

2026 Research Day Winners

**Mark A. Connoly, MD, Award for Best Overall Research Presentation
And Best Resident Research Presentation**

A Pilot Study on Psychological Safety and The Johari Window: An Intentional Approach to Safe Spaces for Learning

Lauren Woolhiser, MD

Lehigh Valley Health Network Family Medicine Residency, Allentown

Abstract:

Throughout medical education, students experience numerous learning environments, both positive and negative. Psychological safety allows for “feeling able to show oneself without fear of damage to self-image, status, or career”. The Johari Window is a grid-model for self-awareness corresponding to behaviors or information that are either known or hidden to self and others. Our aim is to develop a psychologically safe learning environment through an intentional approach that increases student willingness to ask questions and participate in teaching rounds. This approach also seeks to expand the Johari Window Open Quadrant by encouraging students to express more of their interpersonal qualities.

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A knowledge test on the Johari Window with 6 short-answer and 5 multiple-choice questions was completed by faculty and residents (i.e., teachers) rotating on the Family Medicine Inpatient Service. Prior to the intervention, teachers taught students as usual. The intervention began when teachers received an educational slide deck on psychological safety with recommended prompts. Before starting the inpatient week, students received a pre-survey assessing self-awareness of Johari Window quadrants and prior experiences in medical teaching environments. Students also completed a post-survey on the last day that assessed knowledge gaps, comfort in rounds, willingness to ask questions, and changes in self-awareness.

A total of 19 participants completed pre-intervention surveys and 25 completed surveys post-intervention. The average Johari Window Test score across teachers was 84%. Thirteen students responded to the Johari Window survey. There was a statistically significant median decrease in the hidden quadrant post-intervention (pre-Mdn = 30% vs post-Mdn = 15%, $z = -2.77$, $p < .05$) but no significant increase in the open quadrant. The blind and unknown quadrants decreased, suggesting greater student self-awareness after

the learning experience. Students reported increased willingness to disclose learning gaps at week's end (Mdn = 8 vs 6; $z = -2.19$, $p < .05$).

Judges: *"I liked the QR code included for more information."*

"One of the best presentations I have seen at these events."

"Great presentation; relevant to any training environment."

Oral Presentations

Best Student Research Presentation

Beyond the Cure: Survivorship Symptoms After RAI Treatment for Thyroid Cancer in Premenopausal Women

Priya Devanarayan and Meghan Hartman

Penn State College of Medicine, Hershey

Abstract:

Radioactive iodine is commonly given after thyroid cancer surgery and is generally considered low risk. Its use in premenopausal women, however, is increasingly debated. Most research has focused on cancer outcomes, fertility, or short-term psychological effects, with limited attention to symptoms relevant to primary care after treatment. Longer-term survivorship symptom burden, mental health outcomes, and outpatient care needs in this population remain poorly described. This study examines whether radioactive iodine treatment after thyroid cancer surgery in premenopausal women is associated with increased symptom burden, new mental health diagnoses, and greater primary care utilization within the first year following treatment.

This retrospective cohort study used the TriNetX research database to compare premenopausal women (ages 18-49) diagnosed with thyroid cancer (ICD-10 C73) and received thyroid surgery, by presence or absence of radioactive iodine treatment codes. Propensity score matching balanced baseline demographics and comorbidities. Outcomes assessed within one year of the index visit included new diagnoses of fatigue and malaise, anxiety disorders, depressive episodes, sleep disorders, cognitive symptoms, and outpatient primary care utilization. Risk ratios (RR) with 95% confidence intervals (CI) compared outcomes among cohorts.

Among 10,822 matched patients, those who received radioactive iodine experienced higher rates of fatigue and malaise (RR: 1.239, 95% CI: 1.031 - 1.490; $p = 0.0223$), depressive episodes (RR: 1.344, 95% CI: 1.043 - 1.732, $p = 0.0217$), sleep disorders (RR: 1.281, 95% CI: 1.006 - 1.630, $p = 0.0441$), and outpatient primary care visits (RR: 1.476, 95% CI: 1.330 - 1.638, $p < 0.0001$). These findings highlight that premenopausal thyroid cancer survivors who receive radioactive iodine may require closer symptom monitoring and additional primary care support during survivorship.

Judges: *"Unique study – interesting topic."*

"Well organized and documented."

"Well spoken, extremely systematic review!"

Poster Award Winners:

Quality Improvement

The Penn Family Care PAP Project: A QI Project to Increase PAP Smear Follow-up

Gabriele Ruzgas, MD and Camara Perkins, MD

University of Pennsylvania Family Medicine Residency

Abstract: Cervical cancer is the 2nd most common cancer in people with cervixes. The HPV vaccine is effective in preventing cervical cancer, however, only about 60% of U.S. adolescents were vaccinated in 2024. Therefore, cervical cancer screening remains critical in detecting abnormalities before they progress to cancer. The EPIC medical record system now includes a “pap tracker” that allows clinicians to input appropriate follow-up, which ensures that patients due for screening or management are identified. Our objective was to educate clinicians on use of pap tracker and reduce abnormal pap smear results without pap tracker input to less than 10%.

We used the EPIC medical record system “Slicer Dicer” tool to generate a report of all the pap smears completed in a 4 week period, which included data on whether pap tracker was utilized. For pap smears without pap tracker utilization, we individually contacted the ordering provider with information on the pap tracker function and encouraged them to update it. After at least one month later, we generated a report on the same 4 week period to assess if pap tracker use increased. This was completed for two separate 4 week periods.

By educating clinicians about pap tracker and individually contacting clinicians that had not utilized it, we were able to decrease the proportion of abnormal pap results without pap tracker follow-up from over 20% to less than 10%. Our next steps will include establishing sustainable training sessions regarding pap tracker and having office staff generate monthly reports to identify pap results without pap tracker follow-up. Ultimately, the goal is to have every abnormal pap with a pap tracker follow-up so that we can begin to track and contact patients that are in need of colposcopies.

Judge: “Good ideas and plan for maintaining improvement in the future. Excellent Answers to questions. Poster was clear and easy to understand. Ran multiple cycles and recognized need to repeat intervention.”

Community/Public Health

Narcan Stories Reversing Overdose in a Time of Expanding Naloxone Access

Katherine Taylor, DO

Lehigh Valley Health Network Family Medicine Residency, Allentown

Abstract: Lehigh County Coroner data showed an average of 155 overdose deaths annually between 2019-2022. In response, public health initiatives prioritized community overdose prevention focused on increasing naloxone access and disseminating community training for overdose reversal. This study's objective is to explore the impact of these efforts on a

high-risk population by describing individual experiences of naloxone use during a unique period of shifting naloxone availability.

For this narrative study, members of a mobile harm reduction team recruited a convenience sample of 12 individuals who had used naloxone to reverse an overdose. Participants were over 18, English speaking, and not medically trained. A series of open-ended questions was used to describe what they know about Narcan, its use in opioid-related overdose, and their experiences with Narcan if any. Interviews were recorded, transcribed, then deidentified. Three researchers coded transcripts for themes. Themes are being analyzed and presented to community members to describe key elements of community response in their collective body of Narcan Stories.

Interviews revealed a wide variety of experiences, including successful and unsuccessful attempts at overdose reversal, for people they knew and for strangers, motivated by love, community connection or a sense of doing the right thing. While participants described a wide range of emotions, most described overcoming fear by drawing on internal resources or community support. Many appreciated the increased availability of naloxone and expressed love of their community as a driving force behind their actions. These stories are the threads that weave a rich tapestry of community belonging, bravery, and willingness to use public health resources to save lives.

Judge: "Very passionate about the project. Project directly addresses equity and establishes a longevity plan."

Case Presentation

Delayed Recognition of Hydralazine-Induced Lupus with Overlapping ANCA-Associated Vasculitis

Bhavana Patil, MD and Alexander Tejada, DO
Temple Northwest Family Medicine Residency

Abstract: Hydralazine-induced lupus is a rare but potentially severe adverse drug reaction that may involve renal and central nervous system manifestations. Delayed recognition, particularly in community hospital settings with limited access to rheumatology consultation, can result in irreversible morbidity. This case highlights the importance of early clinical suspicion for drug-induced and idiopathic rheumatologic disease by primary inpatient teams. A 57-year-old woman with a history of right-sided stroke with residual left-sided deficits, Factor V Leiden heterozygosity on clopidogrel, hypertension, type 2 diabetes, hypothyroidism, and PCOS presented with acute right-sided weakness and was found to have multiple left middle cerebral artery infarcts.

During hospitalization, she developed progressive acute kidney injury and prolonged altered mental status. Nephrology consultation was obtained due to worsening renal failure, raising concern for glomerulonephritis secondary to systemic lupus erythematosus or drug-induced lupus. On day 13 of hospitalization, home hydralazine was discontinued and dialysis was started. Her encephalopathy was suspected to be secondary to inflammatory vasculitis or cerebritis. Serologic testing demonstrated markedly positive c-ANCA and p-ANCA, anti-double-stranded DNA antibodies, low complement levels

(C3/C4), anticardiolipin IgM, and beta-2 glycoprotein-1 IgM. Notably, anti-histone antibodies were negative, an uncommon finding in hydralazine-induced lupus, suggesting overlap with ANCA-associated vasculitis.

The patient was transferred to a tertiary care center for rheumatologic evaluation. Lumbar puncture revealed elevated cerebrospinal fluid IgG, positive RNP, and positive SSA antibodies. Kidney biopsy and repeat lumbar puncture were recommended for definitive diagnosis. Empiric corticosteroids were initiated with minimal improvement in mental status, likely limited by extensive stroke burden. Ultimately, further diagnostic evaluation was deferred as the patient was transitioned to hospice.

This case underscores the need for early recognition of hydralazine-induced lupus and overlapping autoimmune syndromes. Prompt medication review and clinical suspicion by primary teams may facilitate earlier diagnosis, treatment, and prevention of irreversible end-organ damage.

Judge: *“Great response to social structure and support.”*

Innovative Curriculum Design

Lifestyle Medicine Nutrition Curriculum Impact on Family Medicine Resident Knowledge, Confidence and Counseling Performance

Luana Borges, MD

Jefferson Einstein Montgomery Hospital Family Medicine Residency

Abstract: Nutrition counseling is an important part of preventive care and chronic disease management, yet many Family Medicine residents receive limited formal training in this area. Lifestyle medicine education may help close this gap by improving residents' preparedness to counsel patients on nutrition. The objective of this study is to evaluate whether a structured lifestyle medicine nutrition curriculum improves resident knowledge, confidence, and counseling skills related to nutrition.

This educational study is conducted within a single Family Medicine residency program. Residents participate in a structured nutrition curriculum that includes self-directed learning, faculty-led teaching sessions, and a hands-on group activity focused on practical nutrition education. Resident knowledge and confidence are assessed before and after the curriculum using surveys. Counseling skills are evaluated through a simulated patient encounter conducted after curriculum completion.

We anticipate that residents will demonstrate increased nutrition knowledge and improved confidence in providing nutrition counseling after completing the curriculum. We also expect residents to show stronger counseling skills during simulated patient encounters. These findings suggest that a structured lifestyle medicine nutrition curriculum may enhance resident preparedness to address nutrition-related health concerns in clinical practice.

Judge: *“Although conclusions are not yet complete, the project design is thoughtful and comprehensive.”*

Traditional Research Design

Association of Clonidine on Menopause Symptom Control Compared to Hormone Replacement Therapy among Peri- and Post-Menopausal Women: A Retrospective Cohort Study

Ilana Mereminsky, BS

Drexel University College of Medicine

Abstract: Hormone Replacement Therapy (HRT) is the first-line treatment for menopause symptoms, including hot flashes, mood and sleep disturbances. While effective, this treatment can lead to adverse effects like increased risk of certain cancers and cardiovascular disease. We aimed to compare the effectiveness of clonidine, an anti-hypertensive, and HRT on the resolution of menopausal symptoms.

The TriNetX research database was used to collect data from women 40 and over during peri- or postmenopause and experiencing at least one symptom of menopause, including hot flashes, mood, and sleep disturbances and taking clonidine as monotherapy. The comparison group consisted of women with similar age and symptom profile and taking HRT.

The patient population was 74,708 with 37,354 each in the Clonidine and HRT (control) group. The mean (\pm SD) age of each was 66.3 (\pm 11.2) and 66.4 (\pm 11.4), $p=0.04$. The majority of patients were white (68.8% vs. 69.69%, $p=0.0083$) and non-hispanic (71.34% vs. 71.77%, $p=0.19$). Clonidine showed a modest reduction in hypertension (12.33% vs. 11.73% with HRT, $p<0.0001$), but a higher incidence of coronary artery disease (11.56% vs. 5.45%, $p<0.0001$). Clonidine was also associated with significant reduction in menopause symptoms: hot flashes (73.32% vs. 36.24% with HRT, $p<0.0001$), mood disturbances (22.79% vs. 30.76%; $p<0.0001$), but minimal reduction in sleep disturbances (17.13% vs. 17.91%; $p<0.0001$).

This study demonstrated that clonidine and HRT significantly reduced menopause-related symptoms. The resolution of hot flashes was more impactful in the clonidine group compared to HRT, suggesting clonidine may be an effective option for treating menopause, especially in women with whom HRT is contraindicated.

(no judge comment available beyond very high score)