

THE EFFICACY OF FORMAL PATIENT EPILEPSY EDUCATIONAL PROGRAMS: A PROSPECTIVE STUDY WITH PRE AND POST EDUCATIONAL MODULE QUESTIONNAIRES

Saumya Nagarajan Gill M.D^a; Anupreet Mahadevan MPH^c; Romay Franks R N^b, David K Chen MD^{a,b}

^a Department of Neurology, Baylor College of Medicine, Houston, Texas

^b;Department of Neurology, Veterans Affairs Hospital, Houston, Texas,

^c Department of Infectious Diseases, Baylor College of Medicine, Houston, Texas



Introduction

Several thousands of American veterans are diagnosed with epilepsy. Epilepsy carries a strong social stigma. Twenty-five percent of adults having epilepsy describe social stigma as a result of their epilepsy. It has been generally accepted that educational programs can be beneficial in reducing the stigma of a number of chronic diseases such as epilepsy. Medication non adherence is the most common reason for seizures in epilepsy patients. To date, there has been no formal epilepsy educational program implemented in the format of an one time, 1-hour seminar. We hypothesize that introduction of a formal teaching module amongst our Houston veteran population will increase epilepsy knowledge and improve awareness in our communities.

The goal of this study is to assess the efficacy of this educational program, utilizing a pre and post module questionnaire. The teaching module is in the form of a power point with emphasis on the definition of a seizure, identification of subtle signs/symptoms of seizure, seizure first aid, anti epileptic medication, medication side effects, and seizure precautions.

Methods

This is a prospective study amongst 23 veterans with epilepsy. The educational module is a one hour power point lecture administered by the first author. The efficacy of the educational module is assessed by a questionnaire, a ten item tool with answers graded from 1 through 5. The score of the questionnaire is determined by the number of correct answers. Veterans complete the questionnaire before and two weeks later by phone. The primary outcome measure is to determine a statistically significant difference between the pre and post module scores. Bivariate data analysis of 23 subjects (paired t test) was used to compare proportions of correct response for each question before and after the educational module. Veterans are given a chance to ask questions at the end of the session.

Questionnaire:

For each of the questions below, please circle Yes or No and say how sure you are:

- | 1. Just guessing | 2. Maybe sure | 3. Somewhat sure | 4. Pretty sure | 5. Very sure | | |
|---|---------------|------------------|----------------|--------------|---|---|
| •Epilepsy is a <u>mental health</u> problem | Yes / No | 1 | 2 | 3 | 4 | 5 |
| •Blank stare or eye blinking for just few seconds or minutes is <u>too short</u> to be a seizure | Yes / No | 1 | 2 | 3 | 4 | 5 |
| •After a seizure, placing something in patient's mouth <u>helps to avoid</u> swallowing of the tongue | Yes / No | 1 | 2 | 3 | 4 | 5 |
| •During a seizure, restraining or holding the patient down can <u>help shorten</u> the seizure | Yes / No | 1 | 2 | 3 | 4 | 5 |
| •Immediately right after a seizure, <u>do not</u> give patient medications or liquids to swallow | Yes / No | 1 | 2 | 3 | 4 | 5 |
| •If the family members are comfortable and very familiar with a patient's seizures, then they should <u>NEVER</u> call 911 after any seizure activity | Yes / No | 1 | 2 | 3 | 4 | 5 |
| •In the state of Texas, a seizure patient should not drive unless you have been free of seizures for <u>three months in a row</u> | Yes / No | 1 | 2 | 3 | 4 | 5 |
| •It is <u>OK</u> to miss my morning seizure medication, because I can just make it up by <u>doubling up my evening dose.</u> " | Yes / No | 1 | 2 | 3 | 4 | 5 |
| •There are <u>NO</u> easy tips to help me remind me to Take medications. I just have to force myself to remember! | Yes / No | 1 | 2 | 3 | 4 | 5 |
| •It is <u>impossible</u> to <u>not have major side-effects</u> from seizure medications, so I have to learn to live with it!" | Yes / No | 1 | 2 | 3 | 4 | 5 |

Table 1. Demographics, N=23

| | |
|-------------|-----------|
| Average age | 60 |
| Age range | 28-82 |
| Male | 23 |
| Ethnicity | n (%) |
| Black | 15 (65.2) |
| White | 7 (30.4) |
| Hispanic | 1 (4.3) |
| Income | n (%) |
| Low | 19 (82.6) |
| Middle | 4 (17.4) |
| High | 0 |

Results

The post-module average score was 7.1 ± 2.8 (Mean \pm SD), significantly higher than the pre- module score 6.3 ± 1.7 ($p=0.02$)The pre module average score was 6.3 ± 1.7 (Mean \pm SD) and post module score was 7.1 ± 2.8 . ($p=0.02$) In each individual question, the answer for seven out of ten questions improved significantly after the educational module whereas the remaining 3 answers were unchanged. The average confidence score increased from a pre module score of 3.5 to a post module score of 4.5.

| | Pre-Module | Post Module |
|--|------------|-------------|
| Average number correct | 6.3 | 7.4 |
| Standard deviation | 1.7 | 2.3 |
| Range | 3-9 | 2-10 |
| Average certainty of responses | 3.4 | 4.5 |
| Test for equality of variance, p-value | 0.02423 | |

Conclusion

- A formal epilepsy educational program module increases the knowledge of epilepsy in veteran patients.
- This educational program module is easy to administer and cost-effective.
- Further studies are needed to validate whether this educational program improves medication adherence and decrease the frequency of seizures..

References

1. Stigma of epilepsy. *Bandstra NF, Camfield CS, Camfield PR, Can J Neurol Sci. 2008 Sep;35(4):436-40.*
2. Knowledge of, perception of, and attitudes toward epilepsy of schoolchildren in Ankara and the effect of an educational program *Bozkaya IO, Arhan E, Serdaroglu A, Soysal AS, Ozkan S, Gucuyener K. Epilepsy Behav. 2010 Jan;17(1):56-63. Epub 2009 Nov 12.*
3. Epileptic Seizures and Epilepsy: Definitions Proposed by the International League Against Epilepsy (ILAE) and the International Bureau for Epilepsy (IBE) *Fisher RS, van Emde Boas W, Blume W, Elger C, Genton P, Lee P, Engel J Jr.*
4. Sepulveda Epilepsy Education: the efficacy of a psychoeducational treatment program in treating medical and psychosocial aspects of epilepsy. *Helgeson DC, Mittan R, Tan SY, Chavasirisobhon S. Epilepsia. 1990 Jan-Feb;31(1):75-82.*

Contact Information

Saumya Nagarajan Gill, M. D. Baylor College of Medicine, Houston TX 77030

Tel: 713-798-6151 Email: sauyangill@gmail.com, sngill@bcm.edu