IMPROVING RETENTION RATE AND COMPLETION OF PERIPHERAL NEUROPATHY TREATMENT FOR SYMPTOMATIC PATIENTS AGE 65+

Kelcie Willis, MSN, RN, FNP-C; Kevin Xie, DPT, Marie Hooks, Medical Assistant, Matthew Weakley, Front Desk, Miranda Hudson, LPN.; Jason Jean, DNP, RN, FNP-BC

Vanderbilt University School of Nursing

SCHOOL OF NURSING
VANDERBILT UNIVERSITY

INTRODUCTION

Topic

- More than 20 million people in the United States have been estimated to have some form of peripheral neuropathy (NINDS, 2022).
- Pharmaceutical measurements are typically minimally effective and have a large side effect profile.
- A non-pharmaceutical approach to neuropathy is crosswave electrical impulse therapy.
- This non-invasive approach delivers electrical stimulation to nerve fibers, allowing the retracing of painful neurosensory pathways.
- Most study participants reported significant improvement in vibration and monofilament testing and reduction in symptoms in the electrical stimulation treatment groups. (Thakral et al., 2013).

Problem

- In a thorough review of prior studies, the minimum time frame of efficacy for electrical stimulation is 4 weeks, with most studies allowing for 8-12 weeks for full benefit, with 2-3 treatment sessions per week.
- A trend was noticed among patients wanting to see immediate results- and becoming discouraged when they did not have symptom relief soon after treatment initiation.
- This perception of treatment ineffectiveness can lead to non-compliance with the treatment regimen, incomplete treatment cycles, and a low retention rate of patients completing the entire course of treatment.

Team Members

- Kelcie Willis, MSN, RN, FNP-C
- Kevin Xie, DPT
- Marie Hooks, Medical Assistant
- Matthew Weakley, Front Desk Associate
- Miranda Hudson, LPN
- Jason Jean, DNP, RN, FNP-BC

Aim

- The aim is to improve patient retention and compliance with the entire course of treatment, and thereby, improve patient outcomes.
    - This will be accomplished by the addition of a halfway exam in which a subjective (symptom questionnaire) and objective (TORONTO) assessment of improvement will be made.

METHODS

Plan

1.) Current flow is TORONTO nerve exam and subjective symptom exam at baseline evaluation and at completion of treatment, 12 weeks later.
2.) Current compliance rate to be evaluated and documented for initial baseline cohort (n=25).
3.) TORONTO exam and subjective symptom questionnaire to be performed at a halfway mark for the implementation cohort. Comparison to be made to initial baseline scores, and any treatment plan changes made, if needed, at this time.

Do

1.) Implement halfway exam for implementation cohort (n=25) completing electrical horizontal impulse therapy to evaluate progress.
2.) Data collected on retention rates before and after implementation of this additional exam by provider.

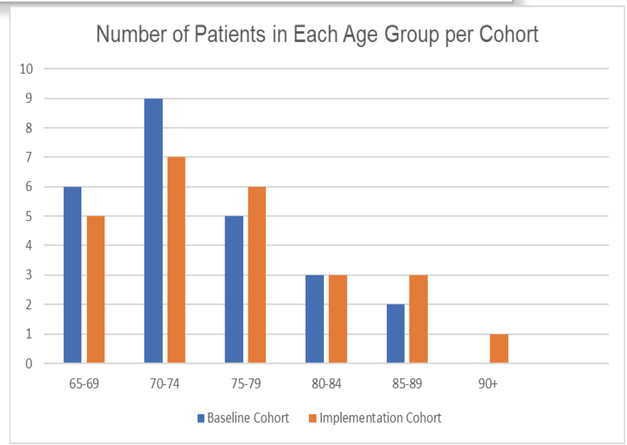
Study

1.) Evaluation made between initial cohort and implementation cohort data, focusing on retention rate of patients to treatment completion.

Act

1.) Based on results of this data compilation, a plan will be made to continue to adapt and adopt this course of action or if no change made, to revert/abandon change and continue with baseline and final exams only.

Symptom score	Before treatment	After treatment	Scoring
Pain	0	0	1=Present 0=Absent
Numbness	1	0	
Tingling sensation	1	0	
Weakness	1	0	
Ataxia	1	0	
Upper limb symptoms	1	0	
Reflex			
Knee reflex-right	1	0	0=Normal 1=Reduced 2=Absent
Knee reflex-left	1	0	
Ankle reflex-right	1	0	
Ankle reflex-left	1	0	
Sensory test score			
Pinprick	1	0	0=Normal 1=Abnormal
Temperature	1	1	
Light touch	1	1	
Vibration	1	1	
Results			
Before treatment	5	4	4
After treatment	0	0	3



RESULTS

Baseline Cohort

- Average TORONTO, initial: 12.4
- Average Subjective Pain, initial: 8/10
- Average TORONTO, final:10.2
- Average Subjective Pain, final: 6/10
- Retention to completion:17/25
- Outliers:1; d/c due to medical issues
- Patient completion ratio and percentage: 17/24; 70.83%

Implementation Cohort

- Average TORONTO, initial:12.8
- Average Subjective Pain, initial: 8/10
- Average TORONTO, halfway: 10.6
- Average Subjective Pain, halfway: 7/10
- Average TORONTO, final: 9.4
- Average Subjective Pain, final: 6/10
- Retention to completion: 22/25
- Outliers: 1; deceased during trial, natural causes
- Patient completion ratio and percentage: 22/24; 91.67%

IMPLICATIONS FOR PRACTICE

- By implementing the halfway exam, we saw over 20% higher compliance rate of patients completing their treatment regimen.
- Likewise, patients seemed to have a more positive impression of the treatment itself, as well as better outcomes overall.
- This could perhaps be utilized in other areas of healthcare maintenance and management, with the idea that when patients feel they are being regularly evaluated and assessed, they feel more confident in their treatment and outcomes.

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-image only, for the TORONTO scoring chart

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