

Cognition in Crisis: Unravelling the Link Between COVID-19 and Cognitive-Linguistic Impairments

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Abstract : The novel coronavirus 2019 (COVID-19) is an infectious disease caused by the virus SARS-CoV-2, which has detrimental respiratory, cardiovascular, and neurological effects impacting over one million lives in the United States. New researches has emerged indicating long-term neurologic consequences in those who survive COVID-19 infections, including more than seven million Americans and another 27 million people worldwide. These consequences include attentional deficits, memory impairments, executive function deficits and aphasia-like symptoms which fall within the purview of speech-language pathology. The National Health Interview Survey (NHIS) is a comprehensive annual survey conducted by the National Center for Health Statistics (NCHS), a branch of the Centers for Disease Control and Prevention (CDC) in the United States. The NHIS is one of the most significant sources of health-related data in the country and has been conducted since 1957. The longitudinal nature of the study allows for analysis of trends in various variables over the years, which can be essential for understanding societal changes and making treatment recommendations. This current study will utilize NHIS data from 2020-2022 which contained interview questions specifically related to COVID-19. Adult cases of individuals between the ages of 18-50 diagnosed with COVID-19 in the United States during 2020-2022 will be identified using the National Health Interview Survey (NHIS). Multiple regression analysis of self-reported data confirming COVID-19 infection status and challenges with concentration, communication, and memory will be performed. Latent class analysis will be utilized to identify subgroups in the population to indicate whether certain demographic groups have higher susceptibility to cognitive-linguistic deficits associated with COVID-19. Completion of this study will reveal whether there is an association between confirmed COVID-19 diagnosis and heightened incidence of cognitive deficits and subsequent implications, if any, on activities of daily living. This study is distinct in its aim to utilize national survey data to explore the relationship between confirmed COVID-19 diagnosis and the prevalence of cognitive-communication deficits with a secondary focus on resulting activity limitations. To the best of the author's knowledge, this will be the first large-scale epidemiological study investigating the associations between cognitive-linguistic deficits, COVID-19 and implications on activities of daily living in the United States population. These findings will highlight the need for targeted interventions and support services to address the cognitive-communication needs of individuals recovering from COVID-19, thereby enhancing their overall well-being and functional outcomes.

Keywords : cognition, COVID-19, language, limitations, memory, NHIS

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