

REA_01 - Serological survey and return of activities: a strategy of surveillance in the health of professionals at the Municipal Theater/ RJ (preliminary results)

Liana Lumi Ogino^{1*}; Jonathan Gonçalves de Oliveira¹; Dominique Elvira de Souza Freitas¹; Matheus Ribeiro da Silva Assis¹; Paulo Sérgio Fonseca de Sousa¹; Alexandre dos Santos Silva¹; José Henrique da Silva Pilotto¹; Thayssa Alves Coelho da Silva¹; Marco Aurélio Horta¹; Elba Regina Sampaio de Lemos¹.

¹Fiocruz/IOC.

Introduction: In view of the process of relaxing measures and the gradual return of activities, according to the essentiality of the service and health indicators, the Municipal Theater of Rio de Janeiro (TMRJ) is in the process of returning of work activities. In addition, the identification of symptomatic individuals and the use of rapid serological tests can assist in the surveillance of professionals who will return to activities in person.

Objective: Assist the process of returning work activities at the TMRJ with the identification of seroreactive individuals with anti-SARS-Cov-2 antibodies and symptomatic professionals.

Methodology: The study was carried out in December at TMRJ with professionals working in person and on a remote basis. Demographic data, work sector and the presence of symptoms were recorded. The presence of symptoms were screened in professionals by infectious disease doctor and subsequently subjected them to the collection of blood sample by digital puncture. Blood samples were analyzed by the commercial kit TR-DPP-COVID-19(TR) IgM/IgG (BIOMANGUINHOS/FIOCRUZ/RJ) according by manufacturer's protocol, considering reactivity for IgM and IgG antibodies a reading on the microreader > 0.30. Professionals seroreactive for SARS-CoV-2, with IgM antibodies and symptomatic professionals, were submitted to the collection of nasopharyngeal swab sample for the molecular diagnosis by RT-qPCR. Positive RT-qPCR professionals were followed up and tested weekly until no viral detection.

Results: Of the 411 TMRJ professionals, 257 were men and 154 women, with an average age of 45.8 years (SD-13.7). There was a predominance of professionals from the administration sector (68) and orchestra (47). The 153 were seroreactives (153/411;37.2%) and 65% (99/153) were men. Anti-SARS-CoV-2 IgM antibodies were detected in 94 professionals: 25 (IgM) and 69 (IgM+IgG). A previous historic of respiratory symptoms was reported by 146 of the 153 seroreactives. In the analysis of RT-qPCR, viral detection was observed in 18 professionals: 01/25(IgM) and 17/69(IgM+IgG). Of the nine symptomatic but seronegative professionals, two were positive RT-qPCR. All IgM and IgM+IgG seroreactive professionals and symptomatic RT-qPCR positive patients were kept in isolation until the RT-qPCR result was released without viral detection. Only one professional required hospitalization due to the complications of the pulmonary condition, but she was discharged.

Conclusion: The serological survey, combined with the identification of symptomatic individuals with a similar influenza-like infection, were fundamental to reduce the spread of SARS-CoV-2 among professionals in person work environment of TMRJ. Based on the serological evidence of anti-SARS-CoV-2 and the 18 positive RT-qPCR professionals, the application of TR contributed to the health vigilance, both in the implementation of preventive measures and as an auxiliary instrument in the process of returning activities in the pandemic context.

Keywords: SARS-CoV-2; Diagnostic; Survey