



Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.

Results: Twenty-two individuals ($M = 50.1$ years old, $SD = 15.1$; 13 patients and 9 caregivers) signed up to participate. Most of them were women ($n = 14$, 64%), with a high level of education ($n = 16$, 73% had graduated high school), married ($n = 15$, 68%), and actively working ($n = 16$, 73%). Patients were on HD for an average of 111.6 months ($SD = 115.4$); six of them (46%) stated that their last inter-dialytic weight gain was above two kilograms. Most caregivers were spouses ($n = 5.56\%$) caring for more than five years ($n = 6$, 67%); providing emotional support ($n = 9$, 100%) and helping the patient manage ESRD dietary restrictions ($n = 4$, 44%) were the most frequent care activities. Symptoms of anxiety ($M = 7.14$, $SD = 4.38$) and depression ($M = 5.50$, $SD = 4.11$) were below the clinical threshold (>11) for the entire sample.

Conclusions: The results suggest that participants who signed up for online psychoeducational group interventions during the COVID-19 pandemic are in a chronic time phase of the ESRD trajectory, have high literacy levels, and mild emotional distress. Online support groups appear to be suitable for working patients and caregivers, as it reduces time constraints, due to the strict regimen of attendance to HD sessions and caregiving responsibilities. Research is needed to understand if this type of intervention is accessible to all patients with ESRD and their family caregivers, and whether the needs of individuals who wish to participate in online psychoeducational groups differ from those who prefer face-to-face interventions.

Acknowledgments: This work is financially supported by the project POCI-01-0145-FEDER-030228, funded by FEDER, through COMPETE2020 - Programa Operacional Competitividade e Internacionalização (POCI), and by national funds (OE), through FCT/MCTES.

Conflict of interest

Potential conflict of interest:

This work is financially supported by the project POCI-01-0145-FEDER-030228, funded by FEDER, through COMPETE2020 - Programa Operacional Competitividade e Internacionalização (POCI), and by national funds (OE), through FCT/MCTES.

POS-938

TREATING END-STAGE RENAL DISEASE PATIENTS IN CENTER-BASED HEMODIALYSIS DURING COVID-19 PANDEMIC: WHAT (ADDITIONAL) CHALLENGES TO HEALTHCARE PROFESSIONALS?

FIGUEIREDO, D*¹, Rofino, R², Ribeiro, O²

¹University of Aveiro, School of Health Sciences, Aveiro, Portugal, ²University of Aveiro, Department of Education and Psychology, Aveiro, Portugal

Introduction: Patients with end-stage renal disease undergoing hemodialysis are at higher risk of developing COVID-19 compared to the non-dialysis population, due to several risk factors such as old age, a less efficient immune system, and more comorbidities. In addition, thrice-a-week presence in an indoor hemodialysis center for renal replacement treatment, with frequent contact with clinical staff and other patients is inevitable, increasing the risk of contamination. On the other hand, COVID-19 infection among patients treated in dialysis centers enhances the risk of transmission to healthcare professionals (HPs), facility workers, other patients and their families. Thus, the complexity of requirements to prevent, isolate and control the COVID-19 infection put healthcare professionals in dialysis settings under exceptional additional strain, but little is known about the impacts of COVID-19 management on these professionals.

This study aimed to analyze the experiences and impacts of the COVID-19 pandemic among healthcare professionals working in dialysis facilities.

Methods: A mixed-method design, combining qualitative and quantitative data, was applied. Data were collected between February and March 2021. Semi-structured videocall interviews were conducted with a convenience sample of 25 HPs (19 nurses, 4 medical doctors, 2 pharmacists) (mean age 38 ± 9.9 ; 17 female), and working on dialysis settings for 9.2 ± 8.2 years. The interviews were video recorded, transcribed verbatim, and submitted to thematic analysis by two independent researchers. The Maslach Burnout Interview (MBI) and the Hospital Anxiety and Depression Scale (HADS) were used. Quantitative data were analyzed through descriptive and inferential statistics.

Results: Burnout results (MBI) showed that 32% of the participants presented emotional exhaustion, 12% diminished personal accomplishment, and 4% depersonalization. Concerning the HADS, 60% presented anxiety symptoms, with higher scores for those who were

women ($p = .043$), single ($p = .036$), younger ($p = .003$), and with less working experience ($p = .013$). Depressive symptoms were found for 32% of the participants.

Seven main themes have emerged from the qualitative analysis: i) hardest challenges of working in dialysis centers during the COVID-19 pandemic; ii) emotional impacts; iii) other psychological impacts; iv) personal life impacts; v) strategies to cope with the adversities; vi) future perspectives about working in dialysis facilities; vii) positive impacts of the pandemic.

Conclusions: Overall, healthcare professionals faced several challenges during the COVID-19 pandemic (e.g., increased workload, communication difficulties with the patient), which were overcome using effective coping mechanisms, particularly support from peers. Furthermore, almost 1/3 of the participants evidenced emotional exhaustion, highlighting the importance of monitoring HPs' mental health. To the best of our knowledge, this is one of the first studies investigating the impact of COVID-19 on HPs in dialysis contexts, bringing to light some of the stressors and coping mechanisms during crisis situations.

Acknowledgments: This work is financially supported by the project POCI-01-0145-FEDER-030228, funded by FEDER, through COMPETE2020 - Programa Operacional Competitividade e Internacionalização (POCI), and by national funds (OE), through FCT/MCTES.

Conflict of interest

Potential conflict of interest:

This work is financially supported by the project POCI-01-0145-FEDER-030228, funded by FEDER, through COMPETE2020 - Programa Operacional Competitividade e Internacionalização (POCI), and by national funds (OE), through FCT/MCTES.

POS-939

EFFICACY OF BNT162B2 VACCINE IN PATIENTS UNDERGOING HEMODIALYSIS IN NORTH OF PORTUGAL

FRANCISCO, J*¹, Beirão, B¹, Freitas, M¹, Sousa, C¹, Pereira, P¹, Castro, R¹, Morgado, T¹

¹Centro Hospitalar de Trás-os-Montes e Alto Douro, Nephrology, Vila Real, Portugal

Introduction: Coronavirus disease 2019 (COVID-19) caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is associated with higher morbidity and mortality in patients on maintenance hemodialysis (HD). These patients tend to have a reduced immune response to infection or vaccination, as demonstrated with the hepatitis B virus vaccine. The authors aimed to assess the humoral response following vaccination with the BNT162b2 (Pfizer-BioNTech) vaccine in patients on maintenance hemodialysis and the factors associated with it.

Methods: The study included 81 in-center hemodialysis patients in North of Portugal with 76 years of median age. All patients had received two doses of the BNT162b2 vaccine and had no history of COVID-19 prior or during the study. The serology test was performed using quantification of anti-spike IgG antibodies of SARS-CoV-2. The level of IgG was monitored at 2, 4 and 6 months after receiving the second dose of the vaccine. The result was considered positive if IgG level was detected above 50 AU/m6.

Results: The median anti-Spike antibodies titers were 982 (interquartile range [IQR], 249-1773) AU/m6, 555 (IQR 145-964) AU/m6, and 202 (IQR 72-389) AU/m6 at month-2, -4, and -6, respectively. The seropositivity was confirmed in 91.4% of patients at 2 months after the second dose. This proportion decreases over time, reaching 87.7% at 4 months and 80.2% at 6 months. All patients with less than 65 years old had IgG > 50 AU/m6 until the fourth month ($n=24$). A significant inverse correlation between age and IgG levels was found at month-2 ($p<0.001$), -4 ($p=0.001$) and -6 ($p=0.004$). A Mann-Whitney U test indicated that the age of patients who maintained humoral response was significantly lower at month four (74 [IQR 60-83] vs 83.5 [IQR 74-85.5]; $p=0.035$) and six (72 [IQR 59.5-81.5] vs 83 [IQR 72-86.5]; $p=0.019$).

The titers of antibodies were significantly lower in patients under immunosuppressive medication at month-2 (72 vs 995.5; $p=0.015$), -4 (42 vs 558.5; $p=0.012$) and -6 (23 vs 203; $p=0.011$). The odds of not having an antibody response was higher in individuals on immunosuppressive drugs (odds ratio [OR]=6, 95% confidence interval [CI]: 0.47-76.14 at month-2; OR=17.5, 95% CI: 1.42-215.21 at month-4). At month-6, none of the patients on these drugs had IgG in the positive range.

There was no significant difference in sex, nutritional status, period under renal replacement therapy, previous kidney transplant, or dialysis efficacy.

