

## College of Nursing Scholarship Showcase

### Poster Presentation Abstracts

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**271** Abstract Title: **Educational Needs for Bone Marrow Transplant Patients: A Review of the Literature**  
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**Abstract:** Bone Marrow Transplantation (BMT) is a complex medical procedure used to restore marrow function in refractory hematopoietic conditions. Despite advancements in transplantation standards, complications still include risk for infection, graft vs. host disease, and chemotherapy-induced organ toxicity; all of which can increase morbidity and mortality. The emotional burden of diagnosis, complexity of the procedure, and low patient health literacy all impede obtainment of true informed consent. Additionally, long-term side effects and repeated follow up appointments can have profound effects on patient quality of life (QOL). Comprehensive educational interventions allow patients to be empowered with the knowledge needed for decision-making throughout the transplant process. The aim of this review was two-fold: gather evidence on educational needs for patients receiving BMT and determine key concepts for developing a BMT patient education program. Articles published after 2005 were searched from EBSCO Host, CINAHL, PubMed, Google Scholar, and ancestry search using the following search terms: patient education, bone marrow transplant, hematopoietic stem cell transplant, transplant, quality of life, and informed consent. Included articles focused on patients aged 19 and older. Literature supports the use of educational interventions that assess individual patient learning needs. Educational delivery should tailor to individual health literacy levels and format preferences. Information delivered in short sessions throughout the transplant process is preferable. Patients identified physical care, symptom management, and psychosocial concerns as priority educational needs. Caregiver presence at time of educational intervention offers patient support and promotes patient understanding. Nurses are influential in the education process, as they often encounter patients throughout the pre-, intra-, and post-transplant phases. Different educational needs exist at all phases of the transplant process, and nurses are essential in assessing for interventional need. BMT patient education programs that use clear communication and evaluate patient understanding can positively impact the transplant process by assisting patients in making informed treatment decisions that coincide with their unique perceptions of QOL.

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**Literature or evidence review**  
**DNP**

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## College of Nursing Scholarship Showcase

### Poster Presentation Abstracts

<b>272</b> Abstract Title:	<b>The Mediator Effects of Depressive Symptoms on the Relationship between Family Function and Quality of life in Caregivers of Patients with Heart Failure</b>
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<p><b>Abstract:</b> Background: Family caregivers of patients with heart failure (HF) report poor quality of life, depressive symptoms, and psychological disturbance related to caregiving. There is limited understanding about the role of depressive symptoms in the relationship between family function and quality of life. Objective: The purpose of this study was to examine the direct effect of family function on quality of life, and the mediator effect of depressive symptoms on the association between family function and quality of life in caregivers of patients with HF. Method: We performed a secondary analysis of data from caregivers of outpatients with HF. Caregivers completed measures for depressive symptoms, family functioning and quality of life. A series of multiple regressions tested the direct effect of family function and the mediator effect of depressive symptoms. Results: Caregivers (n = 143) were Caucasian (83%) females (75%) aged 56 + 14 years. General family functioning predicted caregiver quality of life (<math>\beta = -.329</math>, <math>p = 0.05</math>) and depression (<math>\beta = .468</math>, <math>p &lt; 0.001</math>). Depression predicted caregiver quality of life (<math>\beta = -.798</math>, <math>p &lt; 0.001</math>). The effect of general family functioning on caregiver quality of life was not significant (<math>\beta = .028</math>, <math>p = .814</math>) when both general family functioning and depression were included; a model with only general family functioning was significant (<math>\beta = -.329</math>, <math>p = 0.05</math>). Thus, depression mediated the relationship between family functioning and caregiver quality of life. Conclusion: Interventions to improve caregiver depression and family interactions may enhance caregiver quality of life.</p>	
Supported by:	NIH/NINR K23 NR 010011 (Chung, M. L., PI) NIH/NINR P20 NR 010679 (Moser, D. K, PI and P-20 Center Director)
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## College of Nursing Scholarship Showcase Poster Presentation Abstracts

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**273** Abstract Title: **Cervical cancer screening among African immigrants: State of the Science**

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**Abstract:** Globally, 530,000 women per year are diagnosed with cervical cancer, and around 275,000 die from the disease. Routine pap screening may reduce the burden of cervical cancer morbidity and mortality through early detection and improved treatment outcome. African immigrant (AI) women in the U.S may be disproportionately affected by cervical cancer but there is gap in our knowledge of factors contributing to this disparity. This systematic review evaluates the state of cervical cancer screening research in AIs and identified the gaps. Through a comprehensive literature search of PubMed, Web of science, Google scholar, Ovid Medline and CINHALL, we identified 16 studies published between 2005 and 2015 focused on Pap screening among African immigrants. Ten of these studies were conducted in the United States. This review highlights a paucity of research specific to AIs despite growing number of this group in the developed countries. Cervical cancer research in this population is at a rudimentary stage; two intervention studies were identified. This review reveals a low screening adherence rate among AIs. The common factors influencing Pap screening practices among AIs included immigration status, health care interactions, knowledge deficiency, religiosity and certain personal characteristics. A multilevel approach to address the factors influencing screening practices among AIs is essential for improving adherence to screening guidelines. Implementation of grassroots education and screening programs is warranted in this population to decrease the screening disparity experienced by this burgeoning population. Researchers are encouraged to pilot test innovative interventions to determine cultural suitability and effectiveness in this population.

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**PhD**

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## College of Nursing Scholarship Showcase

### Poster Presentation Abstracts

**274** Abstract Title: **The Association of Prenatal Tobacco Use and Immune Response in the Development of Hypertensive Disorders**

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**Abstract:** Purpose: Changes in the inflammatory milieu of maternal tobacco users has been associated with the development of hypertensive disorders in pregnancy. Prenatal tobacco use is associated with a 33% risk reduction of the development of preeclampsia. The purpose of this project was to compare trimester-specific immune response between tobacco users and non-users in the development of a hypertensive disorder during pregnancy. Study Design: This was a planned secondary analysis of a prospective, multi-center study of pregnant women with a singleton gestation. Maternal serum was collected during each trimester. Cytokines (IL-1 $\alpha$ , IL-1 $\beta$ , IL-2, IL-6, IL-8, IL-10, TNF $\alpha$ , CRP and MMP 8 were measured using multiplex beadlyte assay on a Luminex IS-100. Women were excluded if they had a preexisting hypertensive disorder. Participants who developed preeclampsia or pregnancy-induce hypertension were selected for the hypertensive disorder grouping and their smoking status was recorded. Statistical analysis was performed using SAS 9.5. Results: Serum specimens were obtained in 284 prospectively-followed patients. Of those, 37 developed a hypertensive disorder. Overall, significant difference existed in first trimester with IL-1 $\alpha$ , IL-1 $\beta$ , and IL-10. Further, in a subsample of women with HTN, second trimester serum IL-8 was significantly elevated in smokers (Median= 29.90; IQR = 4.76 – 95.10), compared to non-smokers (Median= 5.08, IQR = 2.85 – 14.57; Chi-sqaure=4.33, p = .038). Conclusion: In the mid-trimester, women who smoke during pregnancy experience a heightened proinflammatory response (IL8) when compared to women who do not smoke. Although prenatal tobacco use may be protective for the development of preeclampsia, further studies are warranted to evaluate the association of this immune dysregulation on development of hypertensive disorders.

Supported by: National Institutes for Health Building Interdisciplinary Research Careers in Women's Health (BIRCWH: K12DA14040). Center for Biomedical Research Excellence (COBRE: 5P20GM103538). University of Kentucky Clinical and Translational Research Center KL2RR033171. National Center for Advancing Translational Sciences, National Institutes of Health, through grant number UL1TR000117. The content is solely the responsibility of the authors and does not necessarily represent the official views of the NIH.

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## College of Nursing Scholarship Showcase

### Poster Presentation Abstracts

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**275** Abstract Title: **Critical-Care Pain Observation Tool (CPOT) Implementation**  
Author(s): C.A. Goe, Department of Nursing, U of Kentucky

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**Abstract:** Pain is an unpleasant sensory, emotional and physiologic experience that results in multiple endogenous catecholamine stress responses (Gélinas, Fortier, Viens, Fillion, & Puntillo, 2004; Pandharipande, Patel, & Barr, 2014). In intensive care units, patients often experience moderate to severe pain at rest, with movement, and with procedures (Barr et al., 2013; Gélinas et al., 2004; Pandharipande et al., 2014). The 2013 clinical practice guidelines for pain, agitation, and delirium (PAD), from the American College of Critical Care Medicine, recommends the utilization of either the Critical-Care Pain Observation Tool (CPOT) or the Behavioral Pain Scale (BPS) for critically ill adult patients that are “unable to self-report” (Barr et al., 2013). Consistently, the CPOT has remained valid and comparable, if not more discriminant in identifying no pain versus pain, than other behavioral pain assessment tools, such as the Behavioral Pain Scale (BPS) (Boitor, Fiola, & Gelinas, 2015; Chanques et al., 2014; Echegaray-Benites, Kapoustina, & Gelinas, 2014; Herr et al., 2006; Rijkenberg, Stilma, Endeman, Bosman, & Oudemans-van Straaten, 2015). This evidence supports the implementation of the CPOT for assessing and managing pain in critically ill adults without brain injuries. Successful implementation of the CPOT for assessing and managing pain must include a multidisciplinary comprehensive approach. Collaboration with and education of providers, pharmacists, nursing staff and leadership, and information technology technicians is essential to accomplishing a sustainable change in practice. A comprehensive education program will include elements that focus on both knowledge development and competency achievement. Conducting pre- and post-implementation record reviews will determine the successful implementation of the CPOT and identify the driving force of pain management. Because the identification of pain drives the titration of analgesics and directly affects the patients morbidity and mortality, it is critical that implementation of the CPOT demonstrates not only improved pain identification but also improved patient outcomes (Herr et al., 2006; Shannon & Bucknall, 2003).

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## College of Nursing Scholarship Showcase

### Poster Presentation Abstracts

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**276** Abstract Title: **Childhood Bullying: Assessment Practices and Predictive Factors Associated with Assessing for Bullying by Health Care Providers**

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Author(s): V. Hensley, College of Nursing, U of Kentucky

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**Abstract:** Childhood bullying affects over 25% of today's youth and causes up to 160,000 missed school days per year. Bullying causes short and long term adverse effects to both mental and physical health. Many organizations encourage healthcare providers to take an active role in bullying prevention. However, there has been little research into the role of primary healthcare providers regarding childhood bullying and the effectiveness of different approaches to screening and management. Therefore the purposes of this research were to a) explore childhood bullying and the role of the healthcare provider in bullying prevention, and b) develop and evaluate the psychometric properties of Hensley's Healthcare Provider's Practices, Attitudes, Self-confidence, & Knowledge Regarding Bullying Questionnaire. Pediatric healthcare providers were asked to participate in this study if they conducted well-child exams on a weekly basis. Information on the provider's current bullying assessment practices, attitudes, self-confidence, and knowledge regarding bullying was gathered. Results indicated that approximately one-half (46.6%, n=55) of the healthcare providers reported assessing their patients for bullying behaviors during well-child exams. The strongest predictor of positively assessing for bullying was attitudes, recording an odds ratio of 1.24. This indicated for every one-unit increase in attitudes score, the odds of assessing for bullying will be 24% higher. The odds ratio of self-efficacy or self-confidence was 1.18, indicating that for every one-unit increase in self-efficacy score, the odds of assessing for bullying will be 18% higher.

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## College of Nursing Scholarship Showcase Poster Presentation Abstracts

**277** Abstract Title: **Gender moderates the associations between caregiving and health status in caregivers of stroke patients**

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**Abstract:** Background: Women who are caregivers report more burden than men in similar caregiving situations. The purpose of this study was to examine whether gender moderates the association between caregiving and health status based on relationship of caregiver with stroke patients (spouse vs. non-spouse) and caregiver being of the same or opposite gender as patient. Method: Caregivers (N=277, 74% female, mean age 53 years) of stroke survivors completed questionnaires. Difficulty and time spent with caregiving tasks were assessed using the Oberst Caregiving Burden Scale. Perception of life changes due to caregiving was assessed using the Bakas Caregiving Outcome Scale. Health status was assessed using a visual analog scale of the Euro Quality of Life questionnaire. Hierarchical multiple regressions were used with an interaction variable (gender x caregiving). Results: Longer time caregiving, difficulty of caregiving tasks, and negative changes in life were significantly associated with poor health status. Significant gender moderation was found for spousal caregivers. For female spousal caregivers, there were strong associations between difficulty of caregiving tasks and health status, and between perception of life changes and health status, but not for male spousal caregivers. Similar results were also found for caregivers who were the opposite gender from patients. Conclusion: Gender in caregiver and patient, and relationship with stroke patients may be beneficial to identify caregivers at high risk of poor health. Further research is needed to examine the dynamics that influence caregiving relationships to be able to individualize interventions responsive to gender and relationship of caregiver to patient.

Supported by: This research was funded by the National Institutes of Health, National Institute of Neurological Disorders and Stroke R01 NS39671 (Dr. Linda Williams, PI).

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## College of Nursing Scholarship Showcase Poster Presentation Abstracts

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**278** Abstract Title: **Impact of Kentucky Governor Beshear's Tobacco-Free Executive Order**

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**Abstract:** The purpose was to examine the impact of Kentucky Gov. Beshear's Executive Order prohibiting all tobacco use on Executive Branch property on employees' self-reported tobacco use, intention to quit, and policy adherence. Five states in the U.S. have adopted similar policies; this is the first evaluation of a tobacco-free campus policy implemented by a state government. We hypothesized that fewer employees would use tobacco, and more tobacco-using workers would intend to quit and adhere to the policy over time. An accessible population of 27,000 Kentucky Executive Branch employees were invited to participate in two cross-sectional online surveys, one in March 2015 (N = 4,854) and another in August 2015 (N = 3,522), assessing tobacco use, intention to quit, and policy adherence. Current cigarette use ( $p = .004$ ) and smokeless tobacco use ( $p = .028$ ) declined from March to April 2015. There was no change in the percentage of current cigarette smokers who planned to quit in the next 30 days. Employees using any tobacco products were more likely to plan to quit in August compared to March ( $p = .022$ ). On average, 63% of cigarette-using employees and 70% of other tobacco-using-employees reported adhering to the policy. Tobacco use by Executive Branch employees declined significantly after the Executive Order took effect. Consequently, given the 20% cost differential between self-reported tobacco users and non-users, there is potential for long-term cost savings by the Kentucky Employees Health Plan as a result of reduced tobacco use.

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Supported by: Funding request to the Kentucky Office of Health Policy, HHS Secretary

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## College of Nursing Scholarship Showcase

### Poster Presentation Abstracts

**279** Abstract Title: **Promoting Tobacco Cessation through Community Partnerships to Support the Kentucky Quitline**

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**Abstract:** Smoking is the single most preventable cause of death in the U.S. and is responsible for a significant proportion of deaths due to cardiopulmonary diseases and cancer. The annual economic burden of smoking in the U.S. due to medical costs and productivity losses is estimated to be nearly \$193 billion. Reducing smoking by promoting cost effective tobacco cessation methods is a priority public health goal for public health officials. Kentucky's statewide telephone Quitline offers proactive telephone cessation counseling, as well as nicotine replacement products and prescription pharmacotherapy for tobacco treatment. The purpose of this research study is to learn what stakeholders believe are the barriers and facilitators to supporting the Kentucky Quitline to promote tobacco cessation for their members. We will share our recent Return on Investment (ROI) analysis of Kentucky's Quitline from 2012-2014, providing evidence that the Quitline is cost-effective in helping smokers quit. Increasing the annual Quitline budget could improve the reach and quality of tobacco treatment resources, leading to an even greater rate of cessation, therefore further increasing the ROI. We will conduct focus groups with key informant policymakers employed with Medicaid managed care organizations, private insurance providers, insurance brokers, Kentucky Employees Health Plan (KEHP), Department of Insurance, and large employers. Finally, the researchers will use information gleaned in the focus groups to develop an action plan to promote public-private partnerships to support the Quitline.

Supported by: Kentucky Department of Public Health, Cabinet for Health and Family Services, Tobacco Prevention and Cessation Program  
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**Research project in process**  
**PhD**

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## College of Nursing Scholarship Showcase

### Poster Presentation Abstracts

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**280** Abstract Title: **Radon Reduction: Taking Action for a Healthy Home in the Primary Care Setting**

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**Abstract:** Radon is the second leading cause of lung cancer. There is a synergistic effect of radon and tobacco smoke exposure; most of the radon-induced lung cancers are among those also exposed to tobacco smoke. Eliminating exposure to radon and smoking in the home has potential to prevent lung cancer. While the Appalachian regions of Kentucky contribute to the vast majority of lung cancer incidence and mortality in the state, there is a lack of radon testing in the region. The purpose of the pilot study was to: (a) describe the percent of rural Appalachian clinic patients who tested their homes for radon; and (b) examine factors associated with home radon testing. The prospective non-experimental design used convenience sampling to recruit clinic participants. Patients were offered free radon test kits and invited to complete a brief paper-pencil survey in the clinic. There were no incentives for testing or completing the survey. Fifty-eight patients completed the survey and 28 (48%) of those completed home radon testing. Radon levels ranged from 0.7-19.5 pCi/L. Eight participants had home radon levels that exceeded the EPA action level (> 4.0 pCi/L). There were no differences in perceived lung cancer risk, seriousness of radon illnesses, or synergistic risk perception between those who tested and did not test for radon in the home. Results suggest that offering free radon test kits in the primary care setting is an effective measure to increase home radon testing. More research is needed to understand the factors associated with radon testing and mitigation in Appalachian Kentucky.

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## College of Nursing Scholarship Showcase Poster Presentation Abstracts

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**281** Abstract Title: **Why Don't Heart Failure Patients Respond to Worsening Symptoms?**

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**Abstract:** Background: Long delays in seeking medical care are common in patients with worsening symptoms of heart failure (HF) and lead to longer lengths of hospital stay, increased healthcare costs, and increased morbidity and mortality. However, patient-reported reasons for delay have rarely been explored. Objective: To describe patient-reported reasons for delay in seeking medical care for worsening symptoms. Methods: As part of a clinical trial designed to reduce HF readmission and mortality for worsening symptoms, we administered the HF Symptom Response Questionnaire to all patients prior to intervention. The instrument measures reasons why patients delay seeking treatment. All patients had a recent hospitalization for HF, were community dwelling in a rural location, and had no cognitive impairments as measured with the Mini-Cog. Results: A total of 614 HF patients (59% male, 35% NYHA class III/IV, 19% without a high school education, mean age 66±13 years) were studied. The most common reasons for not seeking early treatment were symptom uncertainty (62.4%), symptoms seem vague or came on too gradually (67.4%), symptoms slightly different from last episode (55.2%) and the symptoms didn't seem to be serious enough (62.2%). Other reasons include embarrassment at seeking treatment (23.9%), not wanting to second guess the doctor (21.7%), financial concerns (19.9%), transportation issues (16.4%), and other (10.7%). Conclusions: Despite experiencing worsening HF symptoms of such intensity that hospitalization is required, most patients do not perceive that symptoms are intense or certain enough to warrant action. In many, treatment seeking decisions are superseded by factors not related to symptom appraisal such as family obligations, fear or denial, and embarrassment. Education to improve response to worsening HF symptoms requires skills in symptom appraisal, and counseling to overcome personal barriers to seeking treatment.

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Supported by: This study was funded by the National Heart, Lung, and Blood Institute and the National Institute of Nursing Research (5R01HL83176-5)

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## College of Nursing Scholarship Showcase

### Poster Presentation Abstracts

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**282** Abstract Title: **Health Status Of Kentucky's Senior Farmers**

Author(s): D. Reed, College of Nursing, U of Kentucky

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**Abstract:** Introduction: Kentucky is home to 76,064 farms that exceed five billion dollars in sales per year. For farmers, health is the ability to work and the culture of farming regards this work as a lifestyle. Farming is a hazardous occupation and farmers age 55 and over suffer the highest fatality rates. The average age of a KY farmer is 58. The bulk of past research has focused on farm injuries, less is known about the health status of senior farmers. Purpose: To better understand the health risks that farmers over the age of 50 in Kentucky face so healthcare needs can be better met. Objective: To present a portrait of senior Kentucky farm couples' health. Methods: Secondary analysis of a telephone based survey to a cohort of 1,216 farmers in Kentucky. Results: The average age of participants in the study was 65. The average number of reported health conditions was 3.2. The leading health conditions of farmers age 50 and over were arthritis (44%), hypertension (44%), back problems (27%), hearing problems (20%), vision problems (19%), and heart conditions (17%). Of these leading health conditions, arthritis was statistically significant for females. Conclusion: Farmers continue to work despite age and chronic health conditions. These findings can support health care tailored to the Kentucky farm population.

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**Literature or evidence review**  
**BSN**

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## College of Nursing Scholarship Showcase

### Poster Presentation Abstracts

**283** Abstract Title: **Dietary sodium intake is predicted by anti-hypertensive medication regimen in heart failure patients**

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**Abstract:** Background: Adherence to low-sodium diet is crucial to heart failure (HF) self-management. Angiotensin converting enzyme inhibitors (ACEi) decrease salt taste perception and can potentially increase dietary sodium intake in patients taking ACEi. We hypothesize that HF patients on ACEi will have higher sodium intake as indicated by sodium density. Objective: To examine whether having a prescribed ACEi was associated with increased dietary sodium density. Methods: In this secondary analysis of data from HF patients in an observational longitudinal study, dietary sodium intake was measured from 4-day food diaries. Dietary sodium density was calculated as averaged sodium intake divided by averaged kilocalories consumed. Prescribed medications were ascertained through medical chart review. Patients were categorized into 2 groups: those prescribed and not prescribed ACEi. We used t-tests to compare sodium intake between groups. Linear regression was conducted to determine whether prescribed ACEi independently predicted sodium density controlling for age, gender, New York Heart Association Class, and prescribed diuretics and beta blockers. Results: Of 262 HF patients (age  $61 \pm 12$ , 68% male), 76% were prescribed a diuretic, 89% a beta blocker, and 68% an ACEi. Patients prescribed ACEi consumed 13% more sodium per kcal than those not prescribed ACEi (1.8 mg Na/kcal vs. 1.6 mg Na/kcal,  $p = .001$ ). Prescribed ACEi independently predicted dietary sodium density ( $\beta = .207$ ,  $p = .002$ ). Conclusions: The results support the hypothesis that patients on an ACEi have higher sodium intake. Research is needed to explore HF patients' salt taste perception to better understand associations between medication regimen and sodium intake.

Supported by: This project was a secondary analysis of data from a study supported by funding from NIH award: R01 NR 009280 and P20 NR010679. It was also funded by Clarion Health Partners (Indiana) and GCRC award: UK: M01RR02602, Emory: M01RR0039, and Indiana: MO1 RR000750.

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