



Impact of Seizure Alert Dogs in Epilepsy

By: Katherine Bell, Bridget Braden, & Molly O'Brien
Carroll College Nursing Department

QUESTION
In people diagnosed with epilepsy, does having a seizure-alert dog (SAD) compared to not having a seizure alert dog decrease the frequency of having an seizure?

BACKGROUND

- Epilepsy is a seizure disorder and is defined as a disruption of electrical activity in the nervous system (Epilepsy Foundation, 2014).
- Worldwide, 65 million people have epilepsy.
- An estimated 1/3 of people with epilepsy do not have an effective treatment option to control their seizures.
- Treatment options: medication, surgery, therapies, or a pacemaker.
- SADs are alternative therapies.

STUDY	DESCRIPTION	RESULTS
Effect of Trained Seizure Alert Dogs® on Frequency of Tonic-Clonic Seizures by V. Strong, S. Brown, M. Huyton and Helen Coyle (2002).	Level IV cohort study that examines the effect of trained seizure alert dogs on the frequency of tonic-clonic seizures.	The mean number of seizures a subject had decreased from 13.8 to 8.5. Overall seizure frequency had reduced by 43%. "Four out of 10 subjects had experienced a >50% reduction in seizure frequency, and six had experienced >40% reduction" (p. 403).
Is There a Profile of Spontaneous Seizure-Alert Pet Dogs? A survey of French People With Epilepsy by A. Catala, A. Martinez-Caja, H. Cousillas, M. Hausberger, and M. Grandgeorge (2020).	Level II quantitative study that examined the profiles of dogs that demonstrated seizure alert behaviors compared to dogs that did not demonstrate alerting behaviors prior to a seizure.	This study was unable to determine if the SADs helped decrease seizure frequency. Instead, the results showed that the owners of SADs scored their human-dog bond higher compared to owners with non-alerting dogs.
Seizure-Alert Dogs - Fact or Fiction? by V. Strong, S.W. Brown, and R. Walker (1999).	Level IV cohort study that examines the effect of seizure alert dogs on people diagnosed with epilepsy. The aim of the study was to prove whether or not a dog could be trained to detect and alert a human about an imminent seizure.	All dogs in the study were able to alert their human counterparts of an imminent seizure 10 to 45 minutes prior to onset. Subjects noted that seizure frequency was decreased once a dog had been trained to detect and alert about seizures. There is no specific data on seizure frequency because it was not an initial point of interest in the study.
Seizure-Alerting and -Response Behaviors in Dogs Living With Epileptic Children by A. Kirton, E. Wirrell, J. Zhang, and L. Hamiwka (2004).	Level IV retrospective cohort study which surveyed a pediatric population with epilepsy who had a SAD and their quality of life before and after having the dog. This study aimed to determine the improvement of quality of life with a SAD.	This study reported that there were no significant differences between the groups with no dogs, SRDs, or SADs. There is no specific data on the seizure frequency before and after the use of service dogs.
Seizure-Alerting Behavior in Dogs Owned by People Experiencing Seizures by A. Martinez-Caja, V. Herdt, P. Boon, U. Brandly, H Cock, J. Parra, E/Perucca, V. Thadani, and C. Moons (2019).	Level II quantitative study that investigated the behaviors displayed by trained and untrained dogs that were able to anticipate seizures utilizing an online questionnaire.	This study found that trained SADs alerted the owners more often in different situations, and further in advance, compared to non-alerting dogs.
Seizure Response Dogs: Evaluation of a formal training program by A. Kirton, A. Winter, E. Wirrell, and O.C. Snead (2008).	Level IV preliminary, retrospective study that looks at the effectiveness of a formal training program and their impact on a subject's disease, seizures, and their quality of life.	This study discovered that the participants with a SAD in this study reported a decrease in seizure frequency, however, no specific data was recorded or added to the study.

CONCLUSION

- The results are ambiguous since some of the articles did not directly address the PICOT question.
- Of the studies reviewed, 1 concluded a measurable decrease in seizure frequency, 2 suggest a decrease based on subjective data, and 3 did not address the PICOT question.



APPLICATION

- Nurses can advocate for the use of SADs as an alternative to pharmacological therapy.
- Nurses should further research of SADs to gain more recent and in depth data,
- Nurses should advocate for the presence of SADs in the hospitals.
- Nurses can direct patients to resources online and in the community to obtain a SAD.