

## Undergraduate Research Symposium May 19, 2017 Mary Gates Hall

### Online Proceedings

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#### POSTER SESSION 1

Commons West, Easel 15

11:00 AM to 1:00 PM

##### **A Descriptive Study Using Automated Pupillometry as a Predictor of Increased Intracranial Pressure in Critically Ill Adult Patients**

*Dina Lorraine Barnes, Fifth Year, Nursing  
UW Honors Program*

*Mentor: JoAnne Whitney, Biobehavioral Nursing & Health Systems*

*Mentor: Patricia Blissitt, Harborview Clinical Education*

Increased intracranial pressure (ICP) is a major cause of secondary neuronal injury after both traumatic and non-traumatic brain injury. Prompt recognition and intervention of increased ICP has been associated with improved neurologic outcomes. Pupillary changes may be an indicator of increased intracranial pressure. However, previous research has shown that the accuracy of assessing pupils with a source of light and the human eye is not a consistently reliable method. Previous studies have reinforced the lack of reliability of this method by showing poor interrater reliability between clinicians. Critical care application of a device referred to as a pupillometer allows objective assessment of pupillary response. There is some consideration that this non-invasive technology does not only quantify pupillary measurement but some pupillometer parameters may be predictive of increased intracranial pressure. Therefore, a hypothesis that automated pupillometry is predictive of increased ICP is warranted. Prospective and retrospective pupillometer data will be collected. Data collection includes: 1) quantitative measurement from the pupillometer and ICP monitoring; 2) qualitative and quantitative data from computed tomography (CT) and magnetic resonance imaging (MRI) reports interpreted by radiologists; and 3) documentation of Therapeutic Intensity Level (TIL) by the critical care nurse as available. We hypothesize that there will be an association between the pupillometer parameters and the other clinical indicators of increased ICP. If confirmed, these findings will provide support for greater clinical application of the pupillometer in the critically ill adult patient with potential or actual increased ICP.

#### POSTER SESSION 1

Commons West, Easel 10

11:00 AM to 1:00 PM

##### **Impact of the Harborview Chronic Pain Self-Management Program on Participants' Quality of Life, Confidence, and Pain Experience**

*Jennifer Michelle Noar, Senior, Nursing  
UW Honors Program*

*Mentor: Debra Gordon, Anesthesiology & Pain Medicine*

*Mentor: JoAnne Whitney, Biobehavioral Nursing & Health Systems*

Chronic pain is a widespread health concern affecting over 100 million Americans nationwide and interfering with all aspects of a person's quality of life. The Chronic Pain Self-Management Program (CPSMP) is a self-management training model involving a six-week long workshop designed for adults with chronic pain conditions to gain the knowledge and skills to manage chronic pain. The CPSMP has been adapted from Stanford's well-researched *Chronic Disease Self-Management Program* (CDSMP) which was found to improve many areas of participants' health status, health care utilization, self-efficacy and self-management behaviors for chronic diseases. However, little to no evidence exists on the program effects for people with chronic pain conditions, leaving the question as to whether CPSMP workshops effectively enable participants to better manage their own health and improve their overall quality of life. The purpose of this study is to assess how effective CPSMP workshops are at improving participants' self-efficacy in managing their pain and overall health status. This study reports on the results of six CPSMP workshops held between October 2015- March 2017 that were offered through Harborview Medical Center (HMC) in partnership with African American Reach and Teach Health (AARTH). Participants in these courses completed pre and post surveys including questions from the PROMIS Scale v1.2 – Global Health, UW Pain Tracker, PHQ-4, and the Perceived Confidence Scale (PCS) to evaluate the experience of pain of each participant, the extent to which their pain limits their daily activities, usage of pharmaceutical pain management methods, and overall usage of medical care before and after their participation in the HMC CPSMP workshops. If the results of this study reveal positive improvements in participants' confidence in their ability to manage their chronic pain conditions, further research may be done to identify the

sustainability and long term outcomes of CPSMP programs.