

History of Tetanus in Brazil: A Synopsis

Tetanus was a leading killer throughout the world during the nineteenth century, but was reported to be relatively more common in warmer countries such as Brazil. It mostly killed newborns and caused tragically high rates of infant mortality. Tetanus occurs when bacteria (*Clostridium tetani*) enter an abrasion in the skin or tissue, causing infection. The disease was greatly reduced at the end of the nineteenth and early twentieth centuries when doctors and midwives began using antiseptics and aseptic methods for surgery and obstetrics and when wounds were cleaned and disinfected. Particular midwifery practices increased the likelihood that a newborn would become infected with tetanus through the umbilical stump, since midwives cut the umbilical cord and applied different (and often unintentionally contaminated) substances to the stump. In reaction to the growing acceptance that many diseases were caused by germs, medical treatment and child birthing practices slowly changed toward the end of the nineteenth century. Doctors learned that they could reduce post-surgical infections by using sanitary measures. Midwives and obstetricians learned to sterilize their instruments and apply bandages rather than other substances to the belly of a newborn.

This project studies the historical incidence of tetanus, the groups this disease affected disproportionately, and how new medical knowledge led to changing practices that ultimately lessened its deadly grip on Brazilian society. Particular groups, such as slaves, will receive special attention. Since the disease is closely connected to medical and midwifery practices, variations in its incidence are connected with changing practices and traditions. Additionally, the development of germ theory, the discovery of the tetanus bacteria, and knowledge of the disease's preventions originated in laboratories outside of Brazil. Therefore, a study of the causes and treatment of tetanus is also an investigation of how foreign modes of understanding altered medical practice in Brazil. I also wish to show how child birthing practices, steeped in centuries of tradition and removed from formal medicine, could also alter under the pressure of modernizing forms of medical knowledge.

The history of health and medicine in Brazil remains underdeveloped. Interest and funding for research has increased in the last decade, but most attention has been given to the health of Brazilian slaves, leaving us uncertain of whether this group is representative of broader patterns or unique, as is commonly assumed. Slaves might have found it strange that we now know much more about why and how they died than their masters. Like the other top killers, little historical research has been conducted on tetanus in Brazil, even though it was probably the leading cause of infant death during the nineteenth century. There are a number of unanswered questions I hope to address in this article: Who died of tetanus? Why were particular groups, such as newborns, much more susceptible to this fatal disease? Was there a regional difference of tetanus? How did the incidence of this disease change over time? In what ways were these changes, such a decline in tetanus infections, connected to new medical knowledge about germs and sterilization? How did doctors understand the disease's etiology, pathology and treatment? How might have the practices of midwives prevented or facilitated the spread of tetanus? I believe that answers to these questions will not only inform us on a disease that killed millions of infants and adults, but also tell us an important story about Brazil's transformation from a large decentralized, agricultural and slave-based Empire in the 1850, into the modernizing and urbanizing Republic of the 1920s.

Outline	Sources
<ol style="list-style-type: none"> 1. Introduction (see above) <ol style="list-style-type: none"> a. Questions to be asked b. Literature on tetanus c. How can we be sure that “tetanus” of the nineteenth century is the same as what we diagnose as “tetanus” today? <ol style="list-style-type: none"> i. Correspondence with childbirth for infants or abrasion or surgery for adults ii. Tell-tale symptoms: muscle spasms and trismus (lock jaw) d. Why we should care? 2. Current incidence and understanding of the etiology and pathology of tetanus <ol style="list-style-type: none"> a. Causes b. Progression and effects in the body c. Contemporary prevention and treatment <ol style="list-style-type: none"> i. Antiseptic and aseptic methods ii. Antibiotics d. Continued presence in wealthy (low incidence) and poorer (high) regions of the world, including Brazil 3. Incidence and understanding of tetanus before the nineteenth century 4. The view tetanus during the nineteenth century <ol style="list-style-type: none"> a. Pathological understanding in Brazil <ol style="list-style-type: none"> i. How this converged and diverged from Europe and the United States b. assumed connection to climate and, especially humidity c. Other aspects of the medical worldview on tetanus d. Debates and unanswered questions of the day 5. Incidence of tetanus in Brazil before 1890, regional differences <ol style="list-style-type: none"> a. Porto Alegre b. Santos c. Rio de Janeiro d. Recife 6. Medical treatment of tetanus before germ theory <ol style="list-style-type: none"> a. Doctors and adult (“traumatic”) tetanus b. Midwives and infant (neonatal) tetanus c. Government action and advocacy 7. Medical discoveries <ol style="list-style-type: none"> a. Pasteur, Lister and germ theory b. Isolation of the <i>Clostridium tetani</i> 	<p>Secondary sources on pathology</p> <p>“</p> <p>“</p> <p>“</p> <p>“</p> <p>“</p> <p>“</p> <p>“</p> <p>World Encyclopedia of health, secondary sources, Google books</p> <p>Google books, secondary sources</p> <p>“</p> <p>“</p> <p>“</p> <p>“</p> <p>“</p> <p>“</p> <p>“</p> <p>Databases</p> <p>PA DB need fix data</p> <p>Santos DB need data entry</p> <p>Rio DB need data entry</p> <p>Recife need data entry</p> <p>Google books</p> <p>“</p> <p>“</p> <p>“</p>

<ul style="list-style-type: none"> c. Dissemination of knowledge d. Impact of knowledge in Brazil 8. Incidence of tetanus in Brazil after 1890, regional differences <ul style="list-style-type: none"> a. Porto Alegre b. Santos c. Rio de Janeiro d. Recife 9. Changing health practices among doctors and midwives <ul style="list-style-type: none"> a. Did obstetricians replace midwives partly because of tetanus? b. Government action and advocacy 10. Conclusion <ul style="list-style-type: none"> a. What does tetanus tell us about the history of health and disease in Brazil? b. What does tetanus tell us about the social, political and economic changes in Brazil? 	<p>Secondary sources</p> <p>“</p> <p>“</p> <p>Google books</p> <p>Databases</p> <p>PA DB need fix data</p> <p>Santos DB need data entry</p> <p>Rio DB need data entry</p> <p>Recife need data enry</p> <p>Google books</p> <p>“</p> <p>“</p> <p>“</p>
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