PO0818
Clinical Research Offers Potential Benefit to Patients and No Obvious Harm to Clinical Value
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Background: Randomized clinical trials (RCT) are underperformed in nephrology. This may be due to the uncertain impacts on quality measures. We assessed quality outcomes between research-conducting (RF) and research-naive (NF) dialysis facilities, as well as respective patient outcomes.

Methods: We used data from adult HD patients treated at national provider in the United States from 2017-2018. RF were 1:1 propensity score matched (PSM) to NF on patients/year, patient/facility exposure, % Medicare, % accountable care, region and quality outcomes were compared cross-sectionally. Research participants (RP) from facility analysis were 1:1 PSM to research naive participants (RNP) at baseline (research participation start or index date) on age, sex, race, Ethnicity, vintage, access, albumin, hemoglobin (hbg), congestive heart failure, ischemic heart disease, diabetes, missed treatments, and hospital day rates. Quality outcomes were compared longitudinally at 6 and 12 months.

Results: We found no differences in quality outcomes between RF and NF facilities. We observed RP had lower hospital day rates at 6 months after research participation start as compared to NRP, as well as higher % with albumin >=4g/dL at 6 and 12 months, higher % with INT 360-580 pg/mL within 12 months, and lower anemia target achievement (Figure 1).

Conclusions: We observed no significant differences in quality measures between facilities that conducted clinical trials vs those that did not. Participation in trials was associated with lower hospital day rates and better achievement of nutritional targets, but lower achievement of hemoglobin and transferrin saturation targets. Anemia results might be attributable to conservative hgb repletion in trials of new investigational drugs. Trial conduct appeared to do no harm to quality achievement and provide potential benefits to patients, which may be associated with additional evaluations/monitoring provided.

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PO0819
Novel Insight About Pregnancy in Women on Chronic Dialysis: Systematic Review and Meta-Analysis Correlating Dialysis Regimen and Pregnancy Outcome
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Background: Pregnancy in women on dialysis is an uncommon event, with a high rates of preterm delivery and neonatal death. Guidelines for management of dialysis in pregnancy are still lacking. Our aim is to identify dialysis regimens associated with best maternal-fetal outcomes.

Methods: Rapid systematic review: MEDLINE, EMBASE and COCHRANE library databases were searched (1950-2019): free terms on pregnancy and dialysis. Meta-analysis and metaregression were performed in case series dealing with the larger subset of haemodialysis (HD) patients (>5 patients on chronic HD).

Results: The descriptive of 5204 pregnancies in 4746 HD patients, out of 52 case series and registry data highlighted the importance of intensifying HD in pregnancy (5-6 sessions, >20 hours/week) to achieve a reduction in mortality and an increase in neonatal weight. The meta-analysis showed an increased risk of preterm delivery in women on chronic HD, decreasing with the increase in hours of HD and number of HD sessions. In addition, the meta regression demonstrated that increasing weekly hours of HD was associated to a lower risk of extreme preterm birth (<28 gestational weeks: p=0.016) and SGA (p=0.014) and with an increase in weight at birth (p=0.001). The same trend was observed for number of HD sessions. The high heterogeneity of data doesn’t allow disentangling the effect of the center of care

Conclusions: Extend hours HD regimens in pregnancy improve maternal fetal outcomes. This improvement is linked both to HD rhythm and duration. The results obtained during pregnancy lead to reconsidering the concept of adequate HD at least in the young population

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PO0820
Thrombocytopenia Predicts Mortality in Chinese Hemodialysis Patients: An Analysis of the China DOPPS
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Background: Mortality rate was high in Hemodialysis (HD) patients. Our previous study suggested platelet counts might be a potential risk factor. However, few studies have examined the association of platelet count with mortality in HD patients. The aim is to examine if there is an association of thrombocytopenia (TP) with mortality and cardiovascular (CV) death in Chinese HD patients.

Methods: China DOPPS data was used. Fifty-eight of 1427 patients were excluded for missing platelet records. Demographic data, comorbidities, lab data, and death records were extracted. Participants were divided into 2 groups according to their platelet counts as TP group (platelet<100×10^9/L) and Non-TP group (platelet≥100×10^9/L). The Non-TP could not be further divided into normal or above normal groups as limited by the sample size. Associations between platelet counts and all-cause and CV mortality were analyzed using Cox regression models. Stepwise multivariate logistic regression was used to identify related impact factors.

Results: Of 1369 patients, 201 (14.7%) died and 102 (7.5%) died from CV disease. 11.2% (154) had TP at baseline. The mortality rates were 26.0% vs. 13.3% (p<0.01) in patients with and without TP. TP was associated with higher all-cause mortality after adjusted for covariates (HR:1.75, 95% CI: 1.12-2.74), but was not associated with CV death after fully adjusted (HR: 1.75, 95% CI: 0.89, 3.45, Figure 1). Multivariable logistic regression showed that urine output =<200 ml/day, cerebrovascular disease, hepatits (B or C), and white blood cells were independent impact factors (P < 0.05).

Conclusions: Baseline TP is associated with higher risk of all-cause mortality in HD patients. Platelet counts may be used as early available outcome predictors among HD patients, though additional study is needed.

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**PO0821**

**Steady Exercise Improves Hand Grip and Leg Muscle Strength in Hemodialysis Patients**

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**Background:** Sarcopenia due to chronic inflammation and biochemical disturbances in chronic kidney disease is severer and more prevalent in patients on hemodialysis (HD). We longitudinally evaluated the hand grip (HGS) and leg muscle strength (LMS) in patients receiving HD and tried to find factors associated with muscle strength.

**Methods:** We screened (January 2020 (n=127)) and followed up (June 2020 (n=110) and December 2020 (n=104)) HGS (opposite the fistula side) and LMS (both sides) at single center by using digital hand and leg dynamometer (T.K.K.5401 and 5710e/5715, Takei scientific instruments Co. Ltd., Niigata, Japan).

**Results:** HGS and LMS showed good correlation (r = 0.658, p < 0.001). HGS (24.2 vs. 15.5 kg) and LMS (32.8 vs. 22.5 kg) were better in men (p < 0.001 and p < 0.001, respectively). Muscle strength was greater in men irrespective of age except for LMS in younger patients (≤ 60 years). Older patients (≥ 60 years) showed decreased LMS than others in women (p = 0.01). Patients who performed steady home- or hospital-based exercise showed marginally higher HGS (23.1 vs. 19.8 kg, p = 0.07) and significantly higher LMS (33.7 vs. 25.9 kg, p = 0.004). Steady exercise showed improvement of LMS throughout the study period (from January to June, p = 0.004, from January to December, p = 0.014). Multiple linear regression analysis proved male sex and steady exercise were factors associated with better HGS and LMS. Steady exercise showed greater impact on LMS in male patients with longer HD vintage (≥ 44 months) and on HGS in younger male patients with shorter HD vintage (≤ 44 months).

**Conclusions:** Sex, age, and steady exercise were important determinants of muscle strength in HD patients. And serum creatinine and dry weight, which reflects muscle mass, were also important in determining muscle strength. We need to encourage patients to do regular home- or group-exercise from the beginning of dialysis and introduce new feasible form of exercise for HD patients.

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**PO0822**

**The Association Between Prevalence of Peritoneal Dialysis vs. Hemodialysis and Patients’ Home Distance to Dialysis-Providing Facilities**

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**Background:** Accessibility to dialysis facilities should play a role when deciding on a patient’s long-term dialysis modality. Studies investigating the effect of distance to nearest dialysis-providing unit on modality choice, however, have yielded conflicting results. We investigated the association between patients’ dialysis modality and the distances (driving and straight) to the closest HD and PD-providing units.

**Methods:** All ESKD patients (USRDS) who initiated in-center HD and PD in 2017, were 18-90 years old, and on dialysis for 30 days were included. Patients who resided in non-conterminous US or lived >90 miles from the nearest HD-providing unit were excluded.

**Results:** Among 102,247 included patients, median driving distance to the closest HD unit was greater for PD patients (3.9 vs 2.9 miles; p < 0.001). Compared to HD patients, PD patients had longer driving distances to their nearest PD unit (4.4 vs 3.4 miles; p <0.001). PD utilization increased with increasing distance from patients’ homes to the nearest HD unit (OR 1.11, 95% CI 1.08-1.14 per 10-mile increase). This association did not change whether the PD unit was farther/closer than the nearest HD unit (Figure 1). This association was not seen when analysis was performed using straight line distance.

**Conclusions:** PD utilization increases with increasing driving distances from the nearest dialysis providing units (HD or PD). Using driving distance, but not straight line distance affects data analysis and outcomes. Increasing the number of PD units may have a limited impact on increasing PD utilization.

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**PO0823**

**Evaluation of Frailty Assessment Tools and Their Measurement Properties in CKD**

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**Background:** Frailty is three to seven times more common in people with chronic kidney disease (CKD) than in those with normal kidney function. Although frailty and its impact in CKD is well-recognized, the measurement properties of the tools used to assess this syndrome are not known. The aim of this systematic review was to evaluate frailty assessment tools and their measurement properties in CKD.

**Methods:** The study was conducted using the Consensus-based Standards for the selection of health Measurement Instruments ( COSMIN) guidelines and Preferred Reporting Items for Systematic reviews and Meta-Analyses for Protocols (PRISMA-P 2015). We searched ten electronic databases (eg. OVID MEDLINE, OVID EMBASE, OVID Health and Psychosocial Instruments, Cochrane Central Register of Controlled Trials (CENTRAL)) and screened studies as per the following inclusion criteria: peer-reviewed original research, adults with CKD (non-dialysis, dialysis or kidney transplant (KT)), examines at least one established multidimensional tool used for the assessment of frailty, and presents information to evaluate the measurements properties of the tool. Methodological quality assessment and data synthesis will be performed as per COSMIN guidelines. This review was registered with PROSPERO (CRD42021234558).

**Results:** We retrieved 647 unique citations with 58 eligible studies (N=16,026) of which 60% were prospective cohort studies. The majority (59%) included patients on dialysis, 19% were KT, and the remaining non-dialysis CKD. The dialysis populations utilized hemodialysis (HD) (38%) and peritoneal dialysis (PD) (34%) modalities. Fried’s phenotype was the most commonly tool used to assess frailty (57%). Predictive validity was the most frequently reported measurement property (86%) followed by responsiveness (12%). Thirty-one (53%) of the included studies using the Fried’s Phenotype evaluated predictiveness.

**Conclusions:** In this review, a majority of the studies focused on the dialysis and non-dialysis populations. Fried’s Phenotype, the most commonly administered tool, primarily evaluated predictive validity. Future research is required to identify the tool(s) that will be predictive of adverse health outcomes in the KT population and additional studies evaluating these tool’s responsiveness to change are needed.