Syphilis is a sexually transmitted infection (STI) caused by *Treponema pallidum* and may evolve to a chronic disease when not correctly treated, causing irreversible long-term sequelae. It has been a serious issue to public healthcare during pregnancy being responsible for high levels of intrauterine death. This study aimed to carry out an epidemiological analysis of congenital syphilis in Campinas, São Paulo State, Brazil. The methodology consisted in congenital syphilis investigation cases that occurred in the city among 2007 and 2017 by data analysis available in Department of Surveillance, Prevention and Control of Sexually Transmitted Infections, HIV/AIDS and Viral Hepatitis of the Ministry of Health, linked to Brazilian Health Ministry’s Secretariat of Health Surveillance. A significant increase (1,375%) in syphilis cases was observed from 2007 to 2017 in Campinas, represented by 1,845 new cases of maternal syphilis and 532 new cases of congenital syphilis (increase of 304%) during the period. In most of cases (53%) the infection was diagnosed in the third trimester of pregnancy. The detection was more frequent in the latent infection fase in the pregnant (75.3%). A total of 21.9% of pregnant giving birth to children with congenital syphilis had incomplete basic education and 17.4% have complete high school education. On the other hand, in 38.5% of the cases this information was not available. Only 12% of the partners who were notified during the period were actually treated and 63.7% did not adopt to the treatment and in 24.3% of the cases the information was not available. The significant increase of the cases is a matter of concern representing the lack of knowledge in the community about this infection as showed by the high level of latent syphilis in pregnant. This can take to a serious impact in national healthcare system, either in costs involved in treatment procedures as well as the consequences to newborn, since the increase of congenital syphilis was also registered. Also, an alarming concern is about the inefficacy of partner treatment, as the infection can continue transmissible in community. Therefore, it is very important the Prenatal diagnostic procedures to assure a precocious diagnosis and an effective treatment. Those actions, allied to correct scholar information and training of healthcare personnel as well, could control the dissemination of the infection all over the country.

**Key words:** Congenital syphilis, *Treponema pallidum*, epidemiology, Sexually Transmitted Infection.