Clinical Problem

- The two leading causes of chronic kidney disease (CKD) are diabetes and hypertension.
- Early identification and treatment of CKD can slow, or possibly prevent, progression to kidney failure.
- It is vitally important that primary care providers recognize and treat CKD in the early stages.
- CKD symptoms don’t usually appear until the late stages and approximately 90% of patients are asymptomatic and 95% are stage 2 or 3.

Purpose

- Identifying and appropriately staging CKD in adult patients with diabetes and hypertension that have decreased GFR and/or elevated micro-albumin through an intervention of a pre-visit planning tool.

Objectives

- Design a CKD staging tool to aid primary care provider (PCP) to identify patients with hypertension, diabetes, decreased glomerular filtration rate (GFR), and/or elevated micro-albumin and to further evaluate these patients for CKD diagnosis.
- Compare number of CKD diagnosis pre and post implementation to determine percent previously undiagnosed and potential benefit to larger implementation.

Literature Review

Key Findings

- Treatment of CKD stages 1 to 3 with ACE or ARB lead to reduction in risk for ESRD (Fink, et al 2012).
- Screening for CKD is suggested to be cost-effective in patients with diabetes and hypertension (Komenda, et al 2014).
- Targeted screening identified a high proportion of individuals with risk factors for CKD and a high prevalence of unrecognized CKD (Galbraith, et al 2016).

Conceptual Framework

Iowa Model of Evidence Based Practice to Promote Quality Care

Measures

- Proportion of patients with CKD and their staging pre-implementation compared to post-implementation of pre-visit planning tool.
- Diabetes and Hypertension registries reviewed for primary care practice to identify patients with CKD with and without diagnosis.

Procedure

- Use of pre-visit planning tool.
- Record recent GFR and micro-albumin for patients with diabetes and hypertension.
- Provider review lab data at routine office visit.
- CNA will review provider schedules.
- Patients will be called if any outstanding labs.
- CNA will review labs for GFR and micro-albumin in past 3 months record on pre-visit planning tool.
- Provider will see patient and determine if CKD is appropriate diagnosis.
- Provider will update encounter and problem list with appropriate ICD 10 code.

Findings

- Figure 1. Demographics of study patients.
- Figure 2. Distribution of stages of CKD in study patients.
- Table 1. Chi-square comparison of patients with CKD diagnosis prior to and post implementation of the pre-visit planning tool (N=226).

Conclusions

- Results support use of pre-visit planning tool to aid primary care providers to identify and properly stage CKD.
- Identification of CKD can be properly managed in a primary care practice.
- Patients with early stages of CKD do not have diabetes and hypertension under control with hemoglobin A1c <7.0 and blood pressure <140/90.
- Next phase is providing patients diabetes and hypertension control guidance and education.

Discussion

- Objectives of the study were met.
- This study is statistically significant due to p score of 0.001.
- Implement pre-visit planning tool in other primary care practices with eventual creation of Best Practice Advisory (BPA) in EPIC.
- Disseminate findings at primary conferences through poster and podium presentations.

Significance to Nursing Practice

- Primary Care Nurse Practitioners visit have the opportunity to identify and manage patients with CKD.
- Early identification and management of CKD is key and will decrease risk of progression to ESRD.
- Proper risk stratification of patients with chronic disease will increase CMS reimbursement.

Conclusion and Future Considerations

- Future studies need to be conducted on patients with diabetes and hypertension.
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Acknowledgement

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Debra Sheaver, RN, MN, CPNP-BC, Jeneen J. Vesella, EMT-M, RN, CEN, CCRN, Andy Bhatnagar, MD, Mary Anne Peifer, MD, Denise Moser and providers and staff at Family and Internal Medicine.