Announcement of Capstone Presentation

Candidate: Margaret Irleane Dorr

Date, Time, Place: June 30, 2014, 10:00am, ROOM 535

Capstone Project Title: Evaluation of an Education Intervention for Caregivers of Children with Congenital Heart Disease on Warfarin Therapy

Capstone Project Abstract: (You must type your abstract on this form in the space provided)

**Problem:** Oral anticoagulant use has increased exponentially in the field of pediatric cardiology despite the limited numbers of studies that evaluate the effects of this drug on children, or the long-term safety and efficacy of its use. The use of warfarin remains the accepted treatment protocol for children with mechanical valves, prosthetic shunts and some atrial arrhythmias with dosing guidelines inferred from adult data. Moreover, poor compliance with this medication results in inadequate treatment, unexpected complications and may account for increased healthcare utilization and limitations in quality of life. Evidence has consistently demonstrated that caregivers of children experience a knowledge deficit regarding the medication impacting the safety of the children receiving this medication.

**Objective:** The objective of this scholarly project was to evaluate a caregiver’s understanding of the medication warfarin and determine if a formal education intervention would increase the caregiver’s knowledge of this medication.

**Design:** A one group, pre-test/post-test experimental design was used to determine if there was a change in a caregiver’s knowledge of the warfarin therapy after a standardized education intervention was presented. A convenience sample of eight caregivers of children with congenital heart disease or an atrial arrhythmia currently receiving warfarin therapy, and being followed by a pediatric cardiology group in a tertiary care medical center participated in the program.

**Methods:** A Warfarin Knowledge Assessment Test for Caregivers of Children was developed based on published adult knowledge assessment tests. The tool was modified to address the special needs of children and was evaluated for content validity. The resultant tool was a 12-question multiple-choice test that was administered immediately prior to a newly developed standardized warfarin education program and again immediately after the education.

**Results:** The results were positive as median test scores increased from 81.2% before education to 93.8% after education and the Wilcoxon Signed Rank revealed a statistically significant increase in scores with a z=-2.12, p=0.034 and a large effect size (r=.53).

**Implications:** This project demonstrated the effectiveness of standardized warfarin education in a pediatric cardiac ambulatory office as well as documented the on-going need for medication education. Study results support current evidence which indicates caregivers of children on warfarin benefit from a standardized education intervention. The educational intervention was well received by the caregivers. This educational intervention will be integrated as a standard of care at the study site. Future activities based on this study include further refinement of the educational intervention and knowledge assessment test, reproducibility of study results with a larger sample size and development of an educational intervention aimed at the children receiving warfarin.
Capstone Chair (name & title):  Dr. Michele Michael, Assistant Professor

Capstone Advisory Committee Members (names & titles):

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- Member: Dr. Nakia Eldridge, Manager, Pharmacy Operations, UMMS
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