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A Case Study

A STUDY ON ANALYSIS OF COGNITIVE FUNCTION IN SHORT-TERM AND LONG-TERM HEMODIALYSIS PATIENT

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Abstract:

Chronic Kidney Disease (CKD) poses a significant burden on global healthcare systems, with dialysis being a cornerstone treatment for end-stage renal disease (ESRD). While dialysis the Quality of life, it is associated with various complications, including cognitive impairment. This study aims to comprehensively analyze cognitive function in short term and long-term dialysis patients.

Methods: The present study included 200 dialysis including short term and long-term patients. Parameters such as Duration of dialysis, Number of hemodialysis, Hemoglobin, TSAT, Serum Ferritin level, and diagnosis. Questionnaire are used such as, Montreal cognitive assessment, missoloula-vitas quality of life index.

Results: The current study is aimed to compare cognitive function in long term and short term dialysis in the dialysis unit 200 patients has participated in analysis of cognitive function in long term and short term dialysis. The study has divided two groups named as short term dialysis (less than 1 year) about 70 patients and Long term dialysis (more than 1 year) about 130 patients.

The data parameters were collected including, diagnosis, duration of dialysis, Number of Dialysis medications, Blood pressure, Hb, TSAT, Serum ferritin, EPO administration. The analysis of Cognitive functions was expressed as 2 questionnaires. The Mild cognitive analysis tool includes MONTREAL COGNITIVE ASSESEMENT, which includes Visuospatial, Executive, Naming, Memory, Attention, Delayed recall, Orientation., 83% patients scored Above 26 and 17% patients scored below 26. Group A n=65, Mean 22.49, std. deviation 4.580 and St. Error Mean .568 whereas, Group B n=66, mean 23.17, St. Deviation 5.374 and St. Error mean.661. Independent sample test performed, for Equal variances assumed Lower -2.402 and upper 1.053 and Equal Variances not assumed upper -2.400 and upper 1.051. P Value- (P < 0.0002) Respectively Conclusion : The current study concludes the duration or frequency of dialysis will not affect the cognitive function of dialysis patients. Thus, cognitive function can be improved by frequent analysis by using MOCA assessment tool, Nutritional assessment and psychological status can be monitored every month.

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INTRODUCTION:

Cognitive impairment in chronic kidney diseases (CKD), especially in end-stage renal diseases (ESRD), has increasingly been researched on in the last years but cause of CKD is still unknown and might be multifactorial. AS the prevalence of cognitive impairment especially in patients with ESRD is up to 51-76%, partly up to 87%. It is necessary and important to focus on both causes and diagnostic. Especially because hemodialysis patients need cognitive skills to understand and follow health related information.

AIM:

- Analyzing cognitive function in short term and long term

OBJECTIVES:

- To understand the cognitive function of dialysis patients
- To analysis duration of HD with cognitive function of dialysis

MATERIALS AND METHODSSAMPLE AREA:

Sample was collected in the Dialysis unit

SAMPLE SIZE:

200 patients were selected for this study

TYPE OF STUDY:

CROSS SECTIONAL STUDY

INCLUSION CRITERIA:

- Patients 18 years of age and above are included in this study
- All patients who are all undergoing hemodialysis

PATIENTSGROUP A

- Long term
- More than one year, duration of dialysis

GROUP B

- Short term
- More than one year, duration of dialysis

EXCLUSION CRITERIA:

- All patients with acute kidney injury of any etiology requiring hemodialysis
- Newly diagnosed case and has been on maintenance hemodialysis for >3months
- All admitted patients undergoing hemodialysis

MATERIALS USED:**DATA COLLECTION**

Patient on hemodialysis were included based on inclusion and Exclusion criteria.Consent of the person/relatives of the person participating in the study has been taken after briefly explaining the study process in their own language.

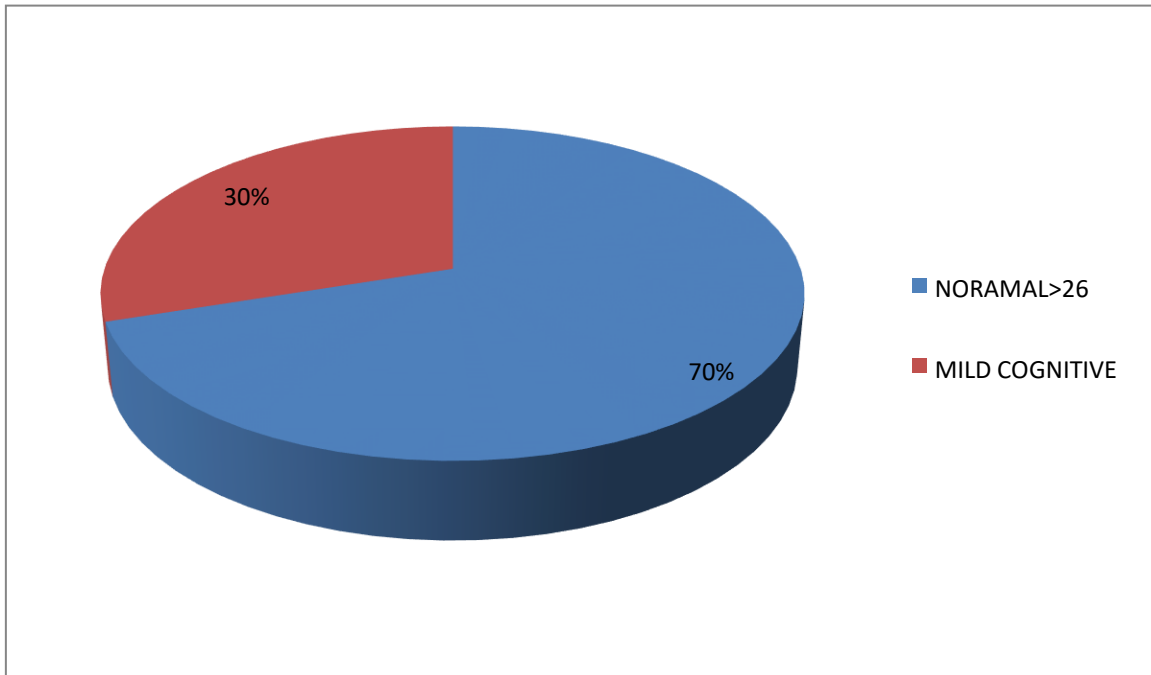
Demographic data of the subjects, specifically, age, sex,diagnosis, were collectedand analyzed.

Patients' blood samples collected and sent for the detection of serum ferritin value. **The Montreal cognitive assessment, used as screening instrument of mild cognitivedysfunction.**

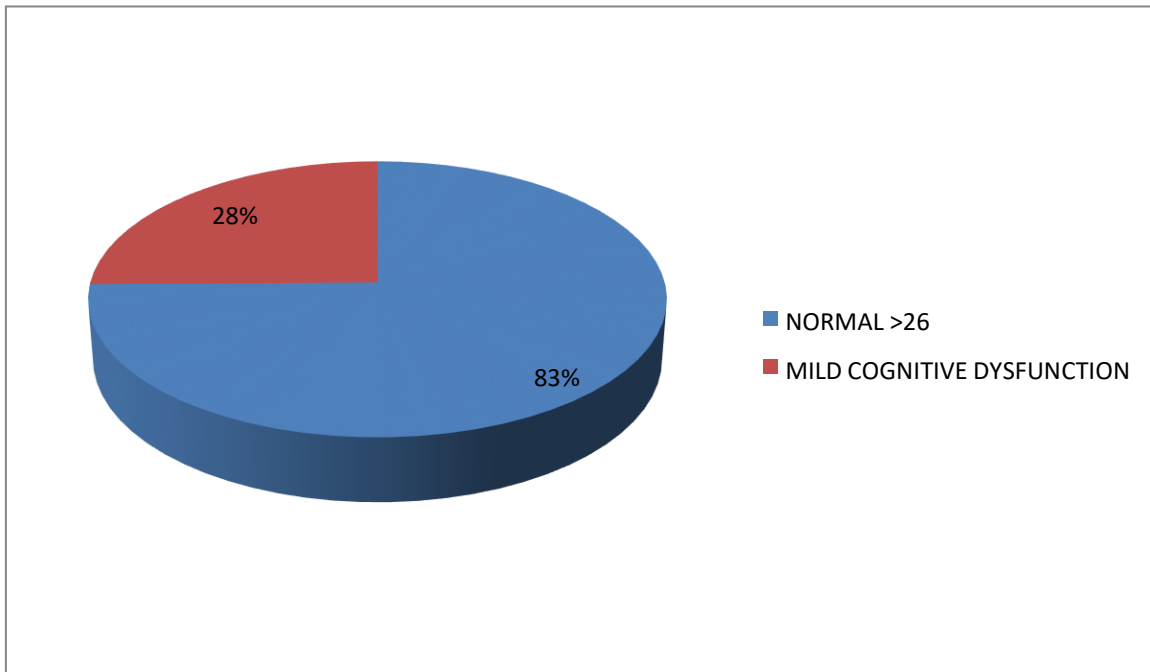
RESULTS:

The current study concludes the duration or frequency of dialysis will not affect the cognitive function of dialysis patients. Thus, cognitive function can be improved by frequent analysis by using MOCA assessment tool, Nutritional assessment and psychological status can be monitored every month. The current study improvising the cognitive functions of dialysis patient by increasing coping treatment effectiveness.

**MONTREAL COGNITIVE ASSESSMENT
COGNITIVE FUNCTION
ANALYSIS IN
SHORT TERMDIALYSIS PATIENTS**



Pie chart representing, Among short term dialysis patients,70% of patients scored >26 where as 30% of patients scored <26.
COGNITIVE FUNCTION ANALYSIS IN LONG TERMDIALYSIS PATIENTS:



Pie chart Representing, Among the long-term dialysis patients,83% scored >26 and 28% of patients scored <28

CONCLUSION:

The recent emphasis on assessment of the cognitive function of renal patients in short term and long term on dialysis therapy, A total 200 patients enrolled from DIALYSIS UNIT were administered MOCA and MVQOLI – MISSOULA –VITAS QUALITY OF LIFE INDEX to assess the Mild cognitive function. The results showed the majority of patients were mild cognitive dysfunction due to lower of serum ferritin. A highly significant value by t test dependent and independent test proves that FREQUENCY and DURATION of DIALYSIS will not affect the COGNITIVE FUNCTION. The cognitive function improved by proper administration of Iron sucrose, Montreal cognitive assessment, psychology support and dietary modification.

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