ASSOCIATION OF ELEVATED LDL WITH USE OF SNAP, SOCIAL STRESS AND POOR HEALTH PERCEPTION IN INNER-CITY KIDNEY PATIENTS: 
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Context: Hyperlipidemia may be especially important in patients with kidney disease who are at increased risk of cardiovascular disease. Poor adherence to recommended guidelines has many causes, some of which may be psychosocial in nature. We studied a cohort of patients with kidney disease in an inner-city environment to look for factors associated with control of blood lipids.

An interview survey was conducted with patients from transplant (19) and CKD (15) clinics in whom lipid profiles were available. Surveys administered included the Stress and Social Support Survey (SSS) and the SF8-TM Health Survey (higher numbers imply poorer health). Dietary analysis was made using 24 hr recall analyzed by ASA-24 software. Comparisons were made by Chi-square except where mentioned.

For the population as a whole, 20 (58.8%) pts were male and 14 (41.2%) were female, mean age was 56.9±11.0 yrs, with 28 (82.4%) black, 3 Asian, 3 other. There were no differences between the clinics so they were analyzed together. Mean creatinine was 1.7±0.13 mg/dl, 19 pts had LDL values >100 (HDL) and 15 <100 (LDL). More HLDL did not attend college (78% vs 4%, p=0.036), fewer were employed (11% vs 46%, p=0.022), and more had income <40K/yr (100% vs 67%, p=0.034). HLDL were more likely to use SNAP benefits (56% vs 20%, p=0.041). On the SF8-TM HLDL described their overall health as poorer (3.28±0.2 vs 2.47±0.22, p=0.015, by t-test) and report being more physically limited by health issues (2.78±0.28 vs 1.93±0.25, p=0.032, by t-test). On the SSS HLDL were more likely to agree that their healthcare team is a social support to them (93% vs 84%, p=0.041). Total cholesterol was higher in the HLDL group (220.16±5.6 vs 152.2±5.8, p=0.0001 by t-test) but there was no difference with LOXL for age, gender, HLDL, triglycerides, creatinine, eGFR, number of diabetics, BMI or dietary intake of carbohydrates, saturated fat, total fat, cholesterol, simple sugars or major carbohydrates.

In our population: 1. More than half of those studied had LDL values above target. 2. Pts with high LDL were more likely to be poorly educated, unemployed and indigent. 3. Pts with high LDL were more likely to be receiving SNAP benefits, but there was no clear difference in dietary patterns between the groups. 4. Pts with high LDL reported worse overall health and more physical limitations. 5. As pts with high LDL felt more support from their healthcare team, it is hoped that further investigation will allow us to discern remedi able factors that are related to poor lipid control so that we can educate these patients and intervene as needed to improve their overall health.

CASE-BASED, INTERACTIVE MEDICAL EDUCATION SIGNIFICANTLY IMPROVES MANAGEMENT OF CHRONIC HYPERKALEMIA IN COMPLEX PATIENTS: 
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We sought to determine if interactive, case-based online continuing medical education (CME) for nephrologists could improve clinical knowledge, competence, and performance in the area of chronic hyperkalemia management in complex patients. The instructional method consisted of an online, case-based, interactive text activity. Clinicians were presented with 2 patient cases that included multiple-choice knowledge or competence questions allowing them to make clinical decisions about treatment. Educational effect was assessed using a 4-question repeated pairs pre-/post-assessment and McNemar’s chi-squared test. P values are shown as a measure of significance; P values <0.05 are statistically significant. Cramer’s V determined the effect size (<0.05 no effect; 0.06-0.15 small effect; 0.16-0.30 medium effect; >0.30 large effect). The activity launched May 15, 2019; data were collected through June 24, 2019.

Significant overall improvements were seen (n = 59; P = 0.003; V = 0.156) as a result of participation in the CME activity. Specific areas of improvements included: 8% of nephrologists (P=0.05; V=1.79) improved at using a loop diuretic when a low-potassium diet was unsuccessful at lowering potassium levels 25% of nephrologists (P=0.008; V=24.1) demonstrated improvement at prescribing a newer potassium binder in a patient with consistently elevated potassium despite a low potassium diet and loop diuretic 10% of nephrologists (P=4; V=0.76) improved at using a newer potassium binder in a patient on dialysis with hyperkalemia 36% of nephrologists reported increased confidence using potassium binders in patients on RAAS inhibitors

This study demonstrates the success of an online, highly interactive, case-based educational intervention on improving knowledge, competence, and performance of nephrologists regarding complex management of chronic hyperkalemia.

ONLINE CME EFFECTIVELY IMPROVES Nephrologists’ KNOWLEDGE, COMPETENCE, AND CONFIDENCE RELATED TO HYPERKALEMIA MANAGEMENT: 
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To improve outcomes for patients, clinicians must be able to implement evolving standards of care and apply relevant data on hyperkalemia management. We sought to determine if a series of online continuing medical education (CME) activities could improve the clinical knowledge, competence, and confidence of nephrologists related to hyperkalemia management.

The online CME curriculum consisted of 2 online, 30-minute activities with discussions among experts in the field of hyperkalemia related to new data and case-based application of data in common patient cases. The educational effects were assessed using a repeated pairs pre-assessment/post-assessment study design, where individual participants served as his/her own control. For all questions combined, the McNemar’s chi-squared test assessed whether the mean post-assessment score differed from the mean pre-assessment score. P values <0.05 are statistically significant. Cramer’s V was used to calculate the effect size (0.06-0.15 is a noticeable effect, 0.16-0.26 considerable, >0.26 extensive). The activities launched in March and June 2019, and data were collected for 4 weeks for each activity.

Improved knowledge and competence was demonstrated among nephrologists (N= 371): 10% increase in recognizing the impact of potassium levels on mortality in patients with heart failure (N= 188; V=0.088; P=0.08) 17% increase in selecting a treatment strategy when a patient becomes euclidean but still shows high potassium levels (N=188; V=191; P < 0.001) 24% increase in recognition of long-term data for newer potassium binders (N=183; V=193; P < 0.001) 26% (N=183) had a measurable increase in confidence in using a potassium binder to treat a patient hyperkalemia 34% (N=188) had a measurable increase in confidence in applying team-based strategies to better manage patients with HF who present with hyperkalemia

Persistent knowledge/competence gaps remain: 56% of nephrologists (N=183) incorrectly identified incidence of hyperkalemia in patients with heart failure treated with renin-angiotensin-aldosterone system (RAAS) inhibitors 49% of nephrologists (N=183) could not recognize long-term efficacy data for newer potassium binders 74% of nephrologists (N=188) made an incorrect clinical-decision in a patient who was euaculaic but had elevated potassium levels

This study demonstrates the success of an online curriculum with multiple educational components at improving knowledge, competence, and confidence of nephrologists related to hyperkalemia management. Persistent gaps were identified for future educational targets.

ONLINE CME SUCCESSFUL AT IMPROVING Nephrologist UNDERSTANDING OF EMERGING CLASS TO TREAT ANEMIA ASSOCIATED WITH CKD: 
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As emerging therapies hold promise to improve treatment of anemia in patients with CKD, clinicians need to understand mechanisms of action in order to understand the potential place in therapy when available. We sought to determine if online continuing medical education (CME) could improve the clinical knowledge of nephrologist...
related to emerging Hypoxia-Inducible Factor Prolyl Hydroxylase Inhibitors (HIF-PHIs).

The effect of an online, CME-certified, roundtable video discussion was analyzed to determine efficacy of online education. Three multiple-choice knowledge/competence questions and 1 self-efficacy confidence question were presented both before and immediately after each activity. A repeated pairs pre-/post-assessment study design was used, and McNemar's chi-squared test (5% significance level, P < .05) assessed educational effect. Cramer's V was used to calculate the effect size (0.06-0.15 is a noticeable effect, 0.16-0.26 considerable, and >0.26 extensive). The activity was launched June 27, 2019 and data were collected through August 27, 2019.

In total, 62 nephrologists answered all pre-/post-assessment questions and were included in the study. Overall improvements were seen after participation in both CME activities:

24% of nephrologists (P<0.05; V=216) improved at correctly identifying the mechanism of action of HIF-PHIs 11% of nephrologists (P<0.05; V=0.32) demonstrated improvement at selecting the recommended use of etyrthropoiesis stimulating agents (ESAs) in the treatment of anemia 21% of nephrologists (P<0.05; V=181) improved at recognizing clinical trial data of HIF-PHIs 47% reported increased confidence in understanding of HIF stabilizers in the treatment of anemia in patients with CKD

Continued educational gaps:

52% of nephrologists did not recognize the mechanism of action of emerging HIF-PHIs 47% of nephrologists did not recognize the role of ESAs in the treatment of anemia 31% of nephrologists did not recognize clinical trial data for emerging HIF-PHIs

This study demonstrates the success of online, video-based roundtable discussion on improving knowledge of nephrologists related to emerging treatments for anemia associated with CKD. Continued knowledge gaps were identified for future educational targets.

222 ONLINE PATIENT/CAREGIVER EDUCATION ON HYPERKALEMIA CAN IMPROVE KNOWLEDGE, CONFIDENCE, AND PROMPT REAL LIFE CHANGES: Amy Larkin1; Donald Blatherwick1. 1Medscape Education, New York, NY, United States

Managing hyperkalemia with a strict diet is difficult for patients. We sought to measure the impact of online education for patients/caregivers on knowledge, confidence, and prompting change.

The education was designed as 2 online, interactive activities. Both were comprised of text and integrated visuals, the second also included a patient commentary video. Demographic questions were asked prior to starting the education. A knowledge question was asked both before and after the activity to assess learning gains, as well as intent to change and confidence questions at the end. Absolute improvements were calculated for pre/post questions. The activities launched in March and May of 2019, and data collected through September 2019.

Activity 1: Do You Have High Potassium? Here are Some Tips for Managing Potassium in Your Diet

Participants: 35, 889
Completers of all questions (included in outcomes analysis): 4,305
Demographics: 65% female; 63% white, non-Hispanic; 67% over the age of 54; 45% have hyperkalemia. 42% were interested in learning more about the condition
Knowledge changes: 24% improvement in recognizing foods high in potassium (50% pre to 74% post)
Intent-to-act: 81% plan to identify and avoid foods high in potassium
Confidence changes: 79% reported increased confidence talking to their doctor about ways to lower potassium

Activity 2: Are Medicines That Lower Potassium Right for You?
Participants: 36, 551
Completers of all questions (included in outcomes analysis): 2,917
Demographics: 59% female; 70% white, non-Hispanic; 82% over the age of 54; 56% were interested in learning more about the condition and 29% have this condition
Knowledge changes: 23% improvement in recognizing how potassium binders work to treat hyperkalemia (42% pre to 65% post)
Intent-to-act: 69% plan to talk to their healthcare provider about medicines that can treat hyperkalemia

Confidence changes: 73% reported increased confidence talking to their doctor about medicines to treat hyperkalemia

The metrics and outcomes gathered in this assessment are a strong indicator that these patient/caregiver-focused online educational activities improved knowledge and confidence, and prompted intent to act by patients/caregivers related to hyperkalemia.

223 SUCCESS OF CME/CE IN PROMOTING PERFORMANCE IMPROVEMENTS RELATED TO IRON DEFICIENCY ANEMIA MANAGEMENT IN WOMEN: Amy Larkin1, Kelly Hanley1. 1Medscape Education, New York, NY, United States

We studied the effect of online education designed to improve the clinical performance of clinicians in the OB/Gyn and primary care setting related to iron deficiency anemia (IDA) management in women.

The continuing medical education (CME) activity was a 45-minute online text- and video-based activity focusing of different aspects of anemia management in the women’s health setting. The impact of the education on performance outcomes was measured with a follow-up Planned Change Assessment® (PCA) survey immediately post-education to assess planned changes in clinician practice. Survey participants were contacted 8 weeks later to assess self-reported actual changes in practice.

In total, 1,239 clinicians completed the initial PCA questionnaire (275 OB/Gyn physicians, 142 OB/Gyn NPs and PAs, 446 PCPs, and 376 NP/PA in the primary care setting).

Of those, 1,171 (95%) indicated they planned to make changes 3,610 changes were planned, an average of 3.1 per completer

Of immediate PCA completers, 92 completed the follow-up PCA 89 completers (97%) made 331 changes in practice, an average of 3.7 changes per completer

Most common changes in practice: better screening for new mothers and those with abnormal uterine bleeding for anemia, consideration of IV iron in various cases, and improved counseling of patients related to causes and symptoms of IDA.

The outcomes gathered in this assessment provide compelling evidence that participation in an online CME activity can be successful at prompting changes in practice, and in this case prompted clinicians in the OB/Gyn and primary care setting to provide better care for women with or at risk for IDA.

224 WHAT ARE NEPHROLOGISTS’ PREFERENCES RELATED TO CONTINUING MEDICAL EDUCATION?: Amy Larkin1, Don Blatherwick1. 1Medscape Education, New York, NY, United States

Understanding how clinicians prefer to learn and participate in continuing medical education (CME) can help providers of such education design more engaging and effective activities that can potentially further improve nephrologists’ clinical performance.

Medscape conducted a 10 question, online, incentivized survey in November 2018. Respondents’ confidentiality was maintained and responses were de-identified and aggregated prior to analyses.

100 Nephrologists completed the survey Most preferred duration for a CME activity: 30 minutes (51%) Followed by 15 minutes (31%) Most preferred format for a CME activity: online (70%) Followed by live events at a medical conference (13%) Most preferred format for an online CME activity: video or text (45% each) For online CME, most preferred instructional design format: case-based (56%) Most important factors in selecting online CME activities: content description (60%) and learning objectives (56%) The most important factors in selecting which symposia to attend at a scientific congress were content description (60%), learning objectives (41%), and faculty (37%) Most common ways of becoming aware of available professional education activities: invitation from online providers (79%) and societies (74%) The majority of participants reported that in the past 12 months they have learned something from CME that changed their practice (86%) Serial learning is more impactful and clinically meaningful than a single activity (80%)

CME activities have an impact on changing clinician practices. Learner preferences for nephrologists related to live and online CME were identified. Most prefer participation in multiple activities that are online, 15-30 minutes, case-based, video and text. Content description, learning objectives, and faculty play an important role in learner participation. These data should inform development of future CME activities that are engaging and impactful.