

José María Vargas' status as the father of medicine in Venezuela

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Abstract. José María Vargas is widely considered as the father of medicine in Venezuela, and in that nation, physicians' day is celebrated every March 10th, on occasion of his birthday. He received a medical degree and practiced medicine in Cumaná. In 1812, he was imprisoned because of his prior participation in Venezuela's independence movement, but was released in 1813. He then travelled to Europe, where he continued his medical studies. In 1819, he settled in Puerto Rico, and carried out exploratory botanical research. This allowed him to academically collaborate with renowned scientific figures of the day, such as August Plee and Carlo Giuseppe Bertero. In 1825, Vargas returned to Venezuela, and he played an important role in setting the foundations for medical education in the emerging nation. In 1834, Vargas was elected as President of Venezuela, but had a subsequent fallout in Venezuelan politics. Today, Vargas is honored in Venezuela as an exemplary civilian (in a country long dominated by military leaders), and a physician dedicated to humanitarian causes.

Key words: José María Vargas, Venezuela, medicine, civilian

Introduction

José María Vargas is widely considered the father of medicine in Venezuela. He was born on March 10th, 1786, in the locality of Guanape, a township of La Guaira, a port city close to Venezuela's capital, Caracas. His father was José Antonio Vargas Machuca, and his mother was Ana Teresa Ponce. Vargas was the descendant of immigrants from the Canary Islands, who had made their way to Venezuela in search of business opportunities (1).

Venezuela had been part of the viceroyalty of Nueva Granada, but in 1777, it was designated as a new territorial entity, under the status of General Captaincy (2). This administrative move formed part of a larger program of reforms carried out by King Carlos III. This king belonged to the Borbon dynasty in Spain, who had come to power in 1700.

The previous dynasty (the Habsburgs) had ruled the Spanish colonies with a large degree of decentralization. That caused problems of its own, as corruption

became rampant amongst officials in the colonies, and that significantly affected Spain's fiscal capacity. In order to tackle this, the Borbon monarchs began a series of reforms that would attempt to exert a greater control over the affairs of the colonies, in order to make public administration more efficient, especially for purposes of tariff controls and tax collection (3).

As part of these reforms, Spain removed from the colonial administration those born in the colonies. From then on, government posts in the colonies would be occupied by officials born in Spain, so as to tighten the grip on colonial administration, and avoid corruption networks. In turn, this move intensified many of the colonialist prejudices that had been present throughout the Spanish empire. A variant of geographic determinism enshrined the idea that those born in the tropical weather of the Americas were not vigorous enough for the responsibilities of public office. Canary Islanders were not exempt from this discrimination, as they were viewed as a mixed breed, not fit enough to occupy positions of privilege.

Throughout his childhood and youth, Vargas had to face this discrimination, especially in educational settings. In 1798, Vargas joined the Santa Rosa de Lima seminary, pursuing studies in botany science. While he was a student, Vargas had occasion to encounter famed German traveler and explorer Alexander Von Humboldt, who visited Venezuela in 1799-1800.

Humboldt was keen to explore the Avila mountain that stood between Caracas and La Guaira. His purpose was to collect plant varieties, so as to document them in his records for later study in Europe. Humboldt organized an expedition to reach Avila's summit in 1800. He was joined by a contingent of citizens from Caracas, but the majority of them desisted from continuing halfway through the trek. However, Vargas was one of the very few that stood by Humboldt's side and reached the summit of the mountain (4).

In 1802, Vargas graduated with a bachelor's degree in arts. That same year, he enrolled in Pontifical University in Caracas, and pursued a second bachelor's degree, this time in philosophy. This enabled him to continue his studies, and complete a further bachelor's degree on medicine in 1808. During that time, medical education in Venezuela was still very incipient, and Vargas mostly received courses on physiology, pathology, and therapeutics. But, this exposure to medical knowledge greatly aroused his curiosity, and he became an autodidact in other medical fields, especially those related to pharmacology and the medical use of botany.

As part of his graduation requirements, Vargas presented a dissertation on Hippocrates' aphorisms, and then another one on Aristotle's physics (5). The choice of these authors reflects the markedly scholastic education that Vargas received as a medical student. Consequently, he commanded Latin grammar, and as it was fashionable in the Spanish colonies and newly-formed republics of Latin America, this classical and humanist education granted him an enormous intellectual prestige, which would enable him to become an influential public figure in the years to come.

The aim of this article is to present a biographical semblance of Vargas, in order to highlight the relevance of his work as a medical professional, and his role as the father of scientific medicine in Venezuela. As this nation has embarked on a program of modernization for over a century, it is important to uphold the

memory of those illustrious characters who devoted their lives to the improvement of medical knowledge.

Discussion

In 1808, Vargas decided to move to Cumaná, in the Eastern region of Venezuela. Since he had received a bachelor's degree in medicine, he was licensed for medical practice, and he did general clinical work as a primary physician. Compared to Caracas, Cumaná was a small town (10,000 inhabitants at the time). But, Vargas was much interested in practicing medicine in small settings, so as to reach out to peasants who had little opportunity to visit Caracas for medical attention.

During his tenure in Cumaná, Vargas further increased his activities as an autodidact. Consequently, he continued to self-teach theoretical clinical knowledge, mostly gathered from books imported from Europe. Yet, as he increased his access to books coming from Europe, he was increasingly exposed to the Enlightenment literature that had been thriving throughout the 18th century. He was especially impressed by J.J. Rousseau's *Social Contract*, and he organized reading clubs, so as to discuss Rousseau's philosophy with intellectual circles in Cumaná.

This Enlightenment literature had fueled the ideals of the French Revolution, and as the books made their way to the Western hemisphere, they also sparked revolutionary movements. In 1808, Napoleon had invaded Spain, and in the mist of that confusion, by 1811 local councils throughout South America declared independence from the Spanish crown. This in turn caused major upheavals, that resulted in bloody civil wars that persisted until 1824 (6).

When Venezuela's independence movement fully came to fruition in 1811, Vargas joined in. Being already influenced by the Enlightenment ideals he found in books; Vargas also looked up to many of his classmates during his studies in Caracas. Many of his former classmates formed part of the independence movement, and Vargas eagerly also joined the cause. He did so by becoming a member of the Supreme Legislative Power of Cumaná, a council that sought to exercise some local governance, in complete autonomy from Spain's rule. This particular council eventually

proclaimed adherence to the Republic of Venezuela, and Vargas was amongst the signatories of the document that formalized such a move.

As a member of this council, he was tasked with the duty of managing local hospitals in Cumaná. Vargas had originally been elected as member of the council, but once the tenure was over, he returned to La Guaira to stay with his family. During his stay in La Guaira, he witnessed the terrible earthquake that affected most of Venezuela on March 26th, 1812. This particular earthquake had a significant history in Venezuelan history. Given its intensity (it destroyed most of Caracas' buildings), it gave occasion to theological and political disputes. From the onset, most members of the Catholic clergy had opposed the independence movement, and in the aftermath of the earthquake, many prominent clerics gave out sermons arguing that the earthquake was clearly a sign of divine punishment for Venezuela's revolutionary activities (7).

Some participants in Venezuela's independence movement (most notably, Simón Bolívar) resolutely refuted the clerics' sermons (8). Vargas was sympathetic to these refutations, but he refrained from polemicizing in the context of that national tragedy. Instead, he arduously gave medical attention to the earthquake victims in La Guaira. With very few medical resources, Vargas improvised some surgeries, supervised cadaver incinerations, and distributed food and medicines amongst the survivors.

Given his exemplary service during the earthquake emergency, he was appointed as director of the General Hospital in La Guaira. Vargas was offered a salary for his duties, but he resolutely declined to be paid, and offered his services free of charge. This was again viewed as exemplary behavior, and such a gesture further aroused admiration amongst Venezuela's intellectual and political elites.

Vargas eventually returned to Cumaná, to pursue his medical activities there. While he was in Cumaná, the commander of Venezuela's armed forces (Francisco de Miranda) surrendered, and Spanish authorities retook Caracas and most of Venezuela. The Spanish commanding officer, Domingo de Monteverde, was especially vindictive of those who had participated in the independence movement (even though he had promised leniency).

Spanish military leader Francisco Javier Cervéziz took control of Cumaná, and Vargas was taken prisoner as punishment for having participated in the independence movement, as member of the local council. He was transferred to a prison in La Guaira, where he stayed incarcerated until 1813 (9).

Voyage to Europe and stay in Puerto Rico

In June 1813, Simón Bolívar reclaimed Caracas for the independence movement, and freed political prisoners (10). Now out of prison, Vargas decided to move away from the bloody civil war and the chaos of Venezuelan politics, and travelled to Edinburgh, searching for a new opportunity to further increase his medical knowledge (11). In the ensuing years, this particular decision was often highlighted by his detractors. As Vargas later came to gain prominence as a respected physician and a public figure in Venezuelan life, he was accused of having fled the country out of cowardice or egoism.

Once in Edinburgh, Vargas continued his general and medical studies. He enrolled in medical school, and obtained degrees in anatomy, obstetrics, surgery, chemistry, ophthalmology, dentistry, botanic, and mineralogy. He then moved to London, to continue his medical education, and obtained a degree from London's College of Surgeons (12).

After these academic achievements, by 1819 Vargas felt the need to return to the Western hemisphere to continue his medical work. Yet, given that Venezuela's political and military situation remained very unstable, and the war continued in the interior of the country, Vargas preferred to move to Puerto Rico, as his mother and siblings had settled there, fleeing from the chaos of the Venezuelan war. Puerto Rico remained a loyalist stronghold, but Spanish authorities there had a more lenient approach, and accepted migrants from other colonies, regardless of the fact that they may have previously participated in independence movements, as it was Vargas' case. All that was required from Vargas was to abstain from further political activism.

By that time, Vargas was not interested in political activities. His real interests were in continuing medical education, and the administration of some estates

that his father had owned in Puerto Rico. Vargas had developed some reputation as a dedicated physician, and this endeared him to local authorities in Puerto Rico (13).

While in Puerto Rico, he worked closely with the local Sanitary Council, frequently performing surgeries. He specialized in internal pathology, and continued his interests in botanic. This led him to interact with relevant botanical scientists of his time, who had travelled to Puerto Rico collecting new plant species.

For example, French naturalist August Plee visited Puerto Rico in 1823, seeking to explore its flora. Vargas joined him in the expedition. Plee's botanical collection is currently exhibited in the herbarium of Paris' Museum of Natural History. Those specimens gathered in Puerto Rico, were collected with Vargas' help. The experience with Plee was very significant for Vargas, as he collects in a report: "We have completed a year's work in three months, i.e., collecting more than eight hundred plant species, or two thirds of the variety found in the island [Puerto Rico], and almost all those plants that boom this time of the year" (14).

Likewise, it is possible that Italian naturalist Carlo Giuseppe Bertero may have interacted with Vargas while he visited Puerto Rico between 1816 and 1821. Bertero used the name 'Vargasia' to describe a new genus of the Sapindaceae family of plants. Although there is no definitive proof that Bertero and Vargas effectively met, it does seem probable, given Bertero's choice of name for his newly discovered genus (15).

Return to Caracas

By 1825, Venezuela had completed its independence from Spain, and the war was over. This new period of peace motivated many Venezuelan exiles to return, and Vargas was amongst them. Upon his return to Caracas, he was assigned a post as professor of anatomy in the University of Caracas in 1826.

Venezuelan medical schools had never taught anatomy courses with cadaver dissection. Given his educational experiences in Europe, Vargas was very well acquainted with dissections, and promptly established the need for students to do dissections as part of their anatomy education (16). His request was honored, and

from that moment on, Venezuelan medical schools used cadavers in anatomy lessons, thus overcoming a prohibition that had been in place from Colonial times. In Vargas' words, "we will note the rapid progress that youth will make... if instead of a tiring and useless lecture, they may see, touch and get used to handle human organs, which are the seat of diseases that will occupy their attention" (14).

Vargas also introduced the use of microscopes for the first time in Venezuelan medicine. Again, his exposure to such technology in Europe allowed him to propose this modernizing trends in Venezuelan medical education. Although Vargas was in charge of anatomy courses, he also proposed new courses on minerology and botanic, which would further contribute to enrich the curriculum of University of Caracas' medical school. As part of botanic courses, Vargas organized expeditions to Caracas' Ávila mountain, further collecting material for study.

During this time, Vargas also established contact with renowned Swiss scientist Augustin Pyramus de Candolle. Given Vargas' reputation as a collector of plant species, Candolle solicited Vargas to send him some of the specimens from his collection. Vargas gladly complied, and sent close to three hundred specimens of Venezuelan plants. Candolle's *Prodromus* (a massive study of plant variety throughout the world) partly relied on Vargas' contribution, and Candolle also used the name 'Vargasia' to designate a genus of the Asteraceae family. Indeed, in *Prodromus*, Candolle describes Vargas as a "skillful observer of nature" (17).

Vargas was also designated as surgeon of the Military Hospital in Caracas, and in that capacity, he oversaw the administration of medical resources. Crucially, in this tenure, Vargas also instituted humanitarian codes for the treatment of military patients. In one particular incident, he confronted General Lino de Clemente, for some of the brutal corporal punishments levelled against soldiers, who then had to be treated in the hospital (18). Although Clemente acquiesced to Vargas' request regarding the treatment of soldiers, in later years Vargas would go on to have fallouts with Venezuela's military leaders. Incidents such as this one contributed to the perception of Vargas as a civil leader who interfered in military affairs, and this would later have negative implications in his political career.

By 1827, Venezuela had been annexed to Colombia, and Colombia's President, Simón Bolívar, visited Caracas. During that visit, Bolívar sought to reform the University of Caracas, and convert it into a formal republican institution (so as to move it away from its royalist origins). This implied some reforms, which included a provision to allow physicians to be chancellor (the highest authority), as previously, only lawyers and theologians were allowed to fulfill that role. Vargas was thus elected as the highest authority of the university, which changed its name to Venezuela's Central University.

Vargas soon pursued a very important set of reforms. Up to his time, admissions to Venezuelan universities required the so-called *limpieza de sangre*, an ancient Spanish custom by which government officials had to prove they were of noble descent, and did not have Jewish, Muslim, indigenous or African ancestry. As previously mentioned, Vargas himself had suffered discrimination, given his Canary Islander descent. Consequently, he was very sensitive and aware of the rampant ethnic discrimination going on in educational institutions, and he thus ordered the elimination of *limpieza de sangre* admission requirements in the university. This was a major breakthrough in medical education in Venezuela, as people from all ethnic and religious backgrounds could aspire to become physicians (19).

Having studied in Europe, Vargas was very aware of the need to modernize Venezuelan universities. As chancellor of Venezuela's Central University, he sought to establish academic exchanges with universities abroad, and consequently, that allowed for a greater flow of knowledge. That set the foundations for further development in medical education in Venezuela, for years to come.

Political activity and final years

In 1829, Vargas completed his tenure period as chancellor of the university, and he did not opt for reelection. But Vargas continued to be involved in public affairs, and in 1829, he joined the Economic Society of Friends of the Nation. This was a non-governmental organization dedicated to charity work and academic discussion.

By 1830, Venezuela had seceded from Colombia. As part of this political move, a new national congress was summoned, in order to write a new constitution for the emerging nation. Vargas was popularly elected as one of the representatives in this congress. Venezuela's secession from Colombia had largely taken place as a result from discontentment with Simón Bolívar's leadership. But, during his tenure as representative in the national congress, Vargas consistently honored Bolívar's legacy, and opposed the congress' moves to publicly shame Bolívar.

In turn, when Bolívar wrote his own testament in 1830, Vargas was designated as one of the will executors (20). Bolívar had chosen Vargas for that role, given that Vargas was widely acknowledged as an exemplary citizen. The fact that Bolívar designated him as his will executor further increased his reputation, as he was now recognized as one of the members of the inner circle of Venezuela's national hero.

By 1834, Vargas had a consolidated image as an honest public servant, dedicated to humanitarian services in medicine and intellectual endeavors. That year, José Antonio Páez's tenure as President of Venezuela came to an end, and new elections were held. Ever since the war of independence that had begun in 1811, Venezuela had been ruled by *caudillos*, military leaders who relied on personal allegiances and commanded private armies (21).

Modernizing elites in Venezuela were eager to modify that and sought to change the situation by urging civilians to participate in politics more actively, so as to prevent military strongmen to overtake power. In this context, Vargas was requested by some of these elites to run as candidate for the presidency of Venezuela. Vargas reluctantly accepted, and he was elected as President in the 1834 elections (22).

In those elections, general Santiago Mariño was defeated. Having been a caudillo for more than two decades, Mariño was not satisfied with the prospect of a civilian occupying Venezuela's presidency, and consequently did not accept electoral defeat. By 1835, Mariño had organized a conspiracy to overthrow Vargas. Along with other generals who were likewise disgruntled at not being in power any longer, Mariño launched the "Revolution of Reforms" (23). They protested Vargas' centralist model of governance

and proposed a federalist model as alternative. Vargas was perceived as a puppet of Páez, and consequently, the coup leaders insisted that their revolution would restore a truly autonomous power.

These were very cheap excuses to remove a civilian President who had legitimately won elections. At heart, the so-called “revolution” was just a cynical ploy to enshrine caudillo rule, and make sure that civilians would never take a leading role in Venezuelan politics. In fact, the main arguments levelled against Vargas had little to do with his actual governance, and much more to do with his status as civilian. He was accused of not having actively participated in the war for independence, as he fled to Europe. As caudillos saw it, Venezuela could not be ruled by soft physicians (or any civilian, for that matter) who had never held arms.

In fact, when Vargas was arrested by the coup leaders on July 8th, 1835, the commanding officer (one Pedro Carujo) tried to shame Vargas by telling him, “the world belongs to the courageous”, thus implying that Vargas was a coward due to his lack of military experience. This elicited a famous reply from Vargas: “No, the world belongs to the just man; good man, and not just courageous man, is the one who has always lived and will always live happily on Earth, and with a clear conscience” (24). For the next one hundred years, Venezuela would have constant conflicts between civilian and military leaders, and Vargas’ quote would be continuously remembered as an exemplary display of civic virtue in the face of military brutality. Indeed, throughout Venezuela, statues and busts depicting Vargas, are usually accompanied by an inscription with that quote.

Vargas was exiled to the island of Saint Thomas in 1835. But, that same year, Páez came out of retirement to military confront the coup leaders, and defeated them. This allowed Páez to bring Vargas back from exile, and reinstate him as legitimate President. Vargas was keen to impose an exemplary punishment on the coup leaders, but Páez, being a pragmatic caudillo himself, reasoned that, in order to keep some minimum of governability, such punishment ought not to be too severe. Consequently, Páez had the upper hand, and the coup leaders were only exiled.

This particular disagreement with Páez disaffected Vargas from further political involvement, and he

resigned as President in April of 1836. Despite his failure as a politician, Vargas remained a highly-respected public figure, and was fully dedicated to medical education. In 1842, he founded a course on chemistry, and he continued to teach anatomy and surgery in the faculty of medicine of Venezuela’s Central University. That same year, he was also commissioned to oversee the repatriation of Bolívar’s remains from Santa Marta (Colombia) to Caracas (25), thus reaffirming his position of prestige in Venezuela’s cultural life.

In 1853, afflicted by disease, Vargas travelled to the United States, seeking treatment. He first settled in Philadelphia, and then in New York, where he died in 1854.

Legacy

In a nation whose history in the 19th century was plagued by military intrigues and utter disregard for rule of law, Vargas has been upheld as a great model of civic virtue. In 1877, his remains were repatriated to Venezuela, and they were placed in the National Pantheon, where they remain to this day.

With the oil boom of the 1930s, Venezuela underwent a massive industrialization program. Consequently, medicine began to be modernized only in the mid-20th century. But, amongst historians of medicine in Venezuela, there is a recognition that Vargas is the true father of modern medicine in that nation, as he laid the foundations for medical education (26). Venezuela’s physicians’ day is celebrated every March 10th, on occasion of Vargas’s birthday.

Additionally, Vargas stands out as a physician completely at the service of humanitarian causes, who adds a much-needed civilian participation to political life in Venezuela, as opposed to the predominance of caudillos for much of Venezuela’s political history. In a country replete with statues to military strongmen, Vargas remains one of the very few honored civilians in Venezuela. He has therefore become a symbol of the ideal of military submission to democratic rule. The faculty of medicine of Venezuela’s Central University bears his name (Vargas School), and the region where he was born was also bore his name (Vargas State).

Interestingly, in 2019, the name of that region was changed to La Guaira State by Venezuela's government. Some commentators have seen in that change a reflection of Venezuela's shift towards militarist authoritarianism, as allegedly, the ruling elites have little regard for a man who symbolizes civilian virtues (27). This assertion may be impossible to prove, but it is still a fact that in Venezuela's history, Vargas stands out as a very virtuous person who took significant steps to modernize medicine, and who did his best to cleanse Venezuela of caudillo rule.

References

1. Reverón RR. José María Vargas (1786–1854): reformer of anatomical studies in Venezuela. *Clinical Anatomy* 2014; 27(2):150–3.
2. Fisher JR. Imperial Rivalries and Reforms. In: Holloway TH, editor. *A Companion to Latin American History*. Malden: Blackwell; 2008. pp. 178–94.
3. Barbier JA. The culmination of the Bourbon Reforms, 1787–1792. *Hispanic American Historical Review* 1977; 57(1):51–68.
4. Goihman-Yahr M, Rodríguez A. Dr José Maria Vargas, standard bearer of Venezuelan medicine: The doctor and the statesman. *Clinics in dermatology* 2020; 38(4):497–501.
5. Márquez, A. José María Vargas (1786–1854). Caracas: Eugenio Mendoza; 1954.
6. Meade TA. *History of modern Latin America: 1800 to the present*. New York: John Wiley & Sons; 2016.
7. McCook S. Nature, God, and nation in revolutionary Venezuela: The Holy Thursday earthquake of 1812. Albuquerque: University of New Mexico Press; 2010.
8. Fonseca C. Shaky Grounds: Bolívar, Humboldt, and the Birth of Catastrophe Politics. *Revista Hispánica Moderna* 2014; 67(2):163–81.
9. Moreno-Brandt L. Dr. José María Vargas Ponce: Un hombre justo. *Revista venezolana de cirugía* 2009; 62(4):126–37.
10. Langue F. La guerra a muerte, Bolívar y la Campaña Admirable (1813–1814). *Boletín Americanista* 2016; 66(72):264–5.
11. Fernández AS. Juan Germán Roscio y José María Vargas: imaginarios fundacionales de la libertad en América. *Heurística: revista digital de historia de la educación* 2009; 12:5.
12. Rodríguez Iranzo A. José María Vargas Un civilista que enfrentó el caudillismo militar decimonónico. *Cuadernos unitarios* 2018; 37: 66–80.
13. Torres-Gómez JM. La Aportación de la Asociación Médica de Puerto Rico a la Creación y Desarrollo de la Escuela de Medicina de la Universidad de Puerto Rico. *Puerto Rico Health Sciences Journal* 2014;17(2): 123–28.
14. Márquez, A. José María Vargas (1786–1854). Caracas: Monteavila. 1999
15. Stauffer FW, Duno de Stefano R, Dorr LJ, Jacquemoud F, Fumeaux N. Contribución del Dr. José María Vargas a las ciencias botánicas en Venezuela. *Acta Botánica Venezolana* 2006; 29(1):135–64.
16. Romero-Reverón R. José María Vargas (1786–1854). Un anatomista Vénézuélien. *Vesalius* 2020; 26(2):77–85.
17. Cook A. Augustin-Pyramus de Candolle: Mémoires et souvenirs (1778–1841). *British Journal for the History of Science* 2005; 38(139):482.
18. Bolívar S, Briceño Méndez P, de Venezuela E. *Asuntos militares de Venezuela*. Caracas: Archivo histórico; 1875.
19. Lizarzrado CG. José María Vargas: reforma universitaria en Caracas 1827–1829, medicina y salud pública. *Revista Venezolana de Salud Pública* 2016; 4(1):49–59.
20. Révérend AP. La última enfermedad, los últimos momentos y los funerales de Simón Bolívar, libertador de Colombia y del Perú. Bogotá: Ministerio de Relaciones Exteriores, Dirección de Relaciones Culturales; 1866.
21. Irwin D, Micett I. Caudillos, militares y poder: una historia del pretorianismo en Venezuela. Caracas: Universidad Católica Andrés; 2008.
22. Hernández JS. *Historia electoral de Venezuela: 1810–1998*. Caracas: Los Libros de El Nacional; 1998.
23. Consalvi SA. La (contra) revolución de las reformas. *Boletín de la Academia Nacional de la Historia* 2013; 95(381):67.
24. Corao, M. El mundo es del hombre justo y honrado. *El nuevo Herald*. 2017 June 30th.
25. Harwich N. Un héroe para todas las causas: Bolívar en la historiografía. *Iberoamericana* 2003; 3(10):7–22.
26. Cordero-Moreno R. *Compendio de la historia de la medicina en Venezuela*. Caracas: Universidad Católica Andrés; 1998.
27. Meléndez J. Repudian cambio de nombre del Estado Vargas. *Noticiero digital*. 2019 June 6th.

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