ORIGINAL ARTICLE

Factors related to the publication of research papers presented at medical student national scientific conferences in Peru between 2017 and 2019

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This study is part of the research work to obtain the bachelor's degree in Medicine. *Factores relacionados con la publicación de los trabajos de invesigación presentados en los congresos científicos nacionales de estudiantes de medicina de Perú, entre los años 2017-2019.* (Factors related to the publication of research papers presented at medical student national scientific conferences in Peru between 2017 and 2019 [undergraduate thesis]. Lima: Universidad de San Martín de Porres; 2022.

ABSTRACT

Objective: To describe the characteristics of papers presented at medical student conferences of Sociedad Científica Médico Estudiantil Peruana (SOCIMEP - Peruvian Medical Student Scientific Society) between 2017 and 2019, as well as the factors related to their publication.
Materials and methods: An observational, cross-sectional, bibliometric, retrospective and secondary-source study based on the books of abstracts of papers presented at scientific conferences between 2017 and 2019. The data were analyzed with the Stata Statistical Software: Release 13 using descriptive statistics. In the multivariate analysis, prevalence ratios were calculated with a 95 % confidence interval and $p < 0.05$ in the crude and adjusted analyses.
Results: From a total of 447 papers, 170 (38.0 %) were completed research studies, 168 (37.6 %) research protocols and 109 (24.4 %) case reports. In addition, 233 (52.1 %) authors came from a university in Lima and 183 (40.9 %) were from public universities. Moreover, 376 (52.1 %) papers had an advisor among the authors, 332 (88.3 %) of whom were physicians. The frequency of publications accounted for 11.4 %. The prevalence of original-article publications was 131 % higher (aPR: 2.31; 95 % CI: 1.22–4.37, $p = 0.010$) and 63 % lower (aPR: 0.37; 95 % CI: 0.17–0.81, $p = 0.014$) among papers presented in 2019 compared to 2017, thus being statistically significant, with $p < 0.05$.
Conclusions: One out of 10 abstracts of papers presented at Socimep conferences was published; however, this number is still low. Among the factors associated with the publication were presenting a research paper as an original article and in 2019. The results of this study will help the university leadership to strengthen research through strategies and/or programs linked to the student scientific production.

Keywords: Publications; Schools, Medical; Bibliometrics (Source: MeSH NLM).

INTRODUCTION

Scientific research is an important cornerstone in academic training since it allows knowing health-compromising issues and identifying the solutions [1]. Students who research may be more qualified to face health system challenges and to make evidence-based decisions [2]. Publication is an important part of the research process [3], and despite schools of Medicine have set up basic research-related courses, the results are not necessarily published in indexed scientific journals [4].

Gouda et al. assessed medical students' scientific output during 2013 at the top ten universities in the world, and found that 713 (10.10 %) of the publications were authored by a medical student at Harvard University, 330 (10.50 %) at Washington University, 360 (9.30 %) at Johns Hopkins University, 266 (12.50 %) at Standford University and 252 (11.50 %) at Pittsburgh University [5].

A study in Latin America assessed students' scientific output in SciELO indexed journals, and found that 3.6 % of the original articles published in 2011 were authored by a medical student [6]. In Peru, a study conducted at schools of Medicine in Lima revealed that one out of 40 students had published at least one original article in PubMed in 2016 [7]. As to publications presented at scientific conferences, Urrunaga-Pastor et al. found that only 9.8 % of the research papers presented between 2002 and 2009 at national scientific conferences (NSCs) were published

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in indexed journals [7]. This means that universities should promote educational quality, research as well as culture [9].

In 1992 Sociedad Científica Médico Estudiantil Peruana (Socimep – Peruvian Medical Student Scientific Society) was founded in our country. It brings together 40 medical student scientific societies from 37 schools in 18 departments of the country. Training courses, internships and NSCs are organized ever year, thereby seeking to promote research and to be the transformation axis of the Peruvian healthcare reality [10]. Likewise, we can mention Federación Latinoamericana de Estudiantes de Medicina (Felsocem – Latin American Federation of Medicine Students), which is a non-profit organization engaged in promoting medical research on the health field from the undergraduate level [11].

This objective of this study is to describe the characteristics of the papers presented at medical student conferences of Socimep between 2017 and 2019 as well as the factors related to their publication, considering that scientific societies should contribute to improve health and strengthen the publication of research papers [12].

MATERIALS AND METHODS

Study design and population

A quantitative, observational, cross-sectional, bibliometric, retrospective and secondary-source research. This study included the 447 abstracts of research papers published in books of medical student NSCs held by Socimep from 2017 to 2019.

Variables and measurements

General characteristics of the authors (sex, number of authors, type of university, university of origin), characteristics of the research papers (research designs of research paper, national collaboration among student authors, participation of a professional author) and characteristics of the published research papers (year of publication of the research paper, time elapsed until publication, type of published article) were collected as variables.

Research papers presented at medical student NSCs between 2017 and 2019 were included. The abstracts of research papers presented by medical students with a foreign university affiliation and those papers presented more than once were excluded.

The instrument used was a data collection sheet based on the study variables. The instrument was assessed by experts.

Statistical analysis

Data were stored on a Microsoft Excel database and imported to Stata Statistical Software: Release 13. In the descriptive analysis, categorical variables were expressed as absolute and relative frequencies; and quantitative variables after the evaluation of the normality were expressed as measures of central tendency and dispersion if they complied with a normal distribution, otherwise, in median and interquartile range.

The bivariate analysis used the chi-square or the Fisher's exact test with a p value < 0.05, and the publication of a paper in a journal was considered as the dependent variable. The multivariate test estimated prevalence ratios (with a 95 % confidence Interval) for crude and adjusted analyses by means of generalized linear models of the binomial family since there was convergence with all the variables.

Ethical considerations

This research did not involve personal data. The information used was available to the public on the official Socimep website. This study was assessed and approved by the Ethics Committee of Universidad de San Martín de Porres.

RESULTS

The study included 447 research papers presented at medical student national conferences between 2017 and 2019. The median of authors was 4 and the interquartile range 3-5, the minimum range being 1 and the maximum 20. There were 288 papers (64.40 %) with more than three authors. Concerning the sex of the lead author, females accounted for 198 (44.30 %) and males for 249 (55.70 %). A total of 233 (52.10 %) of the authors came from a university in Lima and 183 (40.90 %) were from public universities. Out of the presented papers, 376 (52.10 %) had an advisor among the authors, out of whom 332 (88.30 %) were physicians. Regarding institutional collaboration among authors, 378 (84.60 %) of the papers did not have any type of collaboration or the authors were from the same institution 32 (7.20 %) had national collaboration and 37 (8.30 %) international collaboration (Table 1).

Table 1. Characteristics of the authors in research papers presented at medical student national conferences of Socimep, 2017-2020 period, Peru

Characteristics of the authors	*N* = 447 *n*	Percentage (%)
Number of authors*	4	[3-5]
Authors		
3 or fewer	159	35.60
More than 3	288	64.40
Sex of the lead author		
Female	198	44.30
Male	249	55.70
Origin of an author: a university in Lima		
No	214	47.90
Yes	233	52.10
Origin: a private university		
No	323	72.30
Yes	124	27.70
Participation of an advisor		
No	71	15.90
Yes	376	84.10
Profession of the advisor		
No advisor	71	15.90
The advisor was a physician	332	74.30
The advisor was not a physician	44	9.80
Institutional collaboration		
No	378	84.60
Yes	69	14.40
Type of institutional collaboration		
None	378	84.60
National	32	7.20
International	37	8.20

*Median and interquartile range

Out of the papers presented, 51 (11.40 %) were published in scientific journals, of which 37 (72.60 %) were original articles and 11 (21.60 %,) case reports, among others. Moreover, most of the publications, i.e., 49 (96.10 %), were in Spanish. Out of the 51 publications, 34 (66.70 %) were published in Scopus indexed journals. As to the time until publication, the median and interquartile range were 313 [12-1,394] days (Table 2).

Table 2. Characteristics of the publications of papers presented at medical student national conferences of Socimep, 2017-2020 period, Peru

Variables	*N* = 51 *n*	Percentage (%)
Published papers		
No	396	88.60
Yes	51	11.40
Type of papers of published NSCs		
Case report	11	21.60
Research protocol	4	7.80
Research study	36	70.60
Study design of published research papers and projects		
Experimental	4	10.00
Descriptive	7	17.50
Cohort	4	10.00
Cross-sectional	25	62.50
Sex of the first author		
Female	23	45.10
Male	28	54.90
Participation of an advisor		
No	2	3.90
Yes	49	96.10
Type of publication		
Original article	37	72.60
Letter to the editor	2	3.90
Case report	11	21.60
Brief communication	1	1.90
Language of publication		
Spanish	49	96.10
English	2	3.90
Published in an international journal		
No	23	45.10
Yes	28	54.90
Journal indexed in a database		
Latindex	7	13.70
SciELO	10	19.60
Scopus	34	66.70
Time until publication in days*	313	[12-1,394]

*Median and interquartile range

Variables such as type of university of the authors, participation of an advisor, type of paper presented and year of the conference in the bivariate analysis had a statistically significant relationship ($p < 0.05$) (Table 3).

Table 3. Bivariate analysis between published articles and authorship characteristics of papers presented at national scientific student conferences of Socimep, 2017-2020 period, Peru

Characteristics of the authors	Published articles		
	Yes	No	
	n = 51 (11.4 %)	*n* = 396 (88.6 %)	*p* value
Authors			
3 or fewer	15 (9.40)	144 (90.60)	0.329
More than 3	36 (12.50)	252 (87.50)	
Origin of an author: a university in Lima			
No	20 (9.30)	194 (90.70)	0.188
Yes	31 (13.30)	202 (86.70)	
Origin of an author: a private university			
No	35 (10.80)	288 (89.20)	0.538
Yes	16 (12.90)	108 (87.10)	
Participation of an advisor			
No	2 (2.80)	69 (97.20)	0.013
Yes	49 (13.00)	327 (87.00)	
Institutional collaboration			
No	47 (12.40)	331 (87.60)	0.111
Yes	4 (5.80)	65 (94.20)	
Type of paper presented at the conference			
Case report	11 (10.10)	98 (89.90)	<0.001
Research protocol	4 (2.40)	164 (97.60)	
Research paper	36 (21.20)	134 (78.80)	
Year			
2017	24 (22.40)	83 (77.60)	0.001
2018	10 (6.80)	138 (93.20)	
2019	7 (7.40)	87 (92.60)	
2020	10 (10.20)	88 (89.80)	
Type of study			
Experimental	4 (9.10)	40 (90.90)	0.610
Observational	47 (11.70)	356 (88.30)	

*Chi-squared test, considering $p < 0.05$ as significant.

The crude analysis revealed that the prevalence of publication of papers was 363 % higher when an advisor participated in research papers (aPR: 4.63; 95 % CI: 1.15-18.59, $p = 0.031$) compared to papers compared when they did not. Furthermore, the publication of research papers as original articles was 110 % higher (aPR: 2.10; 95 % CI: 1.11-3.94, $p = 0.021$) compared to case reports. On the other hand, the prevalence of publication for research projects was 76 % lower (aPR: 0.24; 95 % CI: 0.16-0.72, $p = 0.011$) compared to case reports. Moreover, the publication of research papers presented in 2018 was 70 % lower (aPR: 0.30; 95 % CI: 0.15-0.60, $p = 0.001$) compared to papers presented in 2017. It was statistically significant in these variables, with $p < 0.05$.

The adjusted analysis showed that the prevalence of research papers published as original articles was 131 % higher (aPR: 2.31; 95 % CI: 1.22-4.37, $p = 0.010$) compared to case reports and 63 % lower (aPR: 0.37; 95 % CI: 0.17-0.81, $p = 0.014$) for papers presented in 2019 compared to 2017, which was statistically significant with $p < 0.05$. Though the crude analysis revealed that the number of published papers that had an advisor were 363 % higher compared to papers with no advisor, there was no statistical significance in the multivariate analysis (aPR: 2.03; 95 % CI: 0.46-9.08, $p = 0.351$).

Table 4. Factors associated with the publication of research papers presented at medical student NSCs in 2017-2020

Characteristics	Crude analysis		Adjusted analysis	
	cPR* (95 % CI)	*p* value	aPR (95 % CI)	*p* value
Authors				
3 or fewer	Ref**		Ref	
more than 3	1.33 (0.75-2.34)	0.334	1.29 (0.73-2.28)	0.376
Origin of an author: a university in Lima				
No	Ref		Ref	
Yes	1.42 (0.83-2.42)	0.192	1.14 (0.68-1.90)	0.609
Origin of an author: a private university				
No	Ref		Ref	
Yes	1.19 (0.68-2.07)	0.537	1.03 (0.60-1.76)	0.899
Participation of an advisor				
No	Ref		Ref	
Yes	4.63 (1.15-18.59)	0.031	2.03 (0.46-9.08)	0.351
Institutional collaboration				
No	Ref		Ref	
Yes	0.47 (0.17-1.25)	0.130	0.39 (0.15-1.04)	0.061
Type of paper presented at the conference				
Case report	Ref		Ref	
Research protocol	0.24 (0.08-0.72)	0.011	0.31 (0.10-1.00)	0.050
Research paper	2.10 (1.11-3.94)	0.021	2.31 (1.22-4.37)	0.010
Year of presentation at a conference				
2017	Ref		Ref	
2018	0.30 (0.15-0.60)	0.001	0.52 (0.25-1.07)	0.077
2019	0.33 (0.15-0.74)	0.007	0.37 (0.17-0.81)	0.014
2020	0.45 (0.23-0.90)	0.024	0.59 (0.29-1.17)	0.132
Type of study				
Experimental	Ref		Ref	
Observational	1.28 (0.49-3.39)	0.616	1.28 (0.49-3.33)	0.612

PR*: prevalence ratio; 95 CI %: 95 % confidence interval.
Ref**: reference, simple PR comparator.

DISCUSSION

Out of the 447 research papers presented at Socimep national conferences between 2017-2019, medical students published 51 papers (11.40 %). More than the half of the papers were published in Scopus indexed journals and were in Spanish. Most of them had a professional among the authors as an advisor. Out of 10 published articles, seven were an original article; and within this group, two out of every three papers had a cross-sectional design.

The percentage of publications was slightly higher than in the case of papers published at Socimep conferences from 2002 to 2009, which was 9.80 % out of a total of 532 abstracts of papers presented, according to a publication of 2012 [10] and another study published in 2017 that evaluated medical student international scientific conferences from 2011 to 2014, which stated that there were 83 publications (10.60 %), out of a total of 783 papers presented [13]. It should be mentioned that this bibliometric study was conducted in a four-year period.

A high percentage of articles had a professional among the authors as an advisor; universities are probably allocating more resources and efforts to training in research and to require their teaching staff to become researchers

qualified by Registro Nacional Científico, Tecnológico y de Innovación Tecnológica (Renacyt – National Scientific, Technological, and Innovation Registry) and to encourage students to publish from the undergraduate level [17-19].

In addition, it was found that less than 63 % (aPR: 0.37; 95 % CI: 0.17-0.81, p = 0.014) of the papers presented in 2019 were published compared to 2017, which was statistically significant, with $p < 0.05$. This increasing trend of publications at the undergraduate level before the pandemic changed it in 2020. It could be undergoing a setback, which has affected papers not only at the undergraduate but also the graduate level [18-20]. The Socimep conference, which was usually held in person in any city of Peru, had to be changed to online mode, and journals prioritized papers related to COVID-19 in the first year of the pandemic. This scenario is expected to change to strengthen research from the undergraduate level [23-25].

The prevalence of publication of research papers as original articles was 131 % higher (aPR: 2.31; 95 % CI: 1.22-4.37, p = 0.010). This could be explained by the fact that this type of papers, which were previously completed, are already original articles unlike research projects that have not yet been developed and might not be.

The research could not find a significant association between institutional collaboration and scientific publication. A previous similar study conducted in conferences from 2002 to 2009 did find an association between two or more authors from different universities that would increase the probability of publication. Cooperation among researchers from different institutions could improve knowledge sharing and enhance the quality of research papers, which would increase the possibility of publication in a journal by peers. In this regard, national and international associations such as Socimep and Felsocem have been working on scientific collaboration among medical students, e.g., conducting multicenter trials, which generates interest in conducting studies that evaluate collaboration networks among undergraduate health sciences students [26,27].

One limitation should be noted in this research: it did not include a methodological evaluation of the full text of each paper and some published articles might have not been included in the search across different databases. At the time of the search, both the paper titles and the authors' names were included to prevent bias. Furthermore, it is possible that during the publication search, some papers under peer review or even had been accepted for future publication but were not yet available in journals.

We could mention as a strength that generating information on research studies and publications by students is important, as they are the seedbed of future researchers in our country. This indirectly measures the work of universities in providing scientific training.

In conclusion, the frequency of publications was 11.40 %, i.e., only one out of 10 abstracts of papers presented at Socimep conferences was published; however, this number is still low. Among the factors associated with the publication were presenting a research paper as an original article and in 2019. There were more frequent publications of research papers compared to case reports and research protocols.

It is important for university leadership in medical schools to create mechanisms that encourage and allow publication from the undergraduate level. It would improve the ranking tables of institutions that assess scientific output or licensing of medical schools [14-16].

It is recommended that research projects be followed up as an opportunity to promote a culture of publication during the early stages of medical students' professional training [28-30].

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BIBLIOGRAPHIC REFERENCES

1. Corrales-Reyes IE, Dorta-Contreras AJ. Students' scientific production: a proposal to encourage it. Medwave [Internet]. 2018;18(1):e7166.
2. Chang Y, Ramnanan CJ. A review of literature on medical students and scholarly research: experiences, attitudes, and outcomes. Acad Med [Internet]. 2015;90(8):1162-73.
3. Amgad M, Tsui MMK, Liptrott SJ, Shash E. Medical student research: an integrated mixed-methods systematic review and meta-analysis. PLoS One [Internet]. 2015;10(6):e0127470.
4. Mayta-Tristán P. Tesis en formato de artículo científico: oportunidad para incrementar la producción científica universitaria. Acta Med Peru [Internet]. 2016;33(2):95-8.
5. Gouda MA, Zidan HS, Marey AA, Gameal MG, Elmahrook RG, Saleh A, et al. Medical undergraduates' contributions to publication output of world's top universities in 2013. QJM [Internet]. 2016;109(9):605-11
6. Taype-Rondán Á, Palma-Gutiérrez E, Palacios-Quintana M, CarbajalCastro C, Ponce-Torres C. Producción científica estudiantil en Latinoamérica: un análisis de las revistas médicas de habla hispana indizadas en SciELO, 2011. FEM Rev Fund Educ Médica [Internet]. 2014;17(3):171-7.
7. Urrunaga-Pastor D, Alarcon-Ruiz CA, Heredia P, Huapaya-Huertas O, Toro-Huamanchumo CJ, Acevedo-Villar T, et al. The scientific production of medical students in Lima, Peru. Heliyon [Internet]. 2020;6(3):e03542.
8. Taype-Rondán Á, Bazán-Ruiz S, Valladares-Garrido D. Producción

científica de las sociedades científicas de estudiantes de medicina del Perú, 2002-2012. CIMEL [Internet]. 2014;18(1).
9. Perú, Congreso de la República. Ley Universitaria, Ley N° 30220 [Internet]. Lima: El Peruano; 2014. Available from: https://cdn.www.gob.pe/uploads/document/file/105207/_30220_-_09-07-2014_10_14_18_Nueva_Ley_Universitaria.pdf?v=1644428544
10. Toro-Polo M, Pereyra-Elías R, Nizama-Vía A, Ng-Sueng LF, VélezSegovia E, Galán-Rodas E, et al. Publicación de los trabajos presentados a los congresos científicos de estudiantes de medicina, Perú 2002-2009: características y factores asociados. Rev Peru Med Exp Salud Publica [Internet]. 2012;29(4):461-8.
11. Ríos-González CM. El aporte de la Federación Latinoamericana de Sociedades Científicas de Estudiantes de Medicina a la educación médica latinoamericana. FEM [Internet]. 2016;19(2):63-5.
12. Mejia CR, Valladares-Garrido MJ, Almanza-Mio C, Benites-Gamboa D. Participación en una sociedad científica de estudiantes de Medicina asociada a la producción científica extracurricular en Latinoamérica. Educ médica [Internet]. 2019:20:99-103.
13. Valladares-Garrido MJ, Flores-Pérez I, Failoc-Rojas VE, MarinasMiranda W, Valladares-Garrido D, Mejia CR. Publicación de trabajos presentados a congresos científicos internacionales de estudiantes de medicina de Latinoamérica, 2011-2014. Educ médica [Internet]. 2017;18(3):167-73.
14. Mayta-Tristán P, Toro-Huamanchumo CJ, Alhuay-Quispe J, PachecoMendoza J. Producción científica y licenciamiento de escuelas de medicina en el Perú. Rev Peru Med Exp Salud Publica [Internet]. 2019;36(1):106-15.
15. Lavalle C, De Nicolas VL. Peru and its new challenge in higher education: towards a research university. PLoS One [Internet]. 2017;12(8):e0182631.
16. Bornmann L, De Moya-Anegon F, Mutz R. Do universities or research institutions with a specifc subject profile have an advantage or disadvantage in institutional rankings? A latent class analysis with data from the Scimago Ranking. J Am Soc Inform Sci Technol [Internet]. 2013;64(11):2310-6.
17. Superintendencia Nacional de Educación Superior Universitaria. Resolución CD SUNEDU 164-2018: Proyecto de reglamento del procedimiento de licenciamiento del programa de pregrado de medicina. Lima: SUNEDU; 2018.
18. Superintendencia Nacional de Educación Superior Universitaria. Modelo de licenciamiento de programa de pregrado de medicina. Lima: SUNEDU; 2018.
19. Millones-Gómez PA, Yangali-Vicente JS, Arispe-Alburqueque CM, Rivera-Lozada O, Calla-Vásquez KM, Calla-Poma RD, et al. Research policies and scientific production: A study of 94 Peruvian universities. PLoS One [Internet]. 2021;16(5):e0252410.
20. Sohrabi C, Mathew G, Franchi T, Kerwan A, Griffin M, Soleil C Del Mundo J, et al. Impact of the coronavirus (COVID-19) pandemic on scientific research and implications for clinical academic training - A review. Int J Surg [Internet]. 2021;86:57-63.
21. Weiner DL, Balasubramaniam V, Shah SI, Javier JR, Pediatric Policy Council. COVID-19 impact on research, lessons learned from COVID-19 research, implications for pediatric research. Pediatr Res [Internet]. 2020;88(2):148-50.
22. Termini CM, Traver D. Impact of COVID-19 on early career scientists: an optimistic guide for the future. BMC Biol [Internet]. 2020;18(1):95.
23. Bodin M. University redundancies, furloughs and pay cuts might loom amid the pandemic, survey finds. Nature [Internet]. 2020.
24. Marshman I, Baré E, Beard J. The Conversation. As universities face losing 1 in 10 staff, COVID-driven cuts create 4 key risks [Internet]. The Conversation; 2020. Available from: https://theconversation.com/as-universities-face-losing-1-in-10-staff-covid-driven-cutscreate-4-key-risks-147007
25. Stoye E. How research funders are tackling coronavirus disruption. Nature [Internet]. 2020.
26. Pereyra-Elías R, Montenegro-Idrogo JJ, Mayta-Tristán P. Are medical students able to perform multicenter studies? Medwave [Internet]. 2015;15(8):e6268.
27. Castejón Cruz OA. Proyectos multicéntricos de la FELSOCEM en la investigación colaborativa entre sociedades científicas. CIMEL [Internet]. 2013;18(1):1-2.
28. Toro-Huamanchumo CJ, Arce-Villalobos LR, Fernández-Chinguel JE, Díaz-Vélez C. Sociedades médicas del Perú: ¿están cumpliendo su rol en la promoción de la investigación? Salud Publica Méx [Internet]. 2016;58(2):5-6.
29. Mejia CR, Mamani-Benito OJ, Condori Loayza S, Tito-Betancur M, Ramos Vilca G, Torres RR. Producción Científica de los Asesores de Tesis de las Facultades de Medicina Humana en el Perú. Gac médica boliv [Internet]. 2022;45(1):45-50.
30. Mamani Benito OJ. El asesor de tesis como Coach: una alternativa para impulsar la producción científica estudiantil. Educ Med Super [Internet]. 2018;33(1):e1590.

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