The Prevalence and Knowledge of Electromyography as a Diagnostic Tool Used by Physical Therapists in Clinical Settings: An Exploratory Survey in Illinois.

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Introduction

Electromyography (EMG) is a diagnostic study that measures the electrical activity of muscles and nerves. Quantifying these electrical signals is an important aspect of making an accurate diagnosis in guiding intervention. Although EMG testing is not explicitly mentioned in the Illinois State Practice Act, physical therapists (PTs) are not prohibited from administering it. The extent to which PTs are familiar with EMG and how widely they use it in clinical practice is currently unknown.

Purpose & Hypothesis

- This study intended to determine the level of knowledge and prevalence of needle EMG use among PTs in Illinois.
- It was hypothesized that:
  - There would be limited knowledge of EMG among licensed PTs.
  - The respondents would report a low frequency of diagnostic EMG use within their clinical settings.

Methods

Study Design: Cohort single-point survey
Subjects: Practicing licensed PTs in Illinois, n=53
Instrumentation:

- Qualtrics survey consisting of 25 multiple choice and Yes/No questions:
  - Participants' demographics
  - Knowledge and prevalence of EMG use
- Questions distributed through 7 pathways that flowed according to the participants' knowledge of EMG (Table 1)

Procedure for Data Collection:

- Survey was distributed via email to clinics found via public domain, researchers' networks, and RFUMS PT faculty.
- Survey link was posted on the IPTA website.

Data Analysis:

- Descriptive statistics
- Chi square analysis, α=0.05

Table 1: Survey Pathways

Pathways		Responses
1	Familiar, perform, EMG is used in clinic, received a referral	1
2	Familiar, perform,EMG is used in clinic, have not received a referral	1
3	Familiar, don't perform, EMG is used in clinic, received a referral	3
4	Familiar,don't perform, EMG is used in clinic, have not received a referral	1
5	Familiar, don't perform, EMG is not used in clinic, received a referral	1
6	Familiar,don't perform, EMG not used in clinic, have not received a referral	27
7	Are not familiar, don't perform, have not received a referral	19

Results: Descriptive Statistics

- Fifty-three of 55 respondents completed the survey
- Response rate was not determined
- **Only 6% of those familiar with EMG actually performed it.**
- A majority of participants (62%) were familiar with EMG (Figure 1).
- Their primarily source of EMG knowledge came from their entry-level PT programs (Figure 2).

Figure 1: Familiarity with EMG as an Extension of PT Clinical Exam

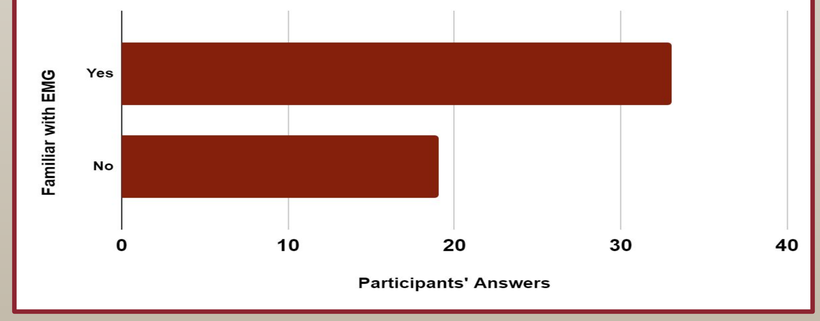
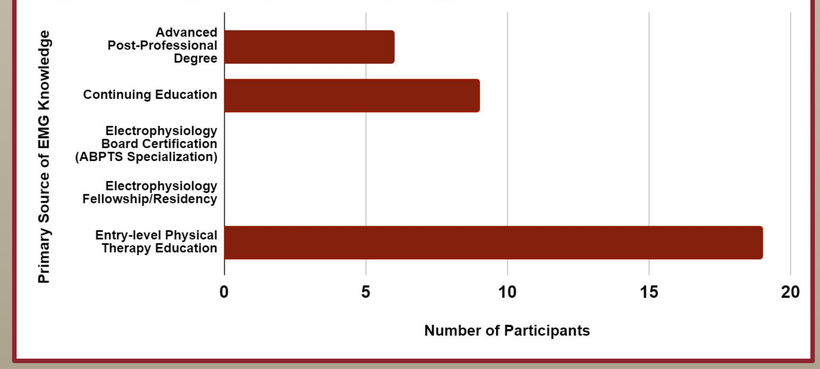


Figure 2: Primary Source of EMG Knowledge



Results: Inferential Statistics

- The number of PTs using EMG was significantly lower than would be expected by chance.
- The association between clinical knowledge and prevalence of EMG was not statistically significant.
- After EMG educational information was provided, the impact on clinical decision-making for those not familiar with EMG was significant (P<0.001).

Conclusions

- Very few of the PT respondents reported performing EMG, even though more than half of them were familiar with it.
- Results showed a low prevalence of EMG use within clinics. However, the majority of respondents acknowledged the potential benefit of EMG use.
- Those who performed EMG were likely to alter their plan of care, implying an impact on clinical decision-making.

Acknowledgements

Special thanks to Dr. Mary Rahlin, Dr. Frank DiLiberto, Dr. Jeffrey Damaschke, Dr. Steven Weiand, Dr. Karen Stevens, Dr. Natalie Turrentine, and Betty Melton for all of their guidance and assistance throughout this research.