The trends in medication prescriptions for hemodialysis patients with chronic kidney disease

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Introduction:

Chronic kidney disease (CKD) is usually associated with co-morbid conditions cardiovascular diseases, diabetes, and anemia. The treatment of CKD patients under the maintenance of hemodialysis is a case of polypharmacy, a complex therapeutic regimen. Drug use pattern studies guide understanding of how drugs are appropriately utilized within a given time period to reduce morbidity, mortality, and better patient care.

Methods:

Study Design: Prospective, observational Study of drug utilization pattern and prevention of medication-related problems in patients undergoing hemodialysis at General Hospital Dawadami, Saudi Arabia.
Material Used: Informed consent form, Drug Utilization form, ADR monitoring form, Patient Counseling Form, and Morisky Medication-Taking Adherence Scale.
Data Collection: Information on age, gender, drugs prescribed, Adverse Drug reaction, and patient feedback was recorded on a special design form in the Department of AKU by conducting a patient interview after their informed consent was obtained. All the data were kept confidential.
Inclusion Criteria:
- Age group 18-80 years, irrespective of Gender
- Having GFR between 4-28 mL/min/1.73m2
- Undergoing maintenance hemodialysis

Exclusion criteria
- Chronic kidney disease patients co-infected with HIV/Hepatitis B/Hepatitis C
- Renal transplantation/tumor/trauma
- Pregnant and lactating mothers were excluded from the study
- Drug addicts and all mentally retarded patients.

Result:

There was a total of 60 patients' data were recorded and analyzed. The mean age (standard deviation; SD) of the patients was 58 (±16.42) years; 56.55% (34 patients) were male and 43.33%(26 patients) were female, the mean blood urea nitrogen (SD) level was 19.6 (±.12) mmol/L, mean (SD) of GFR (SD) 11.7 (±2.54) mL/min/1.73m2, serum creatinine level (SD) was 632.4 (±198.04) μmol/L. About 46.66 (28 patients) were having cardiovascular diseases. The most common co-morbidities observed were anemia (70%, 42 patients) followed by hypertension (40%, 24 patients), and diabetes (33.33%, 20 patients). The average number of drugs per prescription was 6 (3-8), with the majority being vitamins-minerals (52.6%), antihypertensive drugs (27.3%) antidiabetic drugs (12.56%), gastrointestinal drugs (8.66%) and anticoagulants (8.20%).

Table 1: Utilization pattern of drugs prescribed

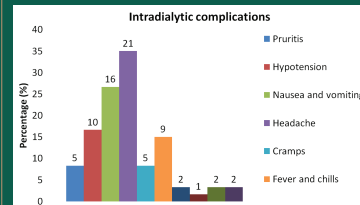| Category	Number of Drugs	Percentage (%)
Vitamins & Minerals	190	52.66
Antihypertensive agents	98	27.3
Antidiabetic drugs	45	12.56
Gastrointestinal drugs	31	8.66
Anticoagulant agents	22	8.2
Immunosuprassants	5	1.37
Antihyperphosphatamia	10	2.75
Hypolipidemics	18	5.17
Antiemetics	3	0.83
Antithyroids	3	0.83
Hypnotics	1	0.27

Figure 1: Intradialytic complications

Conclusion:

CKD Patients undergoing hemodialysis have other comorbid conditions and therefore needed close monitoring and counseling regarding drug utilization to reduce the incidence associated with mortality and morbidity.

References:

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