

Problems associated with medications taken by renal patients

Ashraf Salah Ibrahim El Ghaname

Cairo University, Egypt

Abstract:

At first we need to present and clarify the renal failure patient and what is his condition and how these conditions is dealt with, as our topic actually is about problems related to managing the kidney patient problems or complications. An END STAGE RENAL FAILURE PATIENT is a one who is suffering electrolyte imbalance in form of: Low calcium, taking supplements like 500 mg tablets 3 times a day and suffering from anaemia taking 5 tablets of folic acid once daily. MULTI VITAMINS FOR : Iron, vitamin B suffering from high blood pressure so at least taking one type of anti-hypertensive medications (sometimes with malignant hypertension) high doses of several types of anti-hypertensive medications are prescribed (may reach 230/130). Also the patient on dialysis in continuous stress causing stress ulcer together with uraemia causing gastritis. Both of which recommend good management alternating between proton pump inhibitors and antacids to avoid aluminium hydroxide protective coating as it is not eliminated by on dialysis active vitamin D (HYDROXYCALCIFEROL). For calcium metabolism (absorption and bone deposition), other less common medications pain killers for: Itching body aches. Antibiotics for secondary infections and catheter related infections so in general a patient may take between 5-8 tablets 3 times daily. That??s why we are here to talk about

How to make pills for (esrf) patient easier to swallow:

1. Big tablets as calcium could be made chewable
2. Gastric medications should be combined and given as effervescent
3. Specific multi vitamin formulas for ESRF patients
4. Digestive enzyme supplement tablets should be prescribed
5. Folic acid is given as several formulas instead of taking up to like 8 tablets
6. If medications can be provided as syrup or powdered forms in capsules for example to be easily dissolved in water or drinking vial like packages

Introduction:

Chronic kidney disease is one of the global health problems re-

quiring early detection and treatment to prevent its progression and associated with increased morbidity, mortality, and health care costs for both individual patients and health care system. The global prevalence of CKD is estimated to be 11%–13%. In sub-Saharan Africa (SSA), CKD is estimated to be 3-4 folds more than in developed countries and comorbidity, implying concomitant use of many drugs, makes the management of these patients particularly challenging. Medication-related problems (MRPs) are the major challenge to health care providers and they may affect morbidity, mortality, and patients' quality of life. CKD patients are on high risk for MRPs because of the polypharmacy and the impaired renal excretion. MRPs may lead to reduced quality of life, increased hospital stay, increased overall health care cost, and even increases the risk of morbidity and mortality. All patients' problems involving medications can be grouped into one of the seven types of MRPs. These include unnecessary drug therapy; need additional drug therapy, ineffective drug, dosage too low, adverse drug reactions (ADRs), dosage too high, and noncompliance.

Since MRPs are very common in patients with CKD, identification, prevention, and management of these problems require a comprehensive, interdisciplinary approach. It is estimated that the annual cost of drug-related morbidity and mortality is nearly 177 billion dollars in the United States. Many drugs are eliminated by the kidneys and therefore may require dose adjustment in patients with renal impairment and dosing of all drugs, including antibiotics should be optimized and monitored so as to prevent ADR, avoid further renal injury, and to facilitate treatment outcomes. The treatment of CKD stage V needs a large number and variety of drugs, which are linked to a number of MRPs, high cost, and short-term mortality. A high number of prescribed medications due to a high number of comorbidities and complications associated with the disease, poor medication adherence, and frequent dosage changes may contribute to drug-related morbidity and MRPs.

Identifying MRPs is a major task which could be taken care of by a clinical pharmacist in coordination with other health care providers through medication reconciliation. On the other hand, educational intervention at discharge and follow-up of patients by the clinical pharmacists may also prevent adverse events and can improve patients' awareness of their drug therapy which in

turn would improve their adherence to drug therapy. The prevalence of CKD cases found to be significant in Ethiopia. In a developing country like Ethiopia, the role of a clinical pharmacist is much needed as there is a need to seal the existing gap in health care settings of the country.

Methods:

A hospital-based prospective observational study was conducted among 103 chronic kidney disease patients admitted to Jimma University Medical Center from April to September 2018. Data regarding patient characteristics, medications, diagnosis, length of hospitalization, and laboratory results were collected through review of patients' medical charts. Data were analyzed by using Statistical Package for the Social Sciences (SPSS) version 21.0. Univariate and multivariate logistic regression was utilized to assess the associations between dependent and independent variables. Statistical significance was considered at p value <0.05 .

Results:

Out of 103 chronic kidney disease patients, 81 (78.6%) of patients had MDRs, on average 1.94 ± 0.873 per patient. The rate of overall MRPs was 30.95 per 100 medication orders. The most common MRPs among CKD patients were need additional drug

therapy (62 (31%)), nonadherence (40 (20%)), and dose too low (36 (18%)). The most common cause of need additional drug therapy (52 (26%)) was untreated medical conditions; nonadherence (19 (9.5%)) was mostly due to that the patient/care-giver forgets to take/give the medication, and dose too low (29 (14.5%)) was mostly due to that the dose is too low to produce the desired response. Polypharmacy (AOR = 4.695, 95% CI: 1.370-16.091), number of comorbidities (AOR = 3.616, 95% CI: 1.015-1.8741), and stage of CKD (AOR = 3.941, 95% CI: 1.221-12.715) were independent predictors for MRPs.

Conclusions:

We have demonstrated that medication-related problems are high among chronic kidney disease patients. Marital statuses, stage of CKD, polypharmacy, and comorbidity were independent predictors for MRPs. Interdisciplinary health professionals should work to decrease the high prevalence of MRPs among chronic kidney disease patients.