



Evaluation of the Impact of COVID-19 on the Yearly Distribution of Brain Death Declarations in Turkey Between 2011 and 2020

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The 2020 data of the Turkish Society of Nephrology reveals that the number of patients receiving hemodialysis and peritoneal dialysis treatment in Turkey is 63,945.¹ According to the 2020 registered data of the Transplantation Dialysis Monitoring System (TDIS), the number of patients waiting for solid organs is 23,923. The number of organs used was 1,059 out of 1,391 brain death cases declared in 2020.² While solid organ transplantation could be performed in 4.42% of the patients enrolled in TDIS, 95.58% could not. Insufficient organ supply in our country adversely affects patients waiting for organs. Our study aimed to investigate the effect of the COVID-19 pandemic on the distribution of brain deaths declared in our country by years.

We examined the distribution of brain death data reported in our country between 2011 and 2020 from "Transplantation Dialysis Monitoring System - Decision Support Unit (TDIS-KDS) data" of the Ministry of Health. We evaluated the effect of the COVID-19 pandemic on this distribution retrospectively. In our country, the

brain death numbers between 2011 and 2019 were as follows; 1,227, 1,145, 1,645, 1,776, 1,941, 1,997, 2,046, 2,178 and 2,309, respectively. In 2020, this number was 1,391.³ While the number of brain death declarations increased from 2011 to 2019, during the COVID-19 pandemic, the rate of brain death notifications in 2020 decreased by 40% compared to the previous year (*Figure 1*).

The COVID-19 pandemic has significantly reduced the number of declared brain death, family organ donation and organs used in 2020. The upward trend reversed in 2020. During the pandemic, prohibitions have restricted human mobility, and therefore, the number of potential donors, especially from trauma, has decreased. The intensive care unit served patients with COVID-19, and bed capacities increased. Even the institution's intensive care teams and other health workers were affected and infected by the pandemic.⁴ The increasing number of patients necessitated intensive work. This situation may have negatively affected the management and donation rates of patients diagnosed with potential



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brain death, which is less in 2020. TDIS 2020 registry data showed that 4.42% of 23,923 patients awaiting solid organs were transplanted.

As a result, the COVID-19 pandemic adversely affected patients awaiting solid organ transplantation. The pandemic has led to a pause in the increasing trend in organ transplantation from deceased donors in our country. Dialysis patients without a living donor had to wait longer for an organ.

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Conflict of interest

The authors declared that there are no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Authors' Contribution

Study Conception: EE; Study Design: EE, AE; Supervision: AE; Materials: EE, KS, RO; Data Collection and/or Processing: EE, KS, RO, MFA; Statistical Analysis and/or Data Interpretation: EE, KS, RO; Literature Review: AE, AY, AO; Manuscript Preparation: EE, KS, RO, MCC, KOG; Critical Review: AE.

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Figure 1. Brain death, organ donation and organ used rates in 2011-2020.



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