

The Brazilian Navy faces its worst enemy in WWI: The Spanish flu

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Few people know about the participation of Brazil in World War I. Although Brazil remained neutral during most of the conflict, it eventually sent a fleet to support the war effort against the central powers. It was the only Latin-American country to do so. But the Brazilian expedition encountered an unexpected and treacherous enemy in the African coast against which -like all other Armies- it was not prepared for: the Spanish flu.

The [Spanish flu](#) swept the globe in 1918-1919 and in a few months made more victims than the total number of battlefield deaths during the war. Estimates range from approximately 20 to 50 million deaths worldwide, making it one of the most devastating public health crises of recent history. Still, only in a few places the pandemic was as deadly as among the Brazilian fleet sent to the coast of Senegal. In Dakar, the cemetery still has the graves of the more than a hundred Brazilian soldiers (over one-tenth of the entire crew) who succumbed to the [flu outbreak](#). The reports of that experience make a grim reading and describe one of the most tragic episodes in the history of the Brazilian armed forces.

Now a group of Brazilian and Australian [epidemiologists](#) and naval historians led by Dr. Wladimir J. Alonso, from the Fogarty International Center of the National Institutes of Health, has been looking at those reports to find the extraordinary conditions accounting for what was the highest influenza mortality rate on any naval ship reported to date. Interestingly, the research has already revealed that the ones most affected were those who likely had the [respiratory system](#) weakened by

their working conditions. The highest mortality burden in the fleet laid on stokers and engineer officers, who were constantly exposed to the smoke and coal dust from the boilers in the engine rooms. It is believed that in those troop members pulmonary damage and oxidative stress of the respiratory [epithelial cells](#) were among the main factors exacerbating the impact of exposure to the pandemic virus. The authors also point to the fact that crew members most likely had no previous immunity against the virus due to a lack of exposure to the earlier and milder wave of this [pandemic](#) in the beginning of 1918, which was largely restricted to the Northern Hemisphere. Also, the short supply of drinkable water may have been an aggravating factor for the high mortality among the Brazilian soldiers anchored in the heat of the Senegalese coast.

Besides its historical value, the research may contribute to a better understanding of the cocktail of factors possibly underlying potentially severe and deadly flu pandemics that have occurred in the past, and which may still threaten us in the future.

This work has just been published in the [Journal of Influenza and Other Respiratory Viruses](#) and will be presented in the XIV International Symposium on Respiratory Viral Infections in Istanbul (Turkey) on 23-26 March 2012.

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