

Management of Epilepsy during COVID-19

Ali Reyaz*

Department of Dementia, University of Tehran, Iran, Islamic Republic

Abstract

Our research sought to determine how epileptic individuals fared during two of Ireland's most stringent four-month society-wide COVID-19 pandemic restrictions in 2020 and 2021. This was in relation to their control over seizures, aspects of their lifestyle, and availability of epilepsy-related healthcare services. At the conclusion of the two lockdowns, adults with epilepsy were given a questionnaire with 14 sections during virtual specialist epilepsy clinics at a University Hospital in Dublin, Ireland. Individuals with epilepsy were addressed on their epilepsy control, way of life variables and nature of epilepsy-related clinical consideration, contrasted with pre-Coronavirus times. With similar baseline characteristics, the study sample consisted of two distinct cohorts of epileptics: 100 (51.8%) in 2020 and 93 (48.2%) in 2021.

Keywords: Epileptic; Neurodegeneration; Exacerbations; Chronic diseases; Hyper-phosphorylation

Introduction

Except for a decrease in anti-seizure medication (ASM) adherence in 2021 compared to 2020 ($p = 0.028$), there was no significant change in seizure control or lifestyle factors between 2020 and 2021. Other aspects of one's lifestyle were unrelated to ASM adherence. Poor seizure control was significantly linked to poor sleep ($p = 0.001$) and a monthly average seizure frequency ($p = 0.007$) over the course of the two years [1]. We concluded that there was no significant difference between the two most stringent lockdowns in Ireland in 2020 and 2021 in seizure control or lifestyle factors. Additionally, epileptics reported that they felt supported by their services and that access to them was well maintained throughout the lockdowns. We discovered that patients with epilepsy who attended our service remained largely stable, optimistic, and healthy throughout the COVID lockdown, contrary to popular belief that it had a significant impact on patients with chronic diseases [2].

For 2.5 years, the SARS-CoV-2 pandemic, which began in 2019, altered the fabric of society worldwide, affecting everything from the economy to social life to healthcare delivery. Social restrictions were the primary means of containing the spread of disease prior to widespread vaccination in 2021 [3]. In the first year of the pandemic, Ireland experienced some of the most stringent lockdowns in the EU. Early published data suggested that the pandemic had a negative impact on people with chronic epilepsy, with an increase in the frequency of seizures and difficulties obtaining medications and medical services.

Method

Despite this, our patients anecdotally reported that their condition improved unexpectedly, and that their social cohesion improved during the first lockdown (March to May 2020). Government restrictions mandated well-known factors that influence control in epilepsy [4], such as sleep, diet, mental health, and social support. However, patients were experiencing mental and physical stress as a result of the ongoing restrictions and prolonged loss of normal life by the third lockdown, which lasted from January to May 2021. As a result, we hypothesized that by mandating lifestyle factors that are known to be important in seizure exacerbations, social restrictions imposed during the initial lockdown might have improved overall epilepsy control. In addition, we anticipated that these gains might have vanished after three extended lockdowns [5].

Result

A subjective assessment of their mental and physical condition was recorded immediately after the lockdown in question, and the purpose of our project was to compare how people with epilepsy fared during the two most stringent lockdowns in Ireland that occurred a year apart. Our objectives were to find out three things: (1) whether people with epilepsy rated the quality of their access to healthcare support during the two restriction periods, (2) whether lifestyle factors and mental health played a role in seizure control, and (3) whether there was a difference in subjective assessment of seizure control between pre-COVID times and the two periods of social restrictions 12 months apart [6].

After the two lockdowns ended, identical surveys were given to patients at a Dublin university hospital epilepsy clinic in Dublin, Ireland: the first one in May 2020 and the third one in May 2021. It's important to note that, like many other international centers, the Epilepsy Clinic at St. James's Hospital in Dublin quickly switched to online telemedicine thanks to our Electronic Patient Record and prior experience with telemedicine-run clinics. In data published in 2021, we reported the overall positive patient and clinician experience with this service pivot during COVID [7].

As a result, all surveys had 14 multiple-choice questions and were administered via telemedicine. During data collection, patient data were anonymized. A presenting sample of 100 consecutive patients who attended weekly clinics for a single month began at the conclusion of each four-month lockdown, spaced 12 months apart. We received a response rate of 80% from those who were asked to take the survey. In the first collection, there were no incomplete or unusable surveys, while in the second, there were seven. The main consideration standards were that every patient must be more than 18, be capable response the actual inquiries, have a proper conclusion of epilepsy as per Global

***Corresponding author:** Ali Reyaz, Department of Dementia, University of Tehran, Iran, Islamic Republic, E-mail: ali@gmail.com

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Association Against Epilepsy (ILAE) measures and have no ongoing side effects reminiscent of progressing contamination [8].

Discussion

This study was partitioned into four areas. First, the characteristics of the baseline were evaluated: age, epilepsy duration, living situation, and average frequency of seizures. Second, subjective evaluations of seizure control compared to pre-COVID status were recorded during the restriction periods [9]. Thirdly, we compared the lockdown-imposed lifestyle adjustments to pre-COVID status to investigate their impact. Lastly, access to epilepsy services and support systems was questioned. Here, we defined “epilepsy service” as the hospital’s advice, urgent care, and anti-seizure medication (ASM) prescriptions, as well as “support system” as the patient’s overall sense of support from friends, family, and epilepsy specialist services [10].

SPSS® Version 23.0 for Windows was used for the statistical analysis (SPSS® Inc., Chicago, IL). For categorical variables, cross-tabulation was used to compare differences between groups. Pearson Chi-square analysis was used to look for significant differences [11]. The Yates Correction of Continuity was used to make up for the chi square analysis’s overestimation for a two-by-two variable analysis. Any cell’s expected frequency should be at least ten, and the Fisher exact probability test was used if this assumption was not met. As our essential inquiry was to note whether there were contrasts of seizure control and way of life factors somewhere in the range of 2020 and 2021, we determined the p values for each inquiry in the study [12]. We also calculated p values for seizure frequency versus various lifestyle factors during both lockdowns and ASM adherence versus various lifestyle factors during both lockdowns when examining the compiled results [13].

Conclusion

There were a few limitations to this study. There were no narrative opinions attached to responses to the survey questions, so there was no embellishment. Because of this, we were unable to narrow down certain aspects of lifestyle questions, such as access to medical care or mental health. Subjectivity and recall bias were highly likely to have had a significant impact on the findings for both the perception of disease status prior to COVID and the gap between those who responded to the survey immediately following the lockdown and those who did so up to one month later [14]. Moreover, regardless of this overview

being completed reflectively in the desire for limiting situational predisposition, a few prohibitive strategies stayed in situ during the study month, consequently not completely wiping out situational predisposition. By the by, such inclinations were probably going to have had equivalent impacts across the two perception periods making their correlation less dangerous. Additionally, 10 percent of the 193 patients surveyed were over 60 years old, skewing the data toward a younger patient population.

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