

Background

Chemotherapy-Induced Peripheral Neuropathy (CIPN) is an expected side effect of several chemotherapeutic regimens. The symptoms may include, but are not limited to burning, numbness, tingling, electric shock-like feelings, impaired coordination and altered sense of touch. Symptoms can range from mild to severe and can become debilitating and thus negatively impact quality of life for our oncology patients. This problem was recognized by Cone Health's multidisciplinary Oncology Clinical Performance Improvement (CPI) team and we began to explore the literature. We found an article that documented a knowledge deficit of CIPN in oncology nurses. We received permission from the article's primary author, Madelaine Binner, DNP, MBA, CRNP-BC, to use that validated questionnaire in our study.

Our study objectives:

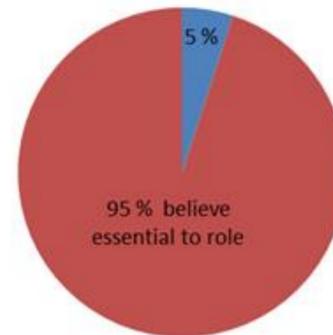
1. Determine the knowledge base and assessment practice patterns of Cone Health oncology nurses.
2. Assess whether or not CIPN education increased Cone Health oncology nurses' knowledge of clinical manifestations of CIPN and the agents most closely associated with it's development.
3. Assess if the educational intervention altered Cone Health oncology nurses' practice behaviors related to assessment and management of CIPN.
4. Assess whether or not CIPN education increased PT/OT referrals.

Methods

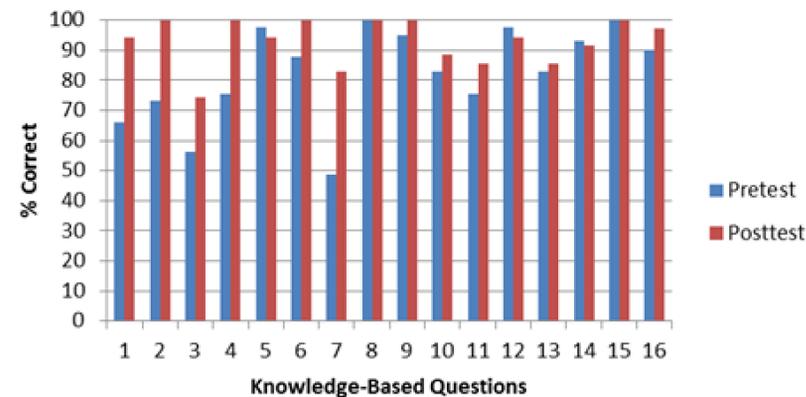
- Inpatient and outpatient oncology nurses surveyed prior to educational seminar.
- Educational seminar conducted by clinical nurse specialist, certified oncology nurses, and physical therapists.
 - 4 classes offered
 - Included weekend and off shifts
- Posttest conducted following seminar.
- Data Analysis:
 - Descriptive statistics
 - Paired *t* tests: 25 matched surveys

Results

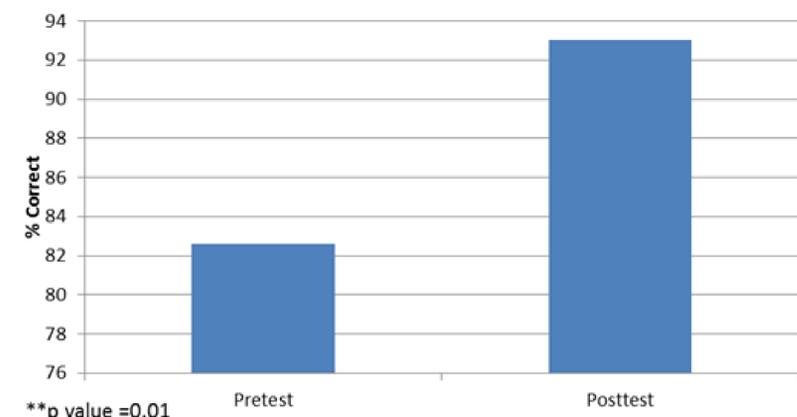
CIPN Essential To Nursing



Individual Questions



Overall Improvement in Knowledge**



Overall value changed from 82.63% (pretest) to 93.04% (posttest)
p-value of 0.01

Discussion

Overall, the education on CIPN showed a significant increase in oncology nurses' knowledge. Therefore, additional education will be completed with the oncology nurses who have not attended a seminar via computer-based learning (CBL) and/or additional classes. Also, adequate referral processes need to be assessed in the future to increase these specific referrals to Physical Therapy (PT) and Occupational Therapy (OT).

Implications

Based upon results of the data analysis the next step would be to focus on a more formal nursing assessment of CIPN by adopting a validated tool and increasing our number of referrals for PT/OT. Our plan is to keep the focus on CIPN assessment and referrals through daily nursing "Huddles", in-patient weekly newsletter, Cone Health Cancer Center weekly update and developing a CBL for those unable to attend a class.

References

- Binner, M., Ross, D., & Browner, I. (2011). Chemotherapy-Induced Peripheral Neuropathy: Assessment of Oncology Nurses' Knowledge and Practice. *Oncology Nursing Forum*, 38, 448-454.
- Pignataro, R. & Swisher, A. (2010). Chemotherapy-Induced Peripheral Neuropathy: Risk Factors, Pathophysiology, Assessment, and Potential Physical Therapy Interventions. *Rehabilitation Oncology*, 28, 10-18.
- Toftagen, C. (2010). Patient Perceptions Associated With Chemotherapy-Induced Peripheral Neuropathy. *Clinical Journal of Oncology Nursing*, 14, E22-E28.
- Wickham, R. (2007). Chemotherapy-Induced Peripheral Neuropathy: A Review and Implications for Oncology Nursing Practice. *Clinical Journal of Oncology Nursing*, 11, 361-376.
- Visovsky, C., Collins, M., Abbott, L., Aschenbrenner, J., & Hart, C. (2007). Putting Evidence Into Practice: Evidence-Based Interventions for Chemotherapy-Induced Peripheral Neuropathy. *Clinical Journal of Oncology Nursing*, 11, 901-913.

Acknowledgements

We would like to thank Elizabeth Van Horn, PhD., RN, Associate Professor, Adult Health Nursing, UNCG School of Nursing, for guidance with the direction of our study and with the development of our initial IRB application.

We would also like to thank Crystal Dodson, PhD., RN, BC-ADM, Assistant Professor of Nursing, Winston Salem State University and Diabetes Educator, Cone Health, for assisting with our second IRB application and with statistical analysis of the data.