



## SPECIAL ARTICLE

# Hispanic women in doctoral medical education in 19th century



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Received 15 January 2016; accepted 3 March 2016

Available online 6 May 2016

### KEYWORDS

Doctoral medical education;  
Doctoral dissertations;  
19th century;  
Women doctors;  
History of medical education

### Abstract

**Background:** Women's access to education, and more specifically, to medical studies has been a long and painful conquest for equality. In the 19th century, the number of women who actually went to Hispanic universities was small.

**Method:** This is a descriptive historical and documentary study that reviews six doctoral dissertations retrieved from two databases, the *Catálogo Completo* and *Tesis UCM*, from the Complutense University of Madrid.

**Results:** This study recovers and describes six pioneer doctoral theses defended in nineteenth century by Hispanic women, and it attempts to highlight the early presence of Hispanic women doctors in the field of medical doctoral education as professionals of the highest academic excellence. Specifically, it comments on five medical doctorates and one medical–pharmaceutical doctorate written by three Spanish women, as well as one Colombian, one Argentinean, and one Cuban woman.

**Conclusions:** A key conclusion is that Hispanic women have produced six pioneering dissertations of singular importance with a multidisciplinary medical scope covering the topics, such as women education, hygiene, ophthalmology, gynecology, and pharmacology.

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**PALABRAS CLAVE**

Educación médica doctoral;  
Tesis doctorales;  
Siglo XIX;  
Mujeres doctoras;  
Historia de la educación médica

**Mujeres hispanas en la educación médica doctoral del siglo XIX****Resumen**

*Antecedentes:* El acceso de las mujeres a la educación y más específicamente a los estudios médicos ha supuesto una conquista larga y penosa por la igualdad. En el siglo XIX el número de mujeres que fueron a las universidades hispanas fue pequeño.

*Método:* Se trata de un estudio descriptivo histórico y documental que revisa seis tesis doctorales pioneras recuperadas de dos bases de datos, el *Catálogo Completo* y *Tesis UCM*, de la Universidad Complutense de Madrid.

*Resultados:* Este estudio recupera y describe seis tesis doctorales defendidas en el siglo XIX por mujeres hispanas, y trata de destacar la temprana presencia de las mujeres en el campo de la educación médica doctoral y como profesionales de la más alta excelencia académica. Concretamente, comenta las tesis de cinco doctoras médicas y una doctora médico-farmacéutica escritas por tres mujeres españolas, una colombiana, una argentina y una cubana.

*Conclusiones:* Como conclusión clave se muestra como, en el siglo XIX, seis mujeres hispanas produjeron otras tantas tesis pioneras, de singular relevancia, y con un alcance médico multidisciplinario que cubre temas tales como: la educación de las mujeres, la higiene, la oftalmología, la obstetricia y la farmacología.

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**Introduction**

Historical studies in medical education are fitting and relevant because the identity of medical education will then further expand as it writes its own history. Literature about history of medical education is plentiful, for example, the seminal book written by Puschmann<sup>1</sup> in 1889 or the compilation edited by O'Malley.<sup>2</sup> Nevertheless, though history of medical education is extensive, some lacunae are inevitable. Indeed, some topics must be faced with the problem of their consideration into a determined context or bounded to a historical period; see for example the subject of medical travels<sup>3</sup> for educational purposes in 18th century. So then, we are considering here another topic scarcely studied: Hispanic pioneer women doctors as a relevant archetype in medical education.

Certainly women's access to education and more specifically to medical studies has been a long and painful conquest for equality. In the case of Hispanic countries, such an achievement is even more commendable, given the countries' often unique context of institutionalized misogyny, a common and accepted social pattern ("that's how it was" to put it colloquially) that with patience and, above all, sound arguments and best practices has, over time, slowly dissipated.

The most flagrant and glaring case of institutionalized misogyny was, perhaps, that of Trinidad Arroyo Villaverde, who was denied the possibility of enrolling in undergraduate studies in medicine by the rector of the University of Valladolid. It was only later, after a petition from the student's father, that the General Director for Public Education lifted the prohibition with a legal provision.<sup>4</sup>

Legal provisions to allow women access to higher education were continual and contradictory. Abundant regulatory documentation can be found in the Ministry of Education and Science; see Women and Science Unit's research monographs, especially *Women academics in number*<sup>5</sup> and *Women*

*scientists in number*.<sup>6</sup> In 1882, a Spanish Royal Decree dated March 16th suspended "here in after the admission of ladies to Higher Education", which, however, did not prevent two women from defending their dissertations that very same year. In 1888, another Royal Decree dated June 11th resolved "that women shall be admitted to studies under the Directorate General of Public Education as students of teaching, but will need the authorization of the Council of Ministers in order to register as regular students". Women would have to wait until 1910 in order for Spanish King Alfonso XIII to ratify the Ministry of Public Education and Fine Arts' Royal Decree, which gave them the right to free access to all educational institutions and official admittance to universities.

If at the time the number of women who actually went to Hispanic universities was small, smaller still was the number who managed to defend a doctoral dissertation; in fact it could be said that they could be counted on the fingers of two hands. At face value, it would seem that Hispanic countries were far removed from the small but clever Swiss nation,<sup>7</sup> a true pioneer in women's access to doctoral studies, or from the French and British models and formats with their medical schools and hospitals exclusively for women<sup>8</sup> or the powerful American historiographical movement on Women and Medicine that even published its own magazine, the *Journal of the American Medical Women's Association*. However, this study aims to provide evidence to demonstrate that the belief that there was a total lack of Hispanic women in the doctoral field especially in Medicine is unsustainable.

**Historic antecedents of women education**

In the Ancient Régime, the subject of women's education in Spain is documented in a particularly significant primary source manuscript published in 1790, *Discurso sobre la educacion fisica y moral de las mujeres* (Discourse on the physical and moral education of women) by Josepha

Amar y Borbón, whose life and work has been thoroughly inquired by López-Cordón.<sup>9</sup> A similar case is that of María Isidra Quintina Guzmán y de la Cerda (1768–1803), also known as Dr. Alcalá, the first Spanish woman Doctor of Philosophy and Humanities, who defended her dissertation on a selection of verses from Greek poet, Menander in 1785 at the University of Alcalá. Her presentation was attended by King Carlos III himself. Her thesis was written in Latin, which was obligatory in every Spanish university up until the first third of the nineteenth century with the advent of Liberal-Napoleonic reforms. In fact, the Napoleonic university model served as inspiration for successive university reforms in Hispanic countries that imposed a centralized and bureaucratized system, particularly intensive in the case of doctoral degrees, and which lasted in Spain until 1954.<sup>10</sup>

A powerful movement emerged in nineteenth-century Spain concerned with the education of women, and gave rise to a practically unique pedagogical worldview. In light of this, universities and above all medical schools did not stand on the sidelines, but intervened in the movement with particular interest, especially on the study and dissemination of body and healthcare; a framework in which physical, intellectual, and hygienic education for women, topics that were virtually nonexistent then, became increasingly important.

Flecha<sup>11,12</sup> performed a study of Spanish women's university education using the models proposed by the first two women Doctors in Medicine to graduate from a Spanish university: Dolores Aleu and Martina Castells. These two hardworking Catalan doctors who, after passing their undergraduate degrees at the Faculty of Medicine, University of Barcelona, went on to successfully defend their doctoral dissertations at the Central University of Madrid, the only center in Spain authorized to impart such qualification up until 1954. The two doctoral dissertations have an undeniable historical value, especially pedagogical significance, given that they are rooted in the hygienist tradition, a first-rate discipline that has been wittingly relegated in present Spanish school curricula.

Our study focuses primarily on the last third of the nineteenth century, a historical period where the enlightened urban bourgeoisie proposed new models of womanhood that were far removed from women's traditional and exclusive role as wife and mother. We understand that this type of study should be undertaken without animosity or acrimony, and that we should try to avoid falling into the frequent bias of historical studies that, often blinded by overinterpretation, incur in the partiality of presentism, a process which characterizes and interprets the past using the keys of the present by projecting our current despondency towards the tireless, persistent, and deep-seated sexism in Spain and Hispanic countries, onto past events. Yet neither should we relinquish nor undervalue prohistorical studies, the need for such studies in medical education is more than justified, even now with nineteenth-century medical dissertations.

Having said that, this should not prevent us from recognizing the fact that despite the impressive progress made in the women-to-doctoral dissertation ratio, there is still a long way to go before women achieve, at least on an equal footing, scientific eminence. The list of studies supporting this still asymmetric relationship is extensive.<sup>13,14</sup> The abundant literature produced over the last thirty years highlights,

above all, the creation of a hot research topic, namely: Women in History of Medical Education. This is a subject that has emerged strongly in the field of medicine and, more specifically, the budding "woman-to-doctoral dissertation" ratio in various disciplines and medical specialties.<sup>15</sup>

We explore exposing doctoral dissertations that were defended by women. This is, in essence, the objective of our study; we aim to confirm that Hispanic women performed the role of Doctors in the 19th century.

## Information retrieval: Indexed dissertations

In order to perform our historical documentary study, we had access to two important data sources, the *Catálogo Completo* [Complete Catalogue] and *Tesis UCM* [UCM Theses], both created and managed by the Complutense University of Madrid (Spanish acronym: UCM). The presentation document, which was either handwritten and/or edited by a printing house, was annexed to the doctoral dissertation and submitted to a legal deposit, usually a library. And this is what we have access to today, a landmark document that testifies to the existence of a dissertation in order to study this valid and unique primary source. The Complutense University of Madrid's *Catálogo Completo* and *Tesis UCM* are secondary sources that bear witness to said documents, on which we performed year-by-year bespoke research of nineteenth century documents with the aim of identifying the names of women authors on doctoral dissertations.

The recovery of dissertations written by women was performed via a thorough examination of all nineteenth-century medical doctorates in order to identify names of women authors and also what were considered, at that time, as unisex names (i.e. Cruz, Patrocinio, Deogracias, Práxedes, or Trinidad), as in the case of Trinidad Arroyo.

## Significant findings

The findings revealed in this study are essentially descriptive and provide basic evidence without going into more complex and sophisticated questions. Below is a list of medical dissertations written by women in 19th century and considered as case studies.

### Dolores Aleu's dissertation

A native of Barcelona, Dolores Aleu i Riera (1857–1913) obtained her medical licenciature degree in 1879 from the University of Barcelona. She defended her dissertation<sup>16</sup> in October 1882, titled *On the need to forge a new path in the hygienic and moral education of women*, in Spanish language, inspired rather than directed by her mentor and champion, Joan Giné i Partagàs. This is a 42-page, 22 cm sheet paper manuscript deposited in the UCM Faculty of Medicine library and indexed under the following subject descriptors: Women, Education, Thesis, Health and Hygiene. The later edition contains the full dissertation document and an encouraging exchange of letters between pupil and mentor.

Dr. Aleu was an expert hygienist who was particularly concerned about the maternal care given to children as author

of a little known 1882 publication<sup>17</sup> and enjoyed an active professional career as a registered medical practitioner.

### Martina Castells' dissertation

Born in Lérida (Spain) from a family that gave rise to a remarkable medical saga. Martina Castells i Ballespi (1852–1884) obtained her licenciature of Medicine degree in 1881 in the University of Barcelona. However, Dr. Castells had very few further opportunities to add to her medical and academic achievements owing to the unfortunate fact that she died at the young age of 31, two years after her dissertation, and right after the birth of her first child. She defended her dissertation<sup>18</sup> written in Spanish and titled *On the physical, moral and intellectual education that women should receive in order to contribute fully to the perfection and happiness of humankind* in October of 1882, around the same time as Aleu. The manuscript consists of 93 pages of 23 cm sheet paper. This dissertation has also been extensively and rigorously studied by Flecha,<sup>12</sup> although a comparative analysis together with Aleu's dissertation may prove relevant.

The tragic premature death of Marina Castells is seen as an unassailable loss for women in Spanish medicine, especially as she had just begun her career as a doctor and researcher; read her remarkable article<sup>19</sup> about the relation between mother and child.

Some controversy arose over who read their dissertation first (Aleu or Castells), when in fact it seems that there were only three days' difference between the two presentations.<sup>20</sup> But the relevance is that Aleu and Castells' dissertations both belong to a well-defined and productive field of medicine known as hygiene; Castells claimed that her dissertation "does not depart from the field of medicine, given that it deals with hygiene, and by dealing with hygiene, it rightly corresponds to one of the major medical institutions"<sup>18</sup> (p. 5). In addition, both dissertations had a strong educational component, as academic could not conceive of hygiene without education. Castells responded to her own question when she said: "Should it be necessary to insist even more in order to understand that hygiene is one of the focal points that women's education should embrace? I think not"<sup>18</sup> (p. 65).

The vindication of education preceded and later incorporated all other types of vindication converging in a strong collaboration of ideas, and between doctors and teachers or better doctor as teachers. Castells' dissertation<sup>18</sup> uses the linguistic root, *educac\** (educat\*), almost 30 times. The inclusion of hygiene as a subject in school curricula along with other information on anatomy, chemistry, physiology, and medical botany was proposed by both women doctors.

### Trinidad Arroyo's dissertation

In 1896, Trinidad Arroyo Villaverde (1872–1959) defended in Central University of Madrid her dissertation<sup>21</sup> titled *Intrinsic eye muscles in normal and diseased states, the effects of medication*, in Spanish language, which consists of 149 pages of 22 cm sheet paper. Unfortunately, we were unable to locate the complete digitized document. This is an

eminently ophthalmology study, devoted to both the clinical and the research field according to López de Letona.<sup>4</sup>

Arroyo married Manuel Márquez Rodríguez, who went on to become Professor of Ophthalmology at the Medical College of Madrid in 1911. Today, Trinidad Arroyo is a little known figure, having been obscured by her husband despite the fact that it was she who originally initiated him in the field. A biographical sketch of her life and work was published by her daughter.<sup>22</sup>

After the Spanish civil war, the couple lived in exile in Mexico, where Trinidad died. In her will, she bequeathed a number of scholarships for male and female students, who lacked sufficient financial resources, to study at the Faculty of Medicine in Valladolid, her *alma mater*.

### Three dissertations written by Hispanic-American women

Three other dissertations also written in Spanish, albeit by women in Hispanic-America, also deserve a mention here. We talk about of the three dissertations due to its irrefutable importance to gynecology and pharmacology.

The first dissertation was written by Ana Galvis Hotz (1855–1934), the daughter of a Columbian doctor and a Swiss woman, enrolled as the first regular woman student completing her studies in University of Bern<sup>23</sup> (p. 15), and graduating in medicine in 1877 with a doctoral dissertation written in German language and titled *Über Amnionepithel* (On the amniotic epithelial). Securely, she was the first Hispanic woman to have obtained a doctoral degree as a Doctor of Medicine.<sup>24</sup> She then returned to Bogotá where she practiced all her life as the first female Columbian medical doctor for woman diseases. It would be relevant to retrieve and digitize this thesis for obtaining sufficient evidence about it.

The second dissertation<sup>25</sup> in question was written by the Argentinean, Scottish emigrants' daughter, Cecilia Grierson Duffy (1859–1934) and it is titled, *Hyster-ovariectomies performed in the women's hospital between 1883 and 1889*, which she wrote in Spanish and defended at the National University of Buenos Aires. This dissertation consists of 136 pages with illustrations.

Cecilia was a noble, hardworking, and generous individual who, although she died practically in poverty, was kind enough to donate her assets to the Argentine state to found a school, an act which has increased her popularity over the years. She was particularly concerned with education, having been a school teacher before graduating in medicine, and founded the first school for nurses in Latin America.

In 1892, María de Jesús Pimentel y Peraza wrote in Spanish and defended her dissertation<sup>26</sup> at the Royal and Literary University of Havana, which was titled, *Could a botanical classification be created in accordance with the principles applicable to plants?*, which was supervised by José Práxedes Alacán Berriel, and comprised of 39 pages of 24 cm sheet paper. Although the thesis in question pertains, primarily, to pharmacy it should not be omitted from this study due to its macrodiscipline association with the field of medicine, particularly with medical botany and pharmacology. Alacán<sup>27</sup> eloquently expressed this association when he affirmed that

pharmacy was ‘‘medicine’s twin in the sciences, waging stout battles with death for the human life a daily basis’’.

It must be said that Dr. Pimentel was actually the first Hispanic woman to graduate as a Doctor of Pharmacy, not only in Cuba, at that time a region of the Kingdom of Spain. The Royal and Literary University of Havana was occasionally allowed to award doctoral degrees in medicine.

## Discussion and opportunities

Having reached this point, a series of ad hoc considerations about the research subject should be raised. On the one hand, nineteenth-century medical dissertations written by women are considered *rara avis*. We established that there are only six Hispanic medical doctoral dissertations written by women (Galvis, Aleu, Castells, Grierson, Pimentel, and Villaverde). As such, this subject remains of singular importance as a multidisciplinary concern comprising the following topics: history, medical education, and women, but it is essentially still an almost unexplored and rather omitted historic graphical field of medical education.

A very long time has passed and many events have taken place since pioneer medical women wrote their dissertations. However, perhaps the most relevant event, in this respect, is the more than evident feminization of the study of medical doctorate majorly in Spain,<sup>6</sup> and minorly in Latin America.<sup>28</sup>

The fight for scientific eminence should remain a legitimate and natural aspiration for women doctors, who should not be cornered exclusively into the everyday rigors of professional practice even more when women with a high degree of social vocation place significantly less importance on material factors than their male counterparts.<sup>29</sup>

It would be intolerable to think that there could be a subtle but impregnable ‘‘glass ceiling’’ hindering the scientific careers of women doctors, preventing them from reaching the top of eminence. Apparently, there is nothing to prevent these professionals from accessing the ‘‘cupola’’ of knowledge, as the evidence provided by the bibliometric studies referenced here.<sup>13,15</sup>

This study could also have continuity down other avenues. The research on the production of dissertations on medicine defended by Hispanic women would need to be expanded to include the period 1900 to the present day, conducting systematic reviews that include longer periods or at least include dissertation catalogs as a culture for medical education. In short, the topic of doctoral medical education for women still has room for important growth in research and must, at all costs, continue.

## Funding

None.

## Conflict of interest

None.

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