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an ascitic protein of 48g/L. The sample had a normal fluid cytology and was negative for bacterial, fungal and mycobacterial cultures. Interestingly, our patient had remarkably high inflammatory markers ie C-Reactive Protein (CRP) 111 mg/L, Procalcitonin 7.47 ng/mL, D-Dimer >7.65 mcg/mL and Ferritin 1650 mcg/L despite the absence of fever. The liver enzymes and complete blood counts were unremarkable apart from transient reactive thrombocytosis. His echocardiogram showed minimal pericardial effusion and the absence of coronary arteries dilatation. In the light of his complex clinical presentation, temporal relation with recent COVID-19 and unexplained signs of hyperinflammation, he was treated with Intravenous Immunoglobulin 2g/kg. Following that, we observed steady improvement of the inflammatory markers and resolution of the reactive ascites. At the time of writing, six weeks lapsed and he remained well on chronic hemodialysis.

Conclusions: In conclusion, the exorbitantly high inflammatory markers and gross ascites otherwise unexplained by another disease process could reflect an immune dysregulation post COVID-19 or an atypical presentation of MIS-C. Much is yet to be known of this very complex disease in children.

No conflict of interest

POS-935

OUTCOME OF COVID-19 IN DIALYSIS PATIENTS IN KELANTAN



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Introduction: Coronavirus disease 2019 (COVID-19) outbreak had occurred since December 2019 and rapidly spread worldwide including Malaysia. Chronic kidney disease and kidney failure are substantial comorbidities that are associated with untoward outcomes in patients with COVID-19. Kidney failure is an independent risk factor for severe COVID-19 disease presentation and mortality after accounting coexisting comorbidities. Therefore, the purpose of this cross sectional analysis is to study outcome of COVID-19 patients on dialysis in Kelantan that will give additional sight for healthcare providers in managing COVID-19.

Methods: This study is retrospective cross-sectional study. The data collected from 1st April 2020 till 15 April 2021 via patient's record during admission. Aim of this study is to assess outcome of all patients confirm COVID-19 that underwent dialysis during admission using perform. The data analysis done using Spss version 25.0. Results shown via descriptive and categorical data.

Results: In Kelantan, total of 3143 patients admitted for COVID-19 from 1st April 2020 till 15th April 2021. There were 48 (1.5%) patients requiring dialysis during COVID-19 admission. Their demographic data, comorbidities, length of hospital stay, length of Intensive Care Unit stay and discharge or death were collected. All were Malays, mean age was 59.9 years old, 22(45.8%) male patients, 26 (54.2%) were female patients. Among 48 patients on dialysis, 33 (68.8%) patients were End Stage Renal Disease and 15(31.2%) patients were Acute Kidney Injury. Majority of them had Hypertension 95.8%.The mean severity of COVID-19 was Category 4. Mean total length of hospital stay was 13 days. There were 26(54.2%)patients.on dialysis requiring admission to Intensive Care Unit (ICU) ; 14 (53.8%) were ESRD and 12(46.2%) were AKI. There were 10 (30.0%) ESRD patients and 8 (53.3%) AKI patients died due to severe COVID-19 infection.

Conclusions: COVID-19 infection carries high mortality especially among AKI and ESRD patients.

No conflict of interest

POS-936

CLINICAL COURSE AND OUTCOME OF HEMODIALYSIS PATIENT WITH COVID 19: REPORT FROM AN URBAN CENTER OF DHAKA CITY



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Introduction: Patients with chronic kidney disease (CKD), particularly those on maintenance hemodialysis, are at a higher risk of developing severe coronavirus disease 2019 (COVID-19). Morbidity and mortality have always been significantly higher in the CKD population, particularly those

on renal replacement therapy. Currently, data on the course and outcome of this patient population from developing countries is insufficient.

Methods: We conducted a single-center, retrospective, observational study on patients from a large hemodialysis center in Bangladesh. Patients on maintenance hemodialysis were enrolled in the study, and those who died as a result of COVID-19 infection were compared to those who survived. Demographic data, concomitant co-morbidities, clinical presentation, laboratory results, hospital course, and outcome (including length of hospital stay or death during illness) were compared.

Results: There were a total of 209 patients on maintenance hemodialysis, 100 of whom were diagnosed with COVID-19, and 61 of them required hospitalization, with 24 requiring critical care management. In total, 41 people died. The median age of the deceased was 68years (IQR 62-73) in relation to its survivors (61years; IQR 56-69), closely linked to older patients were vulnerable for mortality (p=0.035). Delay in presenting to the hospital was related with increased mortality (8.68±10.8 day) among the deceased compared to survivors (4.42±7.3 days) (p=0.021). Ischemic heart disease and bronchial asthma were more common in the deceased group, although hypertension and diabetes mellitus were more common among survivors. Fever and respiratory symptoms were the most prevalent complaints, and breathlessness was notably more common among the deceased (p=0.001). Patients with neutrophilic leukocytosis at presentation had a higher death rate (p=0.001), which was corroborated by raised procalcitonin levels (9.14±20.2 compared to 7.99±21.9 among survivors) and higher D-Dimer (4.23±4.42 compared to 1.85±1.55 among survivors). In terms of treatment, the deceased group used more anticoagulants (p=0.020) and IL-6 inhibitors (0.002). Survivors had a shorter hospital stay (23.4±5.5 days vs. 25.6±5.6 days for the non-survivors).

Conclusions: During the COVID-19 pandemic, approximately 50% of our dialysis patients were infected, and the mortality rate was higher as previously reported. Because we face difficulties preserving social distance and severe COVID-19 regulations as a developing country, community spread was the most significant difficulty in our patients. Early admission to the hospital and beginning of appropriate therapy can reduce mortality, and home treatment for patients with multiple comorbid diseases is discouraged.

No conflict of interest

POS-937

"#LOOKING_TO_STAY_CONNECTED": CHARACTERISTICS OF PATIENTS WITH ESRD AND FAMILY CAREGIVERS WHO SIGNED UP FOR AN ONLINE INTERVENTION DURING THE COVID-19 PANDEMIC



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Introduction: Research has evidenced that the COVID-19 pandemic brought several additional challenges for patients undergoing hemodialysis (HD) (e.g., increased difficulties managing dietary and fluid restrictions, decreased physical activity) and their family caregivers (e.g., additional care responsibilities, increased burden). At a time when diverse educational and emotional needs arise, access to health services is hampered by policies adopted to contain the spread of the virus, such as lockdown and social distancing. Consequently, several digital health services, such as online support groups, have been developed to facilitate the management of end-stage renal disease (ESRD) demands. The purpose of this study was to explore the main characteristics of patients undergoing HD and family caregivers who signed up for an online psychoeducational group intervention during the COVID-19 pandemic.

Methods: An advertisement announcing the opening of registration to participate in an online psychoeducational group intervention was placed on a website (www.togetherwestand.pt) designed to inform patients undergoing hemodialysis and their family caregivers. A web-based questionnaire was sent to the e-mail address provided by individuals at the time of registration, including questions related to sociodemographic (e.g., age, gender, education level), clinical (e.g., interdialytic weight-gain), and caregiving information (e.g., time providing support). The Hospital Anxiety and Depression Scale was also used to assess the presence of symptoms of anxiety and depression.

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?

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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.

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POS-939

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

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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.

