate themselves to patient care, until the epidemiological scenario improved. As a measure to mitigate this problem, the research group needed to resend (reinforce) the SERAFIM-BR forms to several participants, in addition to extending the opening time of the questionnaires initially planned.

CONCLUSION

SERAFIM-BR is, as far as we know, the first Brazilian study that proposes a research agenda in FCM. Although impacted by the COVID-19 pandemic, as data collection occurred at the peak of the health emergency, the research is extremely valuable for the scientific community, especially for those working with PHC and FCM, whether in teaching, research or patient care. It is very important that this article be widely disseminated, so that its sharing can be used effectively in the construction of new knowledge (scientific progress) and thereby positively impacting the future of the specialty.[32] The 10 most voted topics in the study (1. Access, 2. Mental health, 3. Teaching FCM in undergraduate medicine, 4. Teaching FCM in medical residency, 5. Quaternary prevention, 6. Quality assessment — health indicators, 7. Teaching FCM, 8 . Communication skills, 9. Teaching FCM— preceptor training, and 10. Care coordination) were obtained through rigorous scientific methodology and are in line with the most debated points today among those who work with FCM.[9-11,18,20,21]

It is expected that the results of SERAFIM-BR will serve as a robust guide for future research and planning in the area of SBMFC in Brazil for the coming years.

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CONFLICTS OF INTEREST

Leonardo Ferreira Fontenelle and Thiago Dias Sarti are part of the RBMFC editorial board. They were not involved in decisions about the manuscript.

AUTHORS' CONTRIBUTIONS

LM: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Validation, Writing – original draft, Writing – review & editing. JCA: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Validation, Writing – original draft, Writing – review & editing. SRB: Conceptualization, Data curation, Formal analysis, Investigation, Methodology, Validation, Writing – review & editing. LFF: Conceptualization, Validation, Writing – review & editing. AOS: Conceptualization, Validation, Writing – review & editing. LLO: Data curation, Formal analysis, Investigation, Methodology, Validation. NSBM: Data curation, Formal analysis, Investigation, Methodology, Validation. LLS: Conceptualization, Validation, Writing – review & editing, Validation. JMAM: Conceptualization, Validation. JPS: Conceptualization, Validation. MPDA: Conceptualization, Validation, Writing – review & editing. TDS: Conceptualization, Validation, Writing – review & editing.

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