Short Communication

Integrative Diabetes and Cardiovascular Diseases

Physician and Patient Attitudes Toward Screening for Kidney Complications in Type 2 Diabetes: Is There A Role for Patient Self-Advocacy?

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Abbreviations: DKD: Diabetic Kidney Disease; PCP: Primary Care Physician; uACR: Urine Albumin-Creatinine Ratio

Urine protein screening rates among patients with type 2 diabetes are suboptimal despite evidence supporting its efficacy in preventing or slowing the progression of diabetic kidney disease (DKD) [1]. Testing of untimed urine specimens to quantify albumin (urine albumin-creatinine, or uACR)-the recommended screening test based on combination of simplicity, cost, and cardiovascular and renal prognostic value-is particularly underutilized, despite longitudinal efforts to improve awareness and screening among physicians [2].

Two qualitative surveys were designed to explore the attitudes of both physicians and patients in decisions about urine protein screening for patients at-risk for DKD. The patient's perspective on self-advocating for urinary protein screening was solicited due to the potential for self-advocacy to improve health status and outcomes in chronic diseases like type 2 diabetes [3]. Both surveys asked broad questions about concerns related to the diagnosis and management of type 2 diabetes, followed by more specific questions about complications, screening, adherence, and self-advocacy. The surveys were web-based, required approximately 20-minutes to complete, and were conducted during a single week in October, 2017. The physician survey examined perceptions of disease management challenges and strategies, and different DKD screening options. The patient survey examined concerns related to disease diagnosis; perceptions of physician management of their type 2 diabetes; expectations of complications from the disease; compliance with physician screening requests; and beliefs about the value of self-advocacy on issues related to screening. Questions on both surveys were open-ended. Respondent answers were summarized by theme according to the frequency with which each theme appeared in the response data. The theme counts were calculated by first analyzing the verbatim responses for each question to identify the themes. Next, each verbatim response was classified under one or more themes. Then, the set of verbatim responses and theme classifications were reviewed for accuracy and consistency. Finally, the number of responses classified under each theme was tabulated for each question.

66 primary care physicians (33% Internal Medicine; 67% Family Practice; 39% solo practice; 64% with greater than ten years' practice experience; and 59% seeing at least 50 patients/month with type 2 diabetes) from 30 US states
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constituted the physician respondent group. 109 patients from 33 states who were over the age of 40 and were diagnosed with type 2 diabetes and chronic kidney disease within the last 5 years (with no history of kidney transplant) constituted the patient survey sample. Mean duration of type 2 diabetes was 3.2 years. Table 1 highlights key survey findings for the physician-and patient-respondent groups.

Table 1: Physician and patient views of DKD care and screening for patients with type 2 diabetes.

Physician Survey	% of Sample
What issues or conditions are you most concerned about testing for in your patients with type 2 diabetes?	
Kidneys	63
Blood sugar	39
Heart	35
Blood pressure / circulation	34
Eyes	34
Neurologic, Neuropathy	32
Lipids / cholesterol	27
Obesity	19
What are the benefits of early detection of DKD?	
Fewer complications	58
Easier treatment plan to make	48
Helpful in motivating patients	20
Helps me monitor patient / adjust treatment	16
When do you recommend screenings for kidney disease for patients with type 2 diabetes?	
PCPs screening yearly or more frequently	88
Screening every 6 months or more frequently	33
Is there something specific about (the test) that causes you to recommend it for patients with type 2 diabetes?	
Dipstick	
Medical benefit	22
Convenience / patient compliance	29
Low cost	17
Early detection	0
uACR	
Medical benefit	37
Convenience / patient compliance	14
Low cost	7
Early detection	8
Serum Creatinine	
Medical benefit	55
Convenience / patient compliance	15
Low cost	5
Early detection	19
Patient Survey	
Since your type 2 diabetes diagnosis, what have been your biggest concerns?	
Shorter-term worries	
Controlling diet	22

Physician Survey	% of Sample
Maintain normal blood sugar	18
Using insulin	16
Decreasing blood sugar levels	15
Using medications	14
Challenge losing weight	12
Longer-term worries	
Medical complications	9
Kidney damage or failure	7
How confident are you that your primary care physician is screening you appropriately for complications related to type 2 diabetes? (n=76)	
feel like PCP is screening me appropriately	86
I would feel more comfortable if screened more often (?)	7
Not sure	6
Thinking back to the last time your primary care physician requested a urine screening, did you fulfill that screening? (n=71)	
yes / categorically yes	80
no or unsure	20
Why did you comply or not comply with the urine screening request?	
Because PCP asked / always compliant / trust PCP	49
Normal part of exam / done before regular visit	12
Could do the screen in the office	10
Want to catch things early	4
Other	15
Have you ever requested a screening test for kidney disease from your physician?	3
Have you ever requested information about medication from your physician?	25
What would make you ask for a diabetic kidney disease screening rather than waiting for your PCP to schedule it?	
Change in urination / blood in urine	22
Observed kidney health issues	16
Observed health issues	9

Within the context of screening for complications of type 2 diabetes, physician respondents recognize and prioritize screening for diabetic kidney disease, with the vast majority reporting screening for kidney disease at least annually, and more than half noting the potential of early DKD detection to prevent longer-term complications. However, they prioritize the testing of serum creatinine over other detection tools (UACR, for example) for DKD. Despite perceiving positive benefits of the uACR screen, physicians may under use the test due to a perception that the urine dipstick test is more convenient and less costly, and that serum creatinine has superior medical value.

The patient survey results suggest a lower prioritization of kidney disease as a primary concern related to type 2 diabetes, with attention to short-term concerns being the focus for most of the respondents. Concern about longer term kidney damage was mentioned by less than ten percent of the patient sample.

In terms of the potential for self-advocacy to improve DKD screening rates, multiple factors appear to make this approach challenging: patients overwhelmingly trust their physicians' screening decisions and comply with requested screening tests most often due to a sense of duty to the physician. Importantly, because DKD is generally asymptomatic for years and until very late in the disease course, the perceived triggers (typically signs and symptoms) for patient self-advocacy around early detection of DKD are misaligned with the natural history of DKD [4].

This survey has methodologic limitations which preclude any definitive conclusions about self-advocacy and screening practices within the populations studied. These include relatively small sample sizes, likelihood of response bias, lack of survey validation and objectively developed scales by which to measure key characteristics of self-advocacy and screening, and reliance upon self-reported assessment of screening practices. In addition, we did not collect information on education or socioeconomic level, variables which may influence health care literacy and willingness to self-advocate.

The survey results suggest that physicians appropriately recognize the importance of kidney disease as a complication of type 2 diabetes and implement screening strategies to address this, but may yet deprioritize uACR over other, less effective screening tests (such as serum creatinine and urine dipstick testing) for early DKD detection.

Patients with type 2 diabetes who responded to this survey reported very limited self-advocacy behavior. A strategy of encouraging patients to advocate for uACR screening may therefore not be effective without parallel and substantial efforts to implement changes in patient attitudes and behavior. Given the very high rates of trust in physician screening decisions, a more effective strategy is likely to focus on physician education about the relative strengths and appropriate use of uACR relative to other DKD screening tools.

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References

1. Johnson SL, Tierney EF, Onyemere KU, et al. Who Is Tested for Diabetic Kidney Disease and Who Initiates Treatment?: The Translating Research Into Action for Diabetes (TRIAD) study. *Diabetes Care*. 2006;29(8):1733-1738. doi: <http://dx.doi.org/10.2337/dc06-0260>
2. Association AD. Diabetic Nephropathy. *Diabetes Care*. 2002;25(1):s85-s89. doi: <http://dx.doi.org/10.2337/diacare.25.2007.S85>
3. Lorig KR, Sobel DS, Stewart AL, et al. Evidence Suggesting That a Chronic Disease Self-Management Program Can Improve Health Status While Reducing Hospitalization: A Randomized Trial. *Med Care*. 1999;37(1):5-14. doi: <http://dx.doi.org/10.1097/00005650-199901000-00003>
4. Obadan NO, Walker RJ, Egede LE. Independent correlates of chronic kidney disease awareness among adults with type 2 diabetes. *J Diabetes Complications*. 2017;31(6):988-991. doi: <http://dx.doi.org/10.1016/j.jdiacomp.2017.03.004>

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