

Characteristics of theses for physician graduation: a cross-sectional study in Peru

Kevyn Javier Angulo-Fernandez^a, Percy Herrera-Añazco^{b*}, Suly Soto-Ordoñez^c,
Guido Bendezu-Quispe^d

^a Universidad Peruana de Ciencias Aplicadas, Lima, Perú

^b Universidad Privada del Norte, Trujillo, Peru

^c Instituto de Evaluación de Tecnologías en salud e Investigación (IETSI), Lima, Perú

^d Centro de Investigación Epidemiológica en Salud Global, Universidad Privada Norbert Wiener, Lima, Perú

* Corresponding author

silamud@gmail.com

Citation

Angulo-Fernandez KJ,
Herrera-Añazco P, Soto-
Ordoñez S, Bendezu-
Quispe G. Characteristics of
theses Characteristics of theses
for physician graduation: a
cross-sectional study in Peru.
Medwave 2023;23(3):e2630

DOI

10.5867/
medwave.2023.03.2630

Submission date

Jun 6, 2022

Acceptance date

Nov 21, 2022

Publication date

Apr 17, 2023

Keywords

Education, Medical, Health
Services Research, Academic
Dissertation as topic, Students,
Peru

Postal address

Olavegoya 1879, Jesús María,
Lima,15072, Perú

Abstract

Introduction

Research in Peru presents several barriers that impede its development and that also affects the theses to graduate as physician. Our objective was to characterize the theses for obtaining a medical degree in Peru.

Methods

An observational and descriptive study evaluating the theses for obtaining a medical degree of 2019, evaluated in January 2022 from 22 universities that are full members of the Peruvian Association of Faculties of Medicine. Characteristics of the universities and theses were evaluated, including the evaluation of a institutional research ethics committee, the alignment with a national research priority, and publication status in a scientific journal. The absolute and relative frequencies of the study variables were described.

Results

A total of 1838 theses were evaluated. Most of the theses were written by a single student (66.16%). The most common study design was the descriptive cross-sectional type (42.33%). We found that 53.86% of the theses responded to a national research priority, the most common being "maternal, perinatal and neonatal health" (26.01%). Of the total, 56.75% did not indicate whether they had the approval of an institutional research ethics committee. Only 40 theses (2.19%) were published in a scientific journal (14 in indexed journals).

Conclusion

Two-thirds of the theses conducted by medical students in Peru are descriptive studies. Half respond to national research priorities. Four out of ten theses were approved by an institutional research ethics committee. The number of published theses is low. The results show shortcomings in university institutional policies that encourage ethical compliance and research development.

MAIN MESSAGES

- ◆ The development of an undergraduate thesis is intended to encourage research.
- ◆ This is the first national study that evaluates the characteristics of theses for obtaining a medical degree in Peru.
- ◆ Among its limitations, we should acknowledge the diversity of thesis formats, the possibility that some of the theses are aligned with regional health priorities not addressed in this work, and the fact that some studies were evaluated for publication in scientific journals during the development of this research.

INTRODUCTION

Research is an essential and mandatory function of a university as it preserves and increases the transmission of humanity's scientific, technological, cultural, and artistic heritage and contributes to its sustainable development [1].

According to Peruvian university law, a thesis, which is the product of original research, is required to obtain a professional degree [1,2]. This law encourages research involving university teachers, students, and graduates [1]. Although the thesis elaboration involves a tremendous intellectual effort and stress or psychological tension [3], previous studies in Peru found that most medical students intended to do it [3,4]. This is relevant, as there is evidence that those students who have completed the undergraduate thesis in the form of research tend to make evidence-based clinical decisions [5].

Although it is compulsory for graduating, undergraduate students usually encounter barriers to writing a thesis, which could limit the suitability of the thesis itself [6–8]. In Peru, several investigations showed that theses in medical programs have heterogeneous designs [8–11], are poorly aligned with national research priorities [11], are not evaluated by an ethics committee [12], have poor quality [13], and few are published in a scientific journal [12,14,15]. The concern about research in medical schools can be framed in the concern about their quality, which dates back to more than two decades ago when there was a significant increase in the academic offer of human medicine programs [16]. This forced the National Superintendence of University Higher Education to initiate the licensing process of medical programs in Peru, which is currently underway [16].

Considering that universities should ensure research in their community, evaluating the characteristics of theses to obtain a professional degree may be used to propose strategies for improvement. In that sense, universities must ensure the availability in their institutional repositories of metadata and documents (such as theses) for the benefit of the academic community [17]. Although studies on the characteristics of theses in different medical programs were published, most of them are from a single university. Moreover, not all evaluate multiple variables, and many were done before the new University Law [8–12,14,15]. Therefore, this research aims to

characterize the 2019 theses for obtaining a medical degree in Peru.

METHODS

STUDY DESIGN AND POPULATION

We conducted a descriptive, cross-sectional study of the 2019 theses for obtaining a medical degree in the schools and faculties of human medicine of Peru.

SOURCES OF INFORMATION

The theses were obtained in January 2022 from their lodging in the institutional repositories of the medical schools and faculties that are full members of the Peruvian Association of Medical Schools, whose metadata and full text are available in these repositories. The list of these faculties and schools of human medicine is available on the website of the Peruvian Association of Medical Schools (<https://www.aspefam.org.pe/miembros.htm>). It should be noted that according to the Regulations of the National Registry of Research Works for Academic Degrees and Professional Degrees of the National Superintendence of University Higher Education, the institutional repositories with the theses to obtain the professional degree must be publicly accessible [17].

VARIABLES

The following variables were included:

1. University: referring to the name of the 23 universities whose medical schools and faculties are full members of the Peruvian Association of Medical Schools.
2. Location: whether the university is located in Lima or any other of the 23 regions of Peru.
3. Status: whether the university is public or private.
4. Number of thesis students: number of student authors of the thesis (one, two, or more than two).
5. Type of study: referring to the study design. Whether it is descriptive cross-sectional, analytical cross-sectional, case-control, cohort, ecological, qualitative, quantitative-qualitative, narrative review, systematic review, case report, or experimental [18].

6. Place of execution: whether the thesis was executed in a single hospital or private clinic, a multicenter study (involving more than one hospital, more than one clinic, or clinics and hospitals), or used a secondary database.
7. Evaluation by an institutional research ethics committee: refers to whether or not an institutional research ethics committee approved the thesis project.
8. Location of the institutional research ethics committee: indicates whether the committee that approved the project was only from a Ministry of Health hospital, from a Social Security hospital, from a university, or was approved by an institutional research ethics committee from both a university and a hospital.
9. Publication status of the thesis in a journal.
10. Indexation in Scopus of the journal in which the publication was made.
11. Health research priority: indicates whether the topic of the thesis belongs to one of the ten research priorities proposed by the National Institute of Health of Peru for 2019 to 2023 [19].
12. National research priority: refers to whether the research topic belongs to traffic accidents, cancer, chronic cardiometabolic diseases, acute respiratory infections and pneumonia, sexually transmitted infections and human immunodeficiency virus, malnutrition and anemia, metabolic and zoonotic diseases, environmental and occupational health, maternal, perinatal and neonatal health, or mental health.

PROCEDURES AND ANALYSIS PLAN

We searched for all the theses of 2019 identified in the institutional repositories of the medical schools and faculties that are full members of the Peruvian Association of Medical Schools. Data were extracted in linked to the study variables in a data collection form. The data were obtained from reading the metadata or the full-text document, emphasizing in the "material and methods" section.

Additionally, we searched if the article was published in a scientific journal indexed in Scopus. To determine this, a bibliographic search was performed in Google Scholar, with a combination of three search terms (study site, study population, and main results), plus the first surname of the student author (both in Spanish and English) up to January 2021, as has been used in other studies [14]. We searched through Scimago Journal Ranking (<https://www.scimagojr.com/journalrank.php>) to determine if the journal of the published thesis was indexed in Scopus. The data obtained from each thesis were entered into a Microsoft Excel 2007® spreadsheet, where the database was cleaned. Subsequently, this database was exported to the statistical software STATA SE v16 ® (Texas, United States) to perform the analyses. Absolute and relative frequencies were obtained for qualitative variables, and measures of central tendency and dispersion were estimated according to the distribution of numerical variables.

ETHICS

The study did not require the approval of an ethics committee because it was a secondary analysis of documents in the public domain, freely available, and the unit of analysis was not human beings or animals.

RESULTS

The institutional repository from two universities (Universidad Nacional San Luis Gonzaga and Universidad Nacional de la Amazonía Peruana) was unavailable. Therefore, we obtained documents from 22 of the 24 universities with faculties or schools of human medicine that are full members of the Peruvian Association of Medical Schools. Most of the theses were written by a single student (1216; 66.16%), followed by two students (542; 29.29%) and three students (80; 4.35%). Of the total universities evaluated, 36.36% were located in Lima (Peru's capital). In total, 1838 degree theses were archived in the academic repository of the universities in 2019. Of these, 41.68% were from Lima, and 72.31% were from private universities (Table 1).

The most common study design was the descriptive cross-sectional type (42.33%), and the most common place of execution was in a single hospital (61.92%). We also found that 53.86% responded to a national priority, the most studied being related to "maternal, perinatal, and neonatal health" (26.01%) and that 56.75% did not indicate the approval of an institutional research ethics committee for the execution of the research. Of those that did have such approval, the most frequent institutional research ethics committee that granted it was that of the student's university (18.93%) (Table 1).

Of the total number of theses, 40 were published in scientific journals (2.18%). Of these, the majority were of descriptive cross-sectional design (17; 42.5%) and were generally carried out in a single hospital (20; 50%). Likewise, 22 (55%) of the published theses addressed some research priority, mainly on "maternal, perinatal, and neonatal health" (8; 36.36%). Sixty-five percent of the theses (26) were published in a journal not indexed in Scopus. Of the published theses, 36.11% (13) did not indicate that an institutional research ethics committee had approved them for the execution of the study. The approval by an institutional research ethics committee for the execution of the study was primarily given (11; 30.56%) by the committee of the student's university (Table 2).

DISCUSSION

This research shows that the most common study design in theses for obtaining a medical degree in Peru during 2019 was the descriptive cross-sectional type. About half of the theses were related to a national research priority. Regarding approval of an institutional research ethics committee, slightly less than half of them indicated this information. Only 2 out of 100

Table 1. Characteristics of theses from ASPEFAM full member faculties and schools of human medicine (2019).

Variables	n	%
University location		
Lima	766	41.68
Other city	1072	58.32
Type of university		
Public	509	27.69
Private	1329	72.31
Type of article		
Descriptive cross-sectional	778	42.33
Analytical cross-sectional	431	23.45
Case-control	435	23.67
Cohort	98	5.33
Experimental	44	2.52
Mixed	9	0.52
Qualitative	7	0.38
Systematic revision	13	0.71
Case report	6	0.33
Ecologic	1	0.05
Not stated	15	0.82
Place of execution		
A single hospital	1138	61.92
A single private clinic	35	1.90
Multicenter study	28	1.52
Secondary database	438	23.83
Other ^a	181	9.85
Information not available	18	0.98
Institutional research ethics committee		
Without approval by CIEI	1 043	56.75
MINSA Hospital	146	7.94
EsSalud Hospital	11	0.63
University	348	18.93
Armed or police forces	4	0.22
University and hospital	194	10.55
No indication or no information is available	94	5.11
Health priority		
Traffic accidents	1	0.05
Cancer	82	4.46
Metabolic and cardiovascular diseases	105	5.71
Respiratory infections and pneumonia	45	2.45
Sexually transmitted infections and HIV/AIDS	45	2.45
Malnutrition and anemia	71	3.86
Metagenic and zoonotic diseases	9	0.49
Environmental and occupational health	35	1.90
Maternal, perinatal, and neonatal health	478	26.01
Mental health	119	6.47
Non-priority	848	46.14

AIDS: Acquired Immune Deficiency Syndrome. ASPEFAM: Peruvian Association of Medical Schools. CIEI: Institutional Research Ethics Committee. EsSalud: Social Health Insurance. HIV: Human Deficiency Virus. MINSA: Ministry of Health.

^aIncludes studies conducted at universities, schools, and penitentiaries.

Source: Prepared by the authors of this study.

were published in a scientific journal. The national priority most frequently addressed in the theses and published scientific articles was "maternal, perinatal, and neonatal health".

Theses of a descriptive nature are common in Peruvian medical schools, as previous research has shown. A study that evaluated the characteristics of medical theses at the Universidad Nacional

Table 2. Characteristics of the theses to obtain a medical degree in ASPEFAM full-member medical schools and faculties published in scientific journals (2019).

Variables	N	%
Type of study		
Descriptive cross-sectional	17	42.50
Analytical cross-sectional	10	25.00
Case-control	9	22.50
Cohort	4	10.00
Place of execution		
A single hospital	20	50.00
A single private clinic	5	12.50
Multicenter study	1	2.50
Secondary database	7	17.50
Other	7	17.50
Research priority		
Yes	22	55.00
No	18	45.00
Type of priority		
Maternal, perinatal, and neonatal health	8	36.36
Mental health	3	13.64
Chronic diseases	2	9.09
Cancer	1	4.55
Malnutrition and anemia	2	9.09
Respiratory infections and pneumonia	0	0.00
Sexually transmitted infections and HIV/AIDS	2	9.09
Environmental and occupational health	1	4.55
Metagenic and zoonotic diseases	3	13.64
Traffic accidents	0	0.00
Publication in an indexed scientific journal		
No	26	65.00
Yes	14	35.00
Evaluation by a CIEI		
Does not indicate approval by CIEI	13	36.11
MINSA Hospital	3	8.33
EsSalud Hospital	0	0.00
University	11	30.56
Armed or police forces	0	0.00
University and hospital	9	25.00
No information available	0	0.00

ARI: acute respiratory infections. ASPEFAM: Peruvian Association of Medical Schools. CIEI: institutional research ethics committee. EsSalud: Social Health Insurance. MINSA: Ministry of Health.

Source: prepared by the authors of this study.

Mayor de San Marcos between 2009 and 2018 found that 80.6% were cross-sectional descriptive studies [9]. Another study at the Universidad Nacional Pedro Ruiz Gallo between 2006 and 2014 showed that 76% of the theses were descriptive [8]. Although descriptive studies are not necessarily more superficial or easier to do, it is clear that they require less methodological knowledge and statistical analysis than those of an analytical type, which could be attractive when the degree process is perceived as problematic. A study among physicians graduating with a thesis in seven medical schools in Lima found that for 52.7% of the respondents, the process that generated the greatest difficulties in graduating with a thesis was the administrative

procedures. Moreover, 51% of students also found difficulties in preparing the thesis report [4]. In a study of medical students at the Universidad Nacional Mayor de San Marcos, the processes perceived as the most difficult were the request for the assignment of the advisor, the presentation of the thesis, the nomination of the jury, and the execution of the thesis [7]. Among students at Universidad San Martín de Porres, 50% considered writing the final report a limitation [6]. A study concerning medical students at the Universidad Nacional de Ica found that 82% expressed the desire to write a thesis. Lack of support from the university, cumbersome procedures, and lack of knowledge on the part of their advisors were the most

frequent reasons for the lack of desire [3]. This last aspect is related to the quality of research courses in medical schools in Peru, which were described as deficient. A study in 32 medical schools found that only half had a course that required a final report, only one had practiced the publication process, and only 15.6% had a teacher with experience in scientific publications [20]. A cumbersome process in a context where theses are required for graduating as a physician may force students to use simpler study designs. Moreover, it can also influence students to commit plagiarism [21] and lead to unethical choices, such as thesis shopping [22].

A thesis allows an indirect evaluation of competencies to perform professionally. Although there are no regulations that require theses to deal with specific topics in Peru, they should address national health problems. In this sense, there are research priorities defined by the Peruvian National Institute of Health, with the objective that research should be directed to the country's needs [19]. A study at the Universidad San Agustín de Arequipa showed that theses framed within national research priorities increased from 23.4% during a four-year period between 2011 and 2015 to 36% in a two-year period between 2016 and 2017 [12]. At the Pedro Ruiz Gallo National University, of the total number of theses between 2006 and 2014, only 27.1% were linked to a research priority [8]. Although these studies are not comparable due to the variation of national priorities, this trend may reside in the increased visibility of this need or to strategies of each university to improve this indicator.

On the other hand, while there are national priorities, regional priorities could be included in the theses. Although this study did not evaluate whether the theses addressed regional priorities, previous research found that addressing them is not frequent. At Universidad San Agustín de Arequipa, only 9.6% of theses from 2011 to 2015 were framed around regional research priorities. However, this increased to 36.6% from 2016 to 2017 [12].

Finally, it is not surprising that "maternal, perinatal, and neonatal health" is the most frequent national priority addressed in medical student theses. Advances in strategies designed by the government may reflect how commonly this topic is addressed, as maternal mortality is still an acute public health problem in our country [23]. Moreover, gynecology and obstetrics is usually studied in the last year of undergraduates and a mandatory rotation in the medical internship. Thus, the closeness to the theses project may motivate students to perform their thesis on maternal, perinatal, and neonatal health due to familiarity with the area under study.

Ethical principles should prevail in every research, including social or scientific value, scientific validity, equitable selection of subjects, favorable risk/benefit ratio, independent evaluation, informed consent, and respect for the enrolled subjects [24]. Although the principal investigator of the research must observe these principles, they are generally assessed by the institutional research ethics committee that evaluates the research

protocol [25]. Although in our country, the National Institute of Health requires that all research protocols be approved by an institutional research ethics committee, in practice, only clinical trials are invariably approved by one of these committees prior to execution. In this sense, observational studies, such as those usually performed by medical students for their theses, would be less rigorous in verifying compliance with this evaluation. This aspect should be improved, considering some ethical lapses observed in studies during the pandemic in Peru, which compromised some university authorities [26]. Since slightly less than half of the theses indicated that they had the approval of an institutional research ethics committee for their execution, it is crucial to study the compliance and requirement of reporting this information in the thesis reports. Concerning this issue, there seems to be a trend that suggests some improvement in universities. A study evaluating theses from the medical school of Universidad San Agustín de Arequipa from 2011 to 2017 found that an institutional research ethics committee approved only 2.88% of the articles. However, according to our research, this number increased to 12.66% in 2019 [12]. This improvement may be due to modifications in the internal regulations of universities.

According to the new regulations for the accreditation of medical schools and faculties from the National Superintendence of University Higher Education, the scientific production of articles in indexed journals is one of the essential criteria to achieve accreditation [27]. In this sense, some universities have proposed that theses should have the format of a scientific article to facilitate their publication and improve this indicator [28]. However, a medical thesis in Peru published in a scientific journal is not frequent. Our study found that only 2% of publications were published. One study reported that 11% of theses at the Universidad Nacional Mayor de San Marcos between 1998 and 2008 were published [9], and only 2.7% of all theses at the Universidad de San Martín de Porres between 2000 and 2009 [14]. At the Universidad Nacional San Antonio de Abad del Cusco, only 5% of the theses between 2000 and 2012 were published [15]. Likewise, only 4.1% of the theses between 2006 and 2014 at the Universidad Nacional Pedro Ruiz Gallo [8] and 18.68% between 2007 and 2013 at the Universidad Nacional de Ica passed the publication criteria of any scientific journal [29]. Differences between results may be explained by the temporality between studies and the time horizon in which the publication was verified. It is possible that the longer the observation time, the greater the chances of publication. In our case, the theses submitted in 2019 were evaluated in January 2021, so there was less time for publication. Also, because some theses were not relevant in a pandemic context of prioritization of research on COVID-19, some topics could be relegated to a lower priority of interest in scientific journals.

The low publication rate may also be linked to structural problems in the training of students in their research and thesis courses, which are not exclusive to Peru. A multicenter study from different Latin American countries found that 32% and 37% of medical students considered null or deficient their

training in writing scientific papers and the publication process, respectively [30]. In Peru, several studies have also shown that training in article publication is limited and identified economic barriers and little support from universities [3,4,6,7]. This aspect probably explains why theses have been rated poor quality in some studies [31–33], which limits publication possibilities. Likewise, each faculty in Peru establishes its own thesis format, which differs from the format used in a scientific article published in journals. For this reason, the graduate must adapt his or her thesis to the scientific article format to attempt publication [33]. However, because it may be the only research work they will do, many students are not interested in adapting the format [33].

Additionally, the work of advisors and professors of thesis courses is limited because most of them do not have experience in publishing scientific articles [34,35]. This also limits the subsequent publication of theses. University strategies play an essential role in improving this indicator, as shown by the experience of the Universidad Peruana Cayetano Heredia. When the theses were in a traditional format, only 17.6% were published. However, this increased to 22.4% when the theses had a scientific article format and to 40.3% when the requirement of submission to a journal indexed in SciELO or Scopus was implemented. Publishing in a journal that is part of these databases represents a greater difficulty, which explains why of every four theses published, one was published in a journal indexed in Scopus.

Our research has some limitations. First, it was based on information from thesis reports, whose submission formats vary among universities. Not all universities state whether the protocol was approved by an institutional research ethics committee, which could underestimate this finding. Second, although a limited number of theses were shown to be aligned with national research priorities, some may be aligned with regional priorities not assessed in our study. Third, it is possible that some theses are still being evaluated in a scientific journal and are not yet published. Despite its limitations, this is the first national study that evaluates the characteristics of medical theses for becoming a physician in Peru and, to our knowledge, the first study that addresses this issue in Latin America.

CONCLUSION

Most of the theses (two-thirds) written by medical students in Peru to obtain their medical degree are descriptive studies. Five out of ten theses were related to a national research priority, and four out of ten had information on their approval by an institutional research ethics committee before their execution. Only two out of 100 were published in a scientific journal, with even fewer published in an indexed scientific journal. The national priority most frequently addressed was "maternal, perinatal, and neonatal health".

Our results suggest the need for universities to design institutional policies that stimulate research aligned with national health needs.

Likewise, it is necessary to stimulate the ethical compliance of research, demanding that an institutional research ethics committee approve its protocol and that this information be presented in the thesis reports in a mandatory manner.

Finally, we need substantive changes in the structure of courses and formats and in the training of research teachers to stimulate the publication of theses. Such measures may improve the scientific production of medical schools and faculties to comply with the National Superintendence of Higher Education requirements for accreditation.

Notes

Contributor roles

KJAF: conceptualization, methodology, formal analysis, research, writing first draft, revision and editing. PHA: conceptualization, methodology, supervision, preparation of the original draft, review and editing. SSO: methodology, formal analysis, research, writing first draft, revision and editing. GBQ: methodology, formal analysis, preparation of the original draft, and review and editing.

Competing interests

The authors have no conflicts of interest.

Funding

This work was self-financed.

Ethics

The study did not require the approval of an ethics committee, since it was a secondary analysis of documents in the public domain, freely available, and the unit of analysis was not human beings or animals.

Provenance and peer review

Unsolicited. With external review by two peer reviewers, double-blind.

Language of submission

Spanish.

References

1. Superintendencia Nacional de Educación Superior Universitaria. Sobre el trabajo de investigación para obtener el grado de bachiller y la tesis para el título profesional. 5 Oct 2019. <https://www.sunedu.gob.pe/sobre-trabajo-investigacion-para-obtener-grado-bachiller-tesis-para-titulo-profesional/>
2. Ministerio de Educación. Ley universitaria N° 30220. 2022. http://www.minedu.gob.pe/reforma-universitaria/pdf/ley_universitaria_04_02_2022.pdf

3. Álvarez-Andrade EV, Aguirre-Cuadros E, Alarco JJ, Aliaga-Chávez Y. Factores asociados a la realización de tesis en pregrado de Medicina en una universidad pública del Perú. *CIMEL Cienc E Investig Médica Estud Latinoam*. 2010;15: 66–70. <https://www.redalyc.org/articulo.oa?id=71721155005>
4. Mejía CR, Inga-Berrosipi F, Mayta-Tristán P. Titulación por tesis en escuelas de medicina de Lima, 2011: características, motivaciones y percepciones. *Rev Peru Med Exp Salud Publica*. 2014;31: 509–514. http://www.scielo.org.pe/scielo.php?script=sci_abstract&pid=S1726-46342014000300015&lng=es&nrm=iso&tlng=es <https://doi.org/10.17843/rpmpesp.2014.313.88>
5. Fernández-Cano MI, Arrecciado Maraón A, Feijoo-Cid M. The Bachelor's thesis in nursing: Characteristics and students' approach and satisfaction. *Nurse Educ Pract*. 2021;53: 103067. <https://doi.org/10.1016/j.nepr.2021.103067>
6. Orellana-Cervera JMV, Ramírez-Mendoza M, Díaz-Vélez C. El Camino de la Tesis: ¿Cómo perciben los estudiantes previo a iniciar la investigación para titulación? *Rev Hispanoam Cienc Salud*. 2019;5: 89–91. <https://www.uhsalud.com/index.php/revhispano/article/view/399>
7. Zafra Tanaka JH, Castillo S. Barreras percibidas por los estudiantes de Medicina Humana para la titulación por tesis en la Universidad Nacional Mayor de San Marcos, Lima, Perú, 2015. *An Fac med*. 2016;77: 143. <https://doi.org/10.15381/anales.v77i2.11819>
8. Castro-Maldonado B, Callirgos-Lozada CC, Caicedo-Pisfil MK, Plasencia-Dueñas EA, Díaz-Vélez C. Características de las tesis de pre-grado de Medicina de una universidad pública del Perú. *Horizmed*. 2015;15: 34–39. <https://www.horizontemedico.usmp.edu.pe/index.php/horizontemed/issue/view/4> <https://doi.org/10.24265/horizmed.2015.v15n3.06>
9. Valle R, Salvador E. Análisis bibliométrico de las tesis de pregrado de la Facultad de Medicina de la Universidad Nacional Mayor de San Marcos. *An Fac med*. 2009;70: 11. <https://doi.org/10.15381/anales.v70i1.981>
10. Mercado-Rey MR, Mercado-Rey MR. Características y pertinencia con el perfil epidemiológico de las tesis de pregrado de la Facultad de Medicina Humana de la Universidad Peruana Los Andes 2014-2018. *FEM*. 2019;22: 187. <https://doi.org/10.33588/fem.224.1003>
11. Quispe-Julí CU, Aragón CJ, Moreno-Loaiza O. Escaso número de tesis enmarcadas en las prioridades de investigación en salud en una facultad de medicina peruana. *Rev Cuba Inf En Cienc Salud*. 2019;30. <https://www.redalyc.org/journal/3776/377665577007/html/>
12. Quispe Juli CU. Características bibliométricas de las tesis de pregrado de la Facultad de Medicina de la Universidad Nacional de San Agustín. periodo 2011 – 2017. Arequipa . *Univ Nac San Agustín Arequipa*; 2018. <http://repositorio.unsa.edu.pe/handle/UNSA/5849>
13. Paredes Fajardo LM, Ruiz Sanchez YDF. Calidad de las tesis de pregrado en la escuela de medicina humana de la Universidad Católica Santo Toribio de Mogrovejo 2013-2018. 2021. <http://tesis.usat.edu.pe/handle/20.500.12423/3303>
14. Taype-Rondán Á, Carbajal-Castro C, Arrunategui-Salas G, Chambi-Torres J. Limitada publicación de tesis de pregrado en una facultad de medicina de Lima, Perú, 2000-2009. *An Fac med*. 2012;73: 153. http://www.scielo.org.pe/scielo.php?script=sci_abstract&pid=S1025-55832012000200012&lng=es&nrm=iso&tlng=es <https://doi.org/10.15381/anales.v73i2.858>
15. Atamari-Anahui N, Roque-Roque JS, Robles-Mendoza RA, Nina-Moreno PI, Falcón-Huanchuirí BM. Publicación de tesis de pregrado en una facultad de Medicina en Cusco, Perú. *Rev Med Hered*. 2015;26: 217. http://www.scielo.org.pe/scielo.php?script=sci_abstract&pid=S1018-130X2015000400003&lng=es&nrm=iso&tlng=es <https://doi.org/10.20453/rmh.v26i4.2707>
16. Zegarra Rojas O. Modelo de licenciamiento de los programas de pregrado de Medicina en el Perú. *Acta Med Peru*. 2019;36: 301–8. http://www.scielo.org.pe/scielo.php?script=sci_abstract&pid=S1728-59172019000400010&lng=es&nrm=iso&tlng=es <https://doi.org/10.35663/amp.2019.364.906>
17. Superintendencia Nacional de Educación Superior Universitaria. Reglamento del Registro Nacional de Trabajos conductores a Grados y Títulos - RENATI. 2019. <https://www.gob.pe/institucion/sunedu/informes-publicaciones/991491-reglamento-del-registro-nacional-de-trabajos-conductores-a-gradose-y-titulos-renati>
18. Hernández-Avila M, Garrido-Latorre F, López-Moreno S. Diseño de estudios epidemiológicos. *Salud Pública Méx*. 2000;42: 144–154. <https://doi.org/10.1590/S0036-3634200000200010>
19. Ministerio de Salud. Resolución Ministerial Prioridades Nacionales de Investigación en Salud en Perú 2019 – 2023. 2019. https://cdn.www.gob.pe/uploads/document/file/343478/Resoluci%C3%B3n_Ministerial_N_658-2019-MINSA.PDF
20. Taype Rondán Á, Huaccho Rojas J, Pereyra Elías R, Mayta-Tristán P, Mejía CR. Características de los cursos de investigación en escuelas de medicina del Perú. *Univ Peru Cienc Apl UPC*. 2015. <https://doi.org/10.3823/1243>
21. Saldaña-Gastulo JJC, Quezada-Osoria CC, Peña-Oscuilca A, Mayta-Tristán P. Alta frecuencia de plagio en tesis de medicina de una universidad pública peruana. *Rev Peru Med Exp Salud Publica*. 2010;27. http://www.scielo.org.pe/scielo.php?script=sci_abstract&pid=S1726-46342010000100011&lng=es&nrm=iso&tlng=es <https://doi.org/10.17843/rpmpesp.2010.271.1446>
22. Moreno-Loaiza O, Mamani-Quispe PV, Mayta-Tristán P. Compra y venta de tesis online: un problema ético por controlar. *Rev Peru Med Exp Salud Publica*. 2013;30. <https://doi.org/10.17843/rpmpesp.2013.302.222>
23. Instituto Nacional de Estadística e Informática. Salud Materna. 2014. https://www.inei.gob.pe/media/MenuRecursivo/publicaciones_digitales/Est/Lib1151/pdf/cap008.pdf
24. Emanuel EJ, Wendler D, Killen J, Grady C. What Makes Clinical Research in Developing Countries Ethical. The Benchmarks of Ethical Research *J Infect Dis*. 2004;189: 930–937. <https://doi.org/10.1086/381709>
25. Herrera-Añazco P, Soto-Ordoñez S, Estrada-Martínez M. Procedimiento de creación de un instrumento virtual para la supervisión administrativa de los ensayos clínicos realizados en el Seguro Social del Perú. *Rev Cuerpo Med HNAAA*. 2021;14:244–245. <https://doi.org/10.35434/rcmhnaaa.2021.142.1089>
26. Mayta-Tristán P, Aparco JP. El uso de un producto en investigación fuera de un ensayo clínico: el caso «Vacunagate». *Rev Peru Med Exp Salud Publica*. 2021;38: 203–5. <https://doi.org/10.17843/rpmpesp.2021.382.8694>
27. Mayta-Tristán P, Toro-Huamanchumo CJ, Alhuay-Quispe J, Pacheco-Mendoza J. Producción científica y licenciamiento de escuelas de medicina en el Perú. *Rev Peru Med Exp Salud Publica*. 2019;36: 106. <https://doi.org/10.17843/rpmpesp.2019.361.4315>
28. Mayta-Tristán P. Tesis en formato de artículo científico: oportunidad para incrementar la producción científica universitaria. *Acta Med Peru*. 2016;33: 95. http://www.scielo.org.pe/scielo.php?script=sci_abstract&pid=S1728-59172016000200001&lng=es&nrm=iso&tlng=es <https://doi.org/10.35663/amp.2016.332.57>
29. Amador ACJ, Isabel HVM, Pierre BQGJ. Caracterización de las tesis de pregrado de la facultad de medicina humana “Daniel Alcides Carrión” de la universidad nacional “San Luis Gonzaga de Ica” y su patrón de publicación, 2007-2013. 2016. <https://repositorio.unica.edu.pe/handle/20.500.13028/2994>
30. Mayta-Tristán P, Cartagena-Klein R, Pereyra-Elías R, Portillo A, Rodríguez-Morales AJ. Apreciación de estudiantes de Medicina

- latinoamericanos sobre la capacitación universitaria en investigación científica. *Rev Méd Chile*. 2013;141: 716–722. <https://doi.org/10.4067/S0034-98872013000600005>
31. Perdomo B, Portales MI, Horna IE, Barrutia I, Villon SE, Martínez E. Calidad de las tesis de pregrado en universidades peruanas. 2020. <https://www.semanticscholar.org/paper/Calidad-de-las-tesis-de-pregrado-en-universidades-Perdomo-Portales/66ee5a8eb51826d2a0fc5c766b4e62418141c6f3>
 32. Mandujano-Romero E, Grajeda Ancca P. Calidad de las tesis para obtener el título de médico cirujano, Universidad Nacional de San Antonio Abad del Cusco - Perú, 2000-2009. *Acta Médica Peru*. 2013;30: 70–74. http://www.scielo.org.pe/scielo.php?script=sci_abstract&pid=S1728-59172013000200004&lng=es&nrm=iso&tlng=es
 33. Miyahira J. ¿Por qué la tasa de publicación de las tesis en Medicina es baja? Posibles explicaciones. *Rev Med Hered*. 2015;26: 207. http://www.scielo.org.pe/scielo.php?script=sci_abstract&pid=S1018-130X2015000400001&lng=es&nrm=iso&tlng=es <https://doi.org/10.20453/rmh.v26i4.2698>
 34. Pereyra-Elías R, Huaccho-Rojas JJ, Taype-Rondan Á, Mejía CR, Mayta-Tristán P. Publicación y factores asociados en docentes universitarios de investigación científica de escuelas de medicina del Perú. *Rev Peru Med Exp Salud Publica*. 2014;31: 424–430. http://www.scielo.org.pe/scielo.php?script=sci_abstract&pid=S1726-46342014000300003&lng=es&nrm=iso&tlng=es <https://doi.org/10.17843/rpmesp.2014.313.76>
 35. Cordova CRC, Hinojosa FJC, Paulino JIA, Huaman WP, Matias CJS. Publicación científica de asesores de tesis en una facultad de medicina humana de Huancayo, Perú. *Educ Médica Super*. 2021;35. <http://www.ems.sld.cu/index.php/ems/article/view/2037>

Características de las tesis para titularse de médico: estudio transversal en Perú

Resumen

Introducción

La investigación en Perú presenta diversas barreras que impiden su desarrollo. Ello afecta también las tesis para graduarse de médico. Nuestro objetivo fue caracterizar las tesis para obtener el título de médico en Perú.

Métodos

Se realizó un estudio observacional y descriptivo de las tesis para obtener el título de médico del año 2019 en 22 universidades que son miembros titulares de la Asociación Peruana de Facultades de Medicina. La revisión se efectuó durante enero de 2022. Se evaluaron características de las universidades (región, régimen: pública/privada), y de las tesis, incluyendo el contar con la aprobación por un comité institucional de ética en investigación, si estuvieron alineadas con una prioridad de investigación nacional y si fueron publicadas en una revista científica. Los datos de cada tesis evaluada fueron extraídos en una ficha de recolección de datos para el posterior cálculo de frecuencias absolutas y relativas de las variables de estudio.

Resultados

Se evaluaron 1838 tesis. La mayoría de ellas fueron elaboradas por un único alumno (66,16%). El diseño de estudio más común fue el tipo transversal descriptivo (42,3%). El 53,86% de las tesis respondieron a una prioridad de investigación nacional, siendo la más estudiada “salud materna, perinatal y neonatal” (26,01%). Del total de tesis, el 56,75% no indicó si contó con la aprobación de un comité institucional de ética en investigación. Sólo 40 tesis (2,19%) se publicaron en una revista científica (14 en revistas indexadas).

Conclusión

Dos tercios de las tesis realizadas por estudiantes de medicina en Perú son estudios descriptivos. La mitad responde a prioridades nacionales de investigación. Cuatro de cada diez tesis informan sobre la aprobación por un comité institucional de ética en investigación. El número de las tesis publicadas es bajo. Los resultados muestran carencias de las políticas institucionales universitarias que estimulen al cumplimiento ético y desarrollo de la investigación.



This work is licensed under a Creative Commons Attribution 4.0 International License.