THE CORRELATION BETWEEN HEMOGLOBIN LEVEL AND IRON PROFILE ON CHRONIC KIDNEY DISEASE PATIENTS UNDERGOING ROUTINE HEMODIALYSIS WITH ANEMIA IN ULIN HOSPITAL BANJARMASIN, INDONESIA

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high (up to 82% for dietary and 74% for fluid restrictions) and is currently considered a major health problem, due to its association with poor clinical outcomes (e.g., bone demineralization, clots in the access site, swelling, fatigue, electrolyte imbalances, pulmonary congestion, heart failure), increased risk of hospitalization, and early mortality. Therefore, it is of utmost importance to better understand patients' experiences with the management of dietary and fluid recommendations to inform the design of interventions aiming to maximize adherence. The purpose of this study was to explore the barriers and facilitators of adherence to dietary and fluid restrictions perceived by patients undergoing maintenance hemodialysis.

Methods: A qualitative exploratory study was conducted with a purposive sample of 23 patients (12 men; 69.5±12.9years old) undergoing in-center hemodialysis for an average of 45.7 (±57.3) months. Semi-structured face-to-face interviews were conducted, digitally audio-recorded, transcribed verbatim and submitted to content analysis by two independent researchers.

Results: Patients identified three barriers: (i) continuous food deprivation, which contributed to persistent cravings (n = 14); (ii) feeling thirsty or dry mouth, especially during the summer (n = 13); (iii) and family gatherings that patients associated with increased consumption of restricted foods and fluids (n = 6). Four facilitators of adherence were identified: (i) use of strategies to control food and fluid intake (e.g., avoid salt, season with herbs, eat and drink in small proportions throughout the day, suck on ice cubes, chew sugarless gums, avoid sun exposure, drink water only with medication) (n = 17); (ii) support and encouragement received from family members (n = 11); (iii) written information support provided by a nutritionist (n = 6); and (iv) previous negative experiences related to non-adherence (e.g., swelling, hypotension episodes and muscle cramps during dialysis) (n = 6).

Conclusions: The findings suggest that healthcare professionals in dialysis units need to be aware of patients who are continually deprived while informing about alternative strategies to help reduce non-adherence and its associated complications. The current results also indicate that family members can play a protective role but, at the same time, hinder adherence. Future interventions aimed at changing patients' behavior towards dietary and fluid restrictions need to consider the inclusion of family members to facilitate the management of ESRD and hemodialysis demands.

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Conflict of interest

Potential conflict of interest:

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POS-571

PROGNOSIS OF CHILDREN WITH END STAGE KIDNEY DISEASE (ESKD) TREATED BY HAEMODIALYSIS IN CAMEROON: A SINGLE CENTRE EXPERIENCE

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Introduction: Mortality in children with ESKD in Sub-Saharan Africa is reported high, mainly because of inaccessibility to dialysis and transplantation. In Cameroon, haemodialysis is the sole kidney replacement therapy available and little is known about prognosis of children admitted in chronic haemodialysis.

Methods: We conducted a retrospective study of 41 months from January 2018 to May 2021 in the biggest haemodialysis facility of the country. Patients <19 years admitted for chronic haemodialysis during the study period were all included. Socio-economic status was evaluated and classify as very low to low, middle and high. Clinical data were also collected. Mortality was analysed, early death was defined as death within the week of dialysis, and Kaplan-Meier curves were used to determinate survival; p-value was <0.05.

Results: Of the 321 patients admitted for ESKD during the study period, 18 were children with an estimated annual incidence of 16.4 per 1000. Mean age was 14.61±2.38 years and 50% (n=9) were male. Patients under 10 years were not recorded. Socioeconomic status was very low to low in 61% of patients (n=11). Glomerular diseases were the main aetiology (n=10, 55.5%) of ESKD. Pre-dialysis care was noted only in 5 (28%) patients (4 steroid resistant nephrotic syndrome with 2 confirmed focal and segmental glomerulosclerosis and 1 lupus nephritis). Initiation of dialysis was done as an emergency in all the patients and acute pulmonary oedema (n=17, 94.5%) was the main indication. The fistula was available at dialysis initiation or within a month in 6 patients (33.3%). The mortality rate was 83.3% (n=15). Dialysis withdrawal, because of finance or exhaustion of vascular capital, was the main cause of death (n=7, 46.7%). Early death was found in 4 patients (26.6%). Mean survival was 5.64±1.8 months (extremes 0-20 months). Survival was better in children in whom viable fistula was obtain within the month of dialysis initiation (13.06 months vs 2.4 months, p=0.017). Survival was also longer in patient between 10-15 years (8.66 months vs 2.85 months, p=0.21) and in male (male 7.55 months vs 4.33 months, p=0.88) but the difference were not significant. Survival was worst in children with the lower socioeconomic status compare to others (2.66 months vs 10.9 months, p=0.047).

Conclusions: Prognosis of children with end stage kidney disease who initiated dialysis in Cameroon is poor. Mortality is high and mainly due to dialysis withdrawal. Financial constraint and availability of a viable vascular access are the main contributor of the outcome.

No conflict of interest

POS-572

OUTSOURCING OF DIALYSIS SERVICES: IMPLEMENTATION AND CHALLENGES

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Introduction: Outsourcing of dialysis services is a new practice in Gulf region. The objective is to understand and analyze the implementation, functioning and effectiveness of outsourcing dialysis program on the achievement of clinical performance indicators and quality standards. It is also draws on the management structure and challenges encountered.

Methods: We present here our experience in organization and implementation of outsourcing dialysis clinics, the management team structure and using clinical outsourcing to drive value-based care.

Results: Based on the contract we build or renovate 39 centers in different locations on stages all are operational. These centers meet the standards guidelines for establishing, equipping and operating dialysis centers of ministry of health. The data over 7 years reflects a quality of dialysis care that exceeds both the national average and international one. The outsourcing program is particularly helpful in improving the adequacy of dialysis care, and the quality of life of dialysis patient and the effectiveness of cost. We developed a vascular access program based on patient location. By dialyzing approximately 25% of the total Saudi dialysis population, Diaverum has become the largest independent kidney care provider in the Kingdom of Saudi Arabia.

Conclusions: The dialysis outsourcing program is particularly helpful in improving the adequacy of dialysis care and quality of life of dialysis patient. Its offers the opportunity to use the learnings tools for trainees in field of nephrology, nurses and others. This model of care with the terms done by ministry of health should be developed and taken as a good example to follow.

No conflict of interest

POS-573

THE CORRELATION BETWEEN HEMOGLOBIN LEVEL AND IRON PROFILE ON CHRONIC KIDNEY DISEASE PATIENTS UNDERGOING ROUTINE HEMODIALYSIS WITH ANEMIA IN ULIN HOSPITAL BANJARMASIN, INDONESIA

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Introduction: Anemia, defined as a hemoglobin (Hb) level of 13 g/dl in men and 12 g/dl in women, is an important complication of Chronic Kidney Disease (CKD).[1,2]Although relative deficiency of erythropoietin production is the major driver of anemia in CKD, iron deficiency stands out among the mechanisms contributing to the impaired erythropoiesis in the setting of reduced kidney function.[2] CKD patients suffer from both absolute and functional iron deficiency.[3] In the most severe anemia (Hb < 10.5 g/dl), there was an increased rate of mortality, cardiovascular hospitalizations. The aim of this study is to find out the correlation between hemoglobin level and iron profile on CKD patients undergoing routine hemodialysis with anemia in Ulin hospital Banjarmasin, Indonesia.

Methods: This is an analytic observational cross-sectional study. Samples were taken by consecutive sampling from CKD patients undergoing routine hemodialysis with anemia at nephrology and hypertension sub specialist outpatient clinic in Ulin Hospital Banjarmasin, Indonesia. Data were collected from July to August 2021.Statistical test used Pearson's correlation.

Results: There are 36 CKD patients undergoing routine hemodialysis with anemia. Female patients are dominant, 25 (69.4%), and 11 male patients (30.6%) (Table 1). The mean age was 52.3 ±8.3 years old. The mean of Hb level was 8.9 ± 1.3 gr/dl, and serum iron (SI) was 50.1 ±23.0 µg/dl. The median of transferrin saturation 23 (10-158)%, and ferritin level 246.90 (34-2500) ng/ml. Iron deficiency was found in 18 patients (50%), in which, 11 (61%) were classified as functional iron deficiency, and 7 (39%) as absolute iron deficiency. There were no correlation between Hb level and SI, neither transferrin saturation, except ferritin with correlation coefficient -0.410 and p=0.013 (Table 2).

Table 1. Characteristic data of CKD patients undergoing routine hemodialysis with anemia in Ulin Hospital Banjarmasin, Indonesia

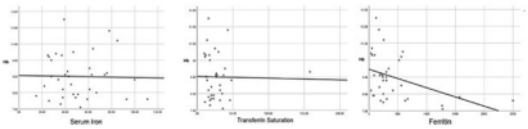
Variables	N(%)	Mean ± SD
Sex		
Male	11 (30.6%)	
Female	25 (69.4%)	
Age (years)		52.3 ± 8.3
Hemoglobin (g/dl)		8.9 ±1,3
Serum Iron (µg/dl)		50.1 ± 23.0
		Median
Transferrin Saturation (%)		23 (10-158)
Ferritin (ng/ml)		246.90 (34 – 2500)
Iron Deficiency	18 (50%)	
Functional	11 (61%)	
Absolute	7 (39%)	

Table 2. The correlation between hemoglobin level and iron profile (serum iron, transferrin saturation and ferritin) using pearson correlation test in CKD patients undergoing routine hemodialysis with anemia in Ulin Hospital Banjarmasin, Indonesia.

Hemoglobin Level (n =36)

Variable	Correlation Cofficient	p*
Serum Iron	-.023	0.895
Transferrin Saturation	-.019	0.914
Ferritin	-.410	0.013*

Statistical test using Pearson's Correlation analysis, with significancy if p<0.05



a. b. c.

Figure 1. The correlation regression chart between hemoglobin (Hb) level and iron profile (serum iron (a), transferrin saturation (b), ferritin (c)) in CKD patients undergoing routine hemodialysis with anemia in Ulin Hospital Banjarmasin, Indonesia.

That was strong association between anemia and CKD.[3] In this study, a half of patients have anemia iron deficiency. Anemia absolute and relative or functional iron deficiency are frequent conditions in CKD patients.[4] Functional iron deficiency may be related to the administration of erythropoiesis-stimulating agents (ESA) which rapidly increases erythropoiesis. In this situation, total body iron stores are adequate, but iron release from stores into the circulation is not enough to provide sufficient iron to support the increased erythropoietic rate driven by the ESA.[3]

Conclusions: A half of CKD patients undergoing routine hemodialysis with anemia were caused by iron deficiency. There were no significant correlation between Hb level and serum iron, neither transferrin saturation, excepts ferritin was correlated, on CKD patients undergoing routine hemodialysis with anemia in Ulin Hospital Banjarmasin, Indonesia.

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No conflict of interest

POS-574

WORK DISABILITY AND EMPLOYMENT STATUS AMONG END STAGE RENAL DISEASE PATIENTS ON DIALYSIS

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Introduction: The prevalence of employment among chronic dialysis patients is reported to be low globally but it is not well studied in Malaysia. Therefore, we embarked on this study to determine the prevalence of employment rate, work disability and factors contributing to it and their quality of life.

Methods: An interview, questionnaire-based, cross-sectional study involving chronic dialysis patients were conducted in selected tertiary hospitals and a few private dialysis centers. Participants answered two standardized validated questionnaires; (1) work productivity and activity impairment (WPAI-GH) questionnaire and (2) kidney disease and quality of life (KDQOL-36) questionnaire.

Results: A total of 364 participants were recruited with mean age of 42.21 ± 10.42 years old and 58.4% were males. Of these,171(47%) were employed. Majority (n=293,80.5%) were on hemodialysis (HD) whereas (n=71, 19.5%) were on peritoneal dialysis (PD). Diabetes mellitus was the main cause of ESRD (n=140, 38.5%). Most females were unemployed (n=91, 61.8%) compared to males (n=99, 46.7%). Participants with tertiary education level (n=94, 55%) seemed to sustain a job compared to other education levels (n=77, 45%). Those who were on PD (n=45, 63.4%) were able to sustain employment compared to those on HD (n=126, 43%).

Younger age (p=0.025), male (p=0.001), tertiary education level (p=0.002), and dialyzing via PD (p=0.032) were more likely to be employed and retain their job. The activity impairment due to health score was significantly higher in the unemployed group (p=0.001). PD patients had lower activity impairment compared to those on HD (p=0.031). Among the working population, HD patients had higher work impairment compared to PD (p=0.014). Employed patients had significantly lesser perceived symptoms and problem lists (SPKD) (p=0.037), burden of kidney disease (BKD) (p=0.001), physical composite (PCS) and mental composite (MCS) (p=0.001). There were no differences between dialysis modality with quality of life among dialysis patients.

Conclusions: The employment rate among dialysis patients in Malaysia was low. Employed dialysis patients had lesser work and activity impairment than their unemployed counterpart. Patients on PD had

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