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An introduction to nursing children and young people with epilepsy

Abstract - Epilepsy is a condition which affects the brain and is defined as a tendency to have unprovoked seizures. It is one of the most common neurological conditions. A seizure is a sudden burst of unnecessary electrical activity in the brain. This electrical activity disrupts the way the brain usually functions. There are numerous different types and presentation of seizure. This article will explore these and briefly consider the nursing care required.

Key words: epilepsy, children and young people, seizures, nursing care

Epilepsy is a condition which affects the brain and is defined as a tendency to have unprovoked seizures (Kwan & Brody, 2009; Epilepsy Action, 2019). It is possible for an individual to have an isolated seizure without having epilepsy. Usually a diagnosis of epilepsy will only be made if someone has had more than one seizure and the medical team believe they will have more (National Institute of Clinical Excellence [NICE], 2012). Epilepsy can start at any age and varies from a condition lasting a set period and a lifelong condition (Kwan & Brody, 2009).

Epilepsy is one of the most common neurological conditions (Meeraus et al., 2013) (See Box 1). It affects around 50 million people world wide and is commonly diagnosed in childhood (Kwan & Brody, 2009). Sometimes a cause for the condition will remain unknown, however there are some known reasons such as stroke, head injury, infection such as encephalitis or problems during birth (NICE, 2012; Shorvon, 2011). There remains discussion regarding the possibility of epilepsy being hereditary (Shorvon, 2011).

Some common seizures experienced by children are not classed as epilepsy, despite the feature of reoccurrence. Febrile seizures are seizures that are triggered by a high temperature (Patel et al., 2015). They happen to around 5 out of every 100 children under the age of 6 (Epilepsy Action, 2019). Usually they are linked to a childhood illness. Febrile seizures are not epilepsy as they are provoked by the body's need to manage a temperature (Patel et al., 2015). However, it is believed that children who have had febrile seizures have a higher chance of developing epilepsy when they are older (NICE, 2013).

Seizures

A seizure is a sudden burst of unnecessary electrical activity in the brain (International League Against Epilepsy [ILAE], 2017). This electrical activity disrupts the way the brain usually functions (D'Ambrosio & Miller, 2010). There are numerous different types and presentation of seizure. The classification of seizure, its signs and symptoms will vary depending on where in the brain a seizure begins and how it then progresses (ILAE, 2017)

Generally seizures can be placed in two main categories; focal (partial) or generalised (ILAE, 2017). In focal seizures the electrical activity is focused in one area of the brain. Its presentation will depend on its location in the brain and that areas role. Understanding the structure and function of the brain will enable a nurse to better assess a child or young person presenting with a seizure (See labelled diagram of the brain). For example the most common type of epilepsy to cause focal seizures is temporal lobe epilepsy (Epilepsy Action, 2019). The temporal lobe is responsible for many things including; language, feelings and memory. Therefore symptoms may include; sudden and unusual emotions, or thoughts, being in a confused state or unusual speech (Abhang, Gawali & Mehrotra, 2016).

Generalised seizures are when the whole brain is affected by the sudden burst of electrical activity and therefore the person becomes unconscious (NICE, 2012). The loss of consciousness can be very brief or lengthy. It may be that the child or young person gets symptoms suggesting a seizure might be about to occur (Schulze-Bonhage, 2006). For example if the electrical activity starts in the occipital lobe responsible for vision they may get visual disturbances before the electrical activity spreads to the rest of the brain causing them to become unconscious.

In 2017 a new approach to classifying seizures was launched. Naming a seizure type will be influenced by where in your brain the seizure starts, the level of awareness during the seizure and whether the seizure involves movement or not (ILAE, 2017). As an example a generalised tonic-clonic seizure affects both parts of the brain from the start. Tonic-clonic seizures fully impair awareness as the individual loses consciousness in the tonic phase. During the tonic phrase the client might also go stiff and drop to the floor, possibly biting down on the tongue. Limbs jerk often rhythmically, a client may lose control of bodily functions and breathing may be affected. This form of seizure is the most commonly recognised and were previously called grand mal seizures (Epilepsy Action, 2019).

Box 1 – How common is the condition?

(Epilepsy Action, 2019)

It is estimated that epilepsy affects around 600,000 people in the UK

Almost 1 in 100 people in the UK have epilepsy

Around 1 in every 240 children under the age of 16 will be diagnosed

Diagnosis

A detailed and clear history including description of the seizure presentation and length is necessary to facilitate a diagnosis (NICE, 2012). This may also be supported by a range of investigations to clarify any type or cause of the epilepsy (Shorvon et al., 2019). Investigations may involve blood tests, a brain scan or an EEG which records the electrical waves in the brain (see picture 1 of the equipment). However there is not a specific test to identify a diagnosis of epilepsy (NICE,

2012). This can make the process challenging for the family and child whilst differential diagnoses are discussed (Shore et al., 2009; Lambert et al., 2014). These may include; simple fainting, night terrors, breath holding attacks and pseudo seizures (Uldall et al., 2006).

Nursing care

If a child or young person presents with a seizure there are a few key steps to take in order to maintain safety (Epilepsy Action, 2019; NICE 2013; Clore, 2010). For care of focal seizures see box 2. For generalised seizure nursing care should include the following;

- Ensure the client is safe, including cushioning their head
- Note the time the episode started and any particular signs that occur as this can help to inform a treatment plan
- Do not put anything in the clients mouth or try and restrain them
- Stay with the child or young person throughout, remaining calm and reassuring
- Once the seizure has fully stopped place the child or young person into the recovery position to support breathing

Seek further medical support or if in the community phone an ambulance if you are aware it is the child or young person's first seizure or you believe they require further medical input (NICE, 2013).

Children and young people with a diagnosis of epilepsy may be prescribed buccal midazolam if a seizure lasts longer than five minutes. Midazolam belongs to a group of medicines called benzodiazepines (GOSH, 2017). Benzodiazepines work in the central nervous system acting on specific receptors in the brain making the nerves less sensitive to stimulation (GOSG, 2017). Side effects may include, tiredness, amnesia, sedation and breathing difficulties. This medication is administered to attempt to prevent status epilepticus (NICE, 2013).

Box 2 – Caring for someone having a focal seizure

(Epilepsy Action, 2019; NICE 2012)

Stay with the client until complete recovery, ensuring they do not encounter danger

Remain calm and reassuring

When recovery happens explain to them what has happened. They will not remember the event

Do not restrain them or act in an abrupt manner

Do not feed a client during an episode

Call for an ambulance or further assistance if it is the client's first seizure or it develops into a generalised seizure or you believe they need medical attention

Communication and support

Family centred care is a core concept in nursing children and young people and remains vital when considering the child or young person diagnosed with epilepsy (Shields et al., 2012). Care givers of children with epilepsy are at increased risk of post-traumatic stress disorder (Carmassi et al., 2017). Nurses need to plan, implement and evaluate the care with the whole family in mind, which may be supported by a specialist nurse (Royal College of Nursing, 2015). Epilepsy can place additional pressure on a child and their family leading to decreased quality of life (Bilgic et al., 2017). It has been found that young people with epilepsy are more likely to suffer social avoidance, depression and low self-esteem (Bajer et al., 2005). It is thought this may be in part due their understanding of their condition leading to a perception of lacking control (Jacoby & Austin, 2007). This means education and support are vital.

Nurses should remain calm and reassuring throughout the episode of care, ensuring clear and consistent communication (Bilgic et al., 2017). This should incorporate the opportunity to explore, discuss and support understanding where appropriate. Part of this communication might include supporting the family in identifying any possible triggers which make a child or young person more likely to have a seizure (Jacoby & Austin, 2007). Examples of these include; not taking epilepsy medicine as prescribed, feeling tired, stress, flashing lights or missing meals (RCPCH, 2015). This information may inform documentation within the epilepsy passport which supports carers in all settings in understanding the management a child or young person's condition requires (RCPCH, 2015).

Treatment and management

The main treatment for epilepsy is epilepsy medicines. These are sometimes called anti-epileptic drugs or AEDs (NICE, 2013). The medicine doesn't cure epilepsy, but helps to stop or reduce the number of seizures. If epilepsy medicine doesn't work well for someone, their specialist team might suggest other types of treatment. Other types of treatment include brain surgery, vagus nerve stimulation or a special nutritional plan called the ketogenic diet which is sometimes used for children (Epilepsy Action, 2019).

Conclusion

To safely care for a child or young person with epilepsy a nurse must have a good understanding of the condition and its varying presentations. By reviewing the classification of seizures nurses will be able to interpret and explain to families' complex medical terms. This article aims to provide a brief introduction and further reading would be beneficial to explore the topic and apply it to your practice area.

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