

# Epilepsy and type 2 diabetes mellitus: case study



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People with chronic and complex conditions are usually characterized by complex causality, multiple risk factors, a long latency period, a prolonged course of illness that cannot be cured, and functional impairment (Wilkes, Cioffi, Warne, Harrison, & Vonu-Boriceanu, 2008). These people are often treated by primary care professionals such as the community care.

Community care plays a key role in our health system; it can avoid patient readmission to the hospital, reduce healthcare costs, and make patients feel more comfortable when they have treatment at home (Wilkes et al., 2008). In the case study, Jessica is suffering epilepsy and Type 2 Diabetes Mellitus, which affects her daily life and her self-care behaviour. As a community care registered nurse (RN), I will promote Jessica's knowledge about her chronic illness and health history, perform nursing assessments, and support her and her family with regard to her continuing nursing care. My primary goal is to improve Jessica's health condition and help her maintain her normal daily social and career life style (Lubkin & Learsen, 2013).

As an RN, on the first day visit with Jessica. At the beginning, I will establish therapeutic relationship with her by communication and also observing her facial expression, body language and listening voice tone. Arnold & Boggs (2011) stated the foundation of nursing skills are approaching to therapeutic relationships and good communication in nursing practice and identifies trust, respect and honesty which are guiding professional actions.

Meanwhile, her health history needs to be obtained by using oral communication skills, such an interview with her and her partner, without any judgment and by using open-ended short questions (Lubkin & Learsen, 2013). In addition, the RN need perform a physical examination that includes

general observation and checking BP, pulse, temperature, BGL, height, and weight. The information obtained during this phase contributes to an overview that identifies Jessica's current and past health state and provides a baseline assessment to evaluate future changes (Brown et al., 2014). It is important for the RN to indicate Jessica's past and present medical conditions and treatments, which can create a suitable care plan and provide unique care. Ekman et al. (2011) believe all care providers should create personalized nursing care to people with chronic illness and help them to achieve their individual goals.

The research shows epilepsy is the most common serious chronic neurological disorder of young people, with public misinterpretation inducing fear and social stigma, which leading to prejudice and discrimination in school, workplace, and community (Coker, Bhargava, Fitzgerald, & Doherty, 2011). As a RN should educate Jessica by explaining the pathophysiology of epilepsy; for example, McCance, Heuther, Brashers, & Rote (2014) state that "seizures are the abnormal discharge of electrical activity within the brain; the epilepsy is repeated recurrence of seizure activity which results from underlying disorder of the Centre Nerves System (CNS)" (pp. 679). In the past, Jessica's seizures have been infrequent, brief, and often well controlled by medication. However, she may also suffer from greater degrees of depression, anxiety, and be prone to the social and vocational limitations that the illness usually brings (Coker et al., 2011). Furthermore, there are many risk factors that can cause breakthrough seizures; these include diet, medication withdrawal, and alcohol consumption. Jessica may not aware of such factors due to a lack of specific knowledge (Coker et al., 2011). At the

moment, Jessica is starting to withdraw from her anticonvulsant medications and avoiding her GP's advice by continuing to drive her car; she also went to a dance club and drank alcohol. All of these affect her health conditions.

Jessica also has Type 2 diabetes, a common chronic multisystem disease related to abnormal or impaired insulin production, with high risk of macrovascular and microvascular complications that lead to illness or disability and death (Hicks, 2008). There is no specific research on the association of epilepsy and Type 2 diabetes, but studies have found that seizures can occur during diabetic ketoacidosis when the body cannot get enough insulin; meanwhile, in many cases, epilepsy-related seizures may be mistaken for the symptoms of hypoglycaemia (Schober & Holl, 2011). The aim of treatment is to control her blood glucose level (BGL) between 4 to 7 mmol/L, which reduces the risk of diabetes complications (Hicks, 2008). Currently, Jessica's BGL shows 12.9 mmol/L because of poorly controlled diet and excessive weight, which presents a greater great risk of cardiovascular, kidney, and metabolic diseases.

After explaining the two chronic diseases to Jessica, during the time as an RN, I will perform a nursing assessment that includes a neurological observation assessment, nutritional assessment include regular BGL checks, behavioural assessment, and psychological assessment. Neurological observation is the collection of information on a patient's central nervous system and neurological status, incorporates monitoring of the patient's level of consciousness, pupil reaction and motor function, and observation of vital signs (Brown et al., 2014). It is important to monitor Jessica's neuron function due to frequent seizures, especially after being hospitalized with

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tonic-clonic coma and unconsciousness. Regular BGL checks will help with her awareness of her glucose level and encourage regular administration of her hyperglucagonemia medication. The aim of intervention for Jessica is to control her high BGL and assess her normal diet, which can reduce diabetes complications so that she can achieve the quality of life she desires.

Research has found that to control chronic complications from diabetes, a patient needs good self-care behaviours; for example: healthy diet, regular exercises, weight loss, taking medications as prescribed, blood sugar monitoring, and good support from family (Huang, Hung, Stocker, & Lin, 2013). Behavioural assessment can help monitor her health condition and achieve goal setting, problem-solving, and medication adherence. The nurse can provide an accessible, relaxed environment to help Jessica focus on what she can do rather than what she cannot do, and act as a channel for her and her partner to discuss their fears and anxieties associated with her chronic illness (Welsh, 2008). She also told her GP that she did not need any more prescriptions for her anticonvulsant medication. Studies show that withdrawal from epilepsy medication has significant implications for lifestyle and circumstance, and that the patient should stop driving (Coker et al, 2011). As the result, as an RN I need to consider Jessica's dilemma carefully as it impacts her independence regarding transport and that, in turn, impacts her employment and income, self-esteem, and quality of life. The nursing intervention can include broader aspects of care including assessing Jessica's needs, providing advice on associated topics to help her understand her condition and the management plan, and asking her partner to join her care (Welsh, 2008). For example, her partner, Martin, should be aware of her health condition including driving, potential pregnancy, alcohol use,

employment restrictions, and other safety issues. On the point of RN also provide referrals to other professionals such as dietitian, social workers, counselling services, and family support groups. The role of the community RN is not only managing a patient's chronic illness, but also to seek more assistance or research to improve the effectiveness of patient cares (Chen et al., 2012).

The research shows that education in combination with psychological intervention can support medication adherence (Dean, Walters, & Hall, 2010). In Jessica's case, the RN needs to understand the negative impact that psychological issues can have on her lifestyle and chronic disease management, for example the chronic disease may cause her anxiety, and depression. As the result, we might arrange for Jessica to attend some group meeting or study conference about young people with chronic diseases. The fundamental nursing requirements are skills in communication, listening, counselling, and teaching to support the patient and her family (Welsh, 2008).

There are two priorities for the RN's follow-up with Jessica. As we noticed that before the current seizure, Jessica had weened herself off her anticonvulsant medications because she wanted to become pregnant and is perpetually in noncompliance with regard to her diabetes. The aim of the community service nursing intervention is to improve Jessica's quality of life through needs-led primary health care with a person-centred approach to her individual needs and create a treatment plan that will improve health outcomes (Ekman et al, 2011). As Jessica is of child-bearing age with epilepsy, she merits unique consideration. Because withdrawal her

antiepileptic drugs will increase seizure frequency, as an RN will need to be informed when Jessica contemplates pregnancy and refer her to a specialist before conception. Meanwhile, an occupational therapist will assess any risks in her home environment; a counselling service also be needed. From this point, the RN should consider the patient's needs and communicate with a multidisciplinary team (Lubkin & Larsen, 2013).

We will need to motivate Jessica to take responsibility for her own self-care by using motivational interviewing and health coaching to incorporate behaviour change principles that promote healthy activities (Lubkin & Larsen, 2013). For example, as an RN need to understand and explore Jessica's motivation for becoming pregnant and keep her current life routine by listening with empathy because her opinion and methods may be different than they would be with a person who didn't have complex medical issues. This will empower Jessica, encouraging her hope and optimism to follow the current treatment plan as well as to consult other health professionals. The primary goal is to maintain good self-care attitudes that will enable Jessica's knowledge and understanding related to her ability to successfully cope with the disease in her normal life (Coker et al., 2011). A study by Soubhi et al. (2010) shows that strong self-management programs are amongst the best evidence-based interventions for improving outcomes. Thus, promoting self-care will empower Jessica to make independent decisions. The result will be an improvement in her quality of life and a reduction of psychosocial problems.

In conclusion, from a community nursing service perspective, the experience of care giving to Jessica with her chronic and complex conditions has been

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extensively addressed. Meanwhile, an RN with an increased understanding of Jessica's experiences will gain greater insight into the care she needs to improve her health and provide more effective healthcare delivery in the community (Soubhi et al., 2010).

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