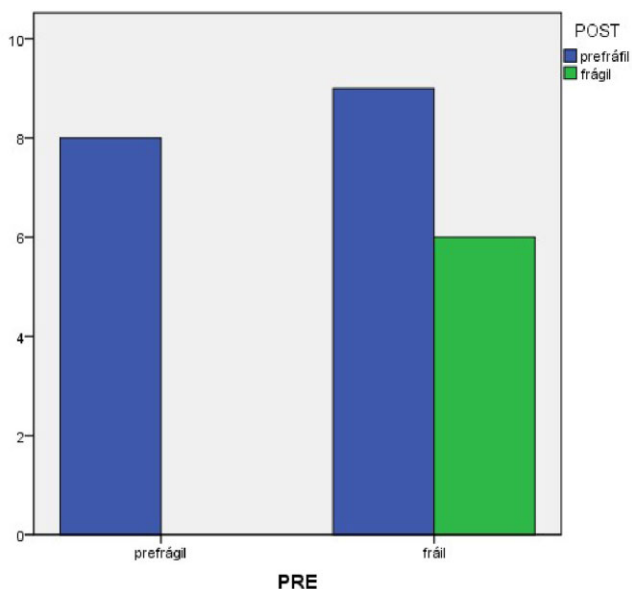


**BACKGROUND AND AIMS:** Hemodialysis (HD) induces changes not just to the kidney but in other organs or systems so that patients usually report fatigue, weakness, weight loss, exhaustion, or low levels of physical activity, all present in the frail phenotype criteria. Because its association with negative health-related outcomes, frailty is considered an important issue to mitigate and manage in the hemodialysis population. However, very few studies analyzing the frail phenotype have focused on hemodialysis populations, despite the knowledge that frailty can be reversible after an early detection and treatment. On the other hand, our group has shown that nonimmersive virtual reality exercise during hemodialysis is a safe modality to improve physical function and health-related quality of life. Therefore, the aim of this study was to analyze the impact of an intradialysis nonimmersive virtual reality exercise program on the frail phenotype in a hemodialysis population.

**METHOD:** An ongoing randomized trial (ReVID study) enrolls subjects undertaking hemodialysis from June 2021 onward. All participants were assessed using the five Fried frail phenotype criteria as follow; Unintended weight loss in the past year greater than 4.5 kg, self-reported exhaustion was measured using two questions from the Center for Epidemiologic Studies Depression (CES-D) scale, weakness (hand-grip strength) was measured using a hand-grip dynamometer, slow walking speed was measured based on time to needed to cover 4.6 m at usual speed, and low physical activity was measured by using the short version of the Minnesota Leisure Time Activity questionnaire. Each of the five criteria scored as 0 (no frail-related) or 1 (frail-related). Finally, participants were stratified as follows: a score of 0/5 for robust or not frail, a score of 1–2/5 for pre-frail and a score of 3–5/5 for frail. After the frail phenotype assessment, all participants performed an intradialytic exercise program consisting of a nonimmersive virtual reality video game adapted to the dialysis session, in which the patient must catch treasures while avoiding bombs by moving the lower extremities, with a progressive duration of 25–45 min. Adherence to the exercise program was measured as a percentage (number of sessions attended/number of sessions offered). All assessments and interventions were conducted between June and September 2021 at Hospital de Manises (Valencia, SPAIN).

**RESULTS:** 23 subjects were included in the study (median age 70, 5 years; 11 males, 0/23 robust, 8/23 pre-frail and 15/23 frail). A chi-square value of 4329 ( $P = 0.05$ ) showed a significant change in the frail phenotype of the participants after completing the exercise intervention. 17/23 of the participants ended the exercise program as pre-frail (9 participants changed from frail to pre-frail), and non-worsening in the frail phenotype of the participants was reported. The mean adherence to the exercise program throughout the study was 40%.

**CONCLUSION:** This study shows that an intradialytic exercise program consisting of a nonimmersive virtual reality video game adapted to the dialysis session can be useful to mitigate and manage frailty in the hemodialysis population.



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**BACKGROUND AND AIMS:** Patient activation refers to the knowledge, skills and confidence needed to manage one's health [1]. Higher patient activation is associated with better health outcomes in long-term conditions [2] such as kidney disease (KD). The COVID-19 pandemic has presented a myriad of additional challenges for people living with KD. Individuals may display different coping strategies in response to stressful and difficult circumstances such as health management during the pandemic [3]. Our group conducted a multicentre survey to evaluate the impact of the pandemic on kidney patient experiences, lifestyle and health care. As part of this larger study, we hypothesized that higher patient activation may be associated with more effective coping strategies. The purpose of this analysis was to explore coping styles utilised during the pandemic across different levels of patient activation in people with nondialysis CKD (ND-CKD) and kidney transplant recipients (KTR).

**METHOD:** 214 ND-CKD and KTR participants [50.9% male, mean age 60.71 (SD 14.15) years, 56.1% KTRs] completed the Patient Activation Measure (PAM-13). Participants were categorised into 'low' and 'high' activation based on their PAM-13 score (levels 1–2 as low; 3–4 as high). Coping strategies were assessed using the Brief-COPE questionnaire and categorised into *adaptive* coping (active coping, information support, positive reframing, planning, emotional support, humour, acceptance and religion) and *maladaptive* coping (venting, self-blame, self-distraction, denial, substance use and behavioral disengagement) strategies. Chi-square tests were conducted to compare coping strategies used by low- and high-activated patients.

**RESULTS:** Most participants were classified as having 'high' activation levels ( $n = 164$ , 77%). Table 1 shows the three most frequently used adaptive and maladaptive coping strategies across activation levels. A significantly greater proportion of those with high activation used acceptance ( $P = 0.006$ ), active coping ( $P = 0.045$ ) and positive reframing ( $P = 0.031$ ) as coping strategies. No significance was observed between maladaptive coping strategies and activation level.

**CONCLUSION:** The most commonly reported coping strategy was 'acceptance' for individuals with high and low activation. The findings suggest that a higher proportion of people with high patient activation used adaptive coping strategies. Worryingly, regardless of activation level, about a third of participants used substance use (i.e. alcohol and drugs) as a form of coping. Identifying people with lower activation in KD can indicate the need for additional support to help them cope in challenging circumstances. Interventions to improve activation may assist in developing effective coping strategies.

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	Adaptive coping strategies		Maladaptive coping strategies	
	High activation	Low activation	High activation	Low activation
1	Acceptance (79.5%)	Acceptance (58.5%)	Self-distraction (53%)	Self-distraction (47.6%)
2	Religion (60.5)	Religion (30.8%)	Behaviour Disengagement (37.5%)	Substance Use (40%)
3	Active Coping (48.2%)	Information Support (30%)	Substance Use (31.6%)	Self-Blame (37.5%)

MO599 **EFFICACY AND SAFETY OF OPTIMIZED SODIUM THIOSULFATE THERAPY FOR CALCIPHYLAXIS IN CHINESE PATIENTS**

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**BACKGROUND AND AIMS:** Calciphylaxis is a rare life-threatening syndrome. Although sodium thiosulfate (STS) showed clinical improvement, some patients presented with serious adverse events and withdrew from treatment. The optimized STS approach included four features: repeated treatment courses, small initial dose, once daily, and escalating low-to-moderate dose. The optimized STS approach, named 'Zhong Da STS Therapy' (Zhong Da: the name of a hospital, affiliated with Southeast University, School of Medicine, Nanjing, Jiangsu, China), was generalized with four features: repeated treatment courses, small initial dose, daily medicine, and daily escalating low-to-moderate dose of STS. STS from the initial dose (5 g) was administered intravenously once daily escalating to the highest daily dose as a maintenance dose (no more than 10 g). This study retrospectively evaluated the efficacy and safety of optimized STS therapy for calciphylaxis in China.

**METHOD:** The medical records of maintenance hemodialysis or CKD patients who were first diagnosed with calciphylaxis and received STS treatment at Zhong Da Hospital affiliated to Southeast University between October 2017 and October 2019 were retrospectively evaluated. The exclusion criteria of this retrospective study were death at the time of diagnosis (retrospectively confirmed cases) and did not receive the optimized STS approach treatment. The data to evaluate the efficacy included the changes in skin lesions, pain relief, survival rate and laboratory data. Adverse events were summarized as safety parameters.

**RESULTS:** The mean age was  $51.10 \pm 14.85$  years old and 71% of patients were male. By October 2019, 87.1% of patients survived, 74.2% markedly improved and 41.9% of patients were followed up for more than 1 year with 100% survival. About 27 (87.10%) patients had typical skin lesions with 66.70% ulceration and skin lesions showed a predominantly peripheral distribution. After the first course, skin lesions improved by 77.8%, and 38.1% of pain sufferers were free from analgesics. The reduction of the Numerical Pain Rating Scale (NPRS) ( $P < 0.001$ ) is related significantly to the treatment course. Furthermore, during the entire treatment session, more than half of the patients (54.84%) never experienced adverse events, only one withdrew treatment and no one died from complications. And most adverse events appeared in the course of increasing the STS dose and would be relieved when we stopped adding it or decreased to the day-before dose.

**CONCLUSION:** Optimized STS therapy is a promising approach for calciphylaxis patients because it is relatively safe and associated with good outcomes.

