

Introduction

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Introduction In this assignment the author will explore Duchenne Muscular Dystrophy and the role of the community nurse. The author will explore the assessment, challenges and role of the community nurse in order to gain a better understanding of Community Health Nursing. The following is the case study to which the assignment will be based: Liam Byrne is an 8-year-old boy who lives with his parents Elaine and Michael and his two siblings Fiona aged 4 years and Deirdre aged 6 years. They live in a two-story semi-detached house in a small town. Liam has Duchenne muscular dystrophy (a life-limiting genetic condition) and is now unable to walk. Michael is in full time employment, while Elaine works full time within the home. Assessment

Richman and Schub (2010) describe Duchenne Muscular Dystrophy as the most severe group of incurable inherited muscle wasting diseases. DMD is an X-linked disorder characterized by progressive weakening of the skeletal and voluntary muscles. At present there is no cure for DMD, the main treatment focus is control of symptoms and management of complications. These complications include: - Dilated cardio-myopathy - Respiratory Impairment - Joint contractures - Scoliosis - Dysphagia Roper, Logan and Tierney (2000) developed a model of nursing and within this model they developed a Model of Living. The main features of this highly complex phenomenon are as follows: | MODEL OF LIVING | | Activities of Daily Living | | Lifespan | | Dependence/Independence continuum | | Factors influencing AL's | | Individuality of Living | Within the Model of Living Roper, Logan and Tierney (2000) developed the Activities of Living. They state that " the model of living must describe what living means. " (Roper et al 2000 p15). Upon investigation they found that many people describe eating, drinking,

working, playing and sleeping were concepts of the AL's. Roper et al (2000) found that once prompted they agreed that communicating and breathing are also AL's but these tasks are often carried out without much thought. In conclusion to this the AL's are as follows: | ACTIVITIES OF LIVING | | Maintaining a safe environment | | Communicating | | Breathing | | Eating and Drinking | | Elimination | | Personal cleansing and dressing | | Controlling Body Temperature | | Mobilizing | | Working and Playing | | Expressing Sexuality | | Sleeping | | Dying |

Bringing in the Roper, Logan and Tierney Model of Living, it is vital in order to carry out an appropriate community assessment of Liam's condition. Liam's condition is forever changing due to the progression and degeneration of his Duchenne Muscular Dystrophy. Research indicates that " Information derived from community health needs assessment forms the basis for the planning and delivery of care. (Blackie 2000). Assessment is the first initial step in any nursing process whether it is in a hospital setting or a community setting. This is where a nurse is able to interact with the patient to gather the relevant information needed to recognise change, analyze needs and plan the care. Along with the interaction the nurse also assess the patient's physical, emotional and cognitive status. This information provides the nurse with a baseline for what is normal for the patient and can assess the patient for decline in health. In this process the community nurse assesses Liam's ADL's and what tasks Liam can complete himself and what he needs his parents to do for him. The nurse takes this as a baseline in order to assess Liam's need to depend on his parents more. In order to assess Liam the nurse must include Liam in all his care, not only take the view of his parents. The first initial assessment is

also important as this can help to build a foundation for the nurse-client relationship. The biggest obstacle to overcome in any family situation is trust. In the initial assessment the nurse assesses the need for equipment or therapies; therefore this is where the nurses assess Liam and his family's challenges. Challenges Normally a cough works by clearing the airway secretions from the lungs, these secretions are not harmful, they merely act as a protective layer covering the bronchi and bronchioles. The bronchi and bronchioles trap environmental particulate along with bacteria and viruses that are normally inhaled during respiration. Many conditions lead to the inability to clear such secretions; this can lead to the build up of mucus. If this mucus cannot be cleared it can lead to pneumonia or the development of atelectasis. A recent study indicated that with DMD, secretions in the lungs are normal in quantity and quality (Kravitz 2009). However due to the neuromuscular weakness, this affects both the inspiratory and expiratory phases of a cough, thus the inability to clear mucus. The diaphragm is another major muscle used in the inhalation and exhalation process and as stated by Kravitz (2009) " this affects the patient's ability to achieve the adequate lung volume needed for an effective cough. If in Liam's case it has been determined that he has an inadequate cough there are two main stream treatments available. These are Airway Clearance and Cough-Assisting Techniques. The cough-assist machine according to research has proven to be a boon to airway clearance in patients with neuromuscular weakness. It not only provides an inspiratory phase but also an expiratory phase (Kravitz 2009). With this machine to hand, the pressures can be preset to maximise the effectiveness of a cough and also for comfort measures for

the patient. Patients like Liam who lacks the inability to expectorate such secretions will avail of such equipment. In order for Liam to develop a technique, his parents will be instructed to carry out these sessions twice daily. This promotes good technique thus if needed, Liam will be able to clear secretions when he is acutely ill. This can be emotionally draining on Liam's mother as we know from our case study she works within the home.

Research indicates that critically ill children are more at risk of pressure ulcers than the general paediatric population (Willock and Maylor 2004). In addition to tissue damage associated with immobility, equipment and objects pressing or rubbing on the child's skin have been implicated in the development of pressure ulcers. It is important that risk factors are identified and minimised. In Liam's case he now can no longer walk and his mobility has decreased thus not been able to turn in the bed, not being able to walk or do many of his ADL's. As with adults, children can develop pressure ulcers in places where areas of the body are sustainable to more pressure than others. Liam can now no longer mobilise thus leaving his parents to do a lot of his mobility and he now depends on them for most of his ADL's. For example: turning him in the bed to prevent a pressure ulcer, ensuring Liam does not lie in one position for too long. Solis et al (1998) found that " in all age groups, pressure over the occipital area was greatest, followed by sacral pressure then scapula pressure. This pressure can be prevented and reduced with pressure relieving surfaces". In Liam's case he is susceptible to all these kind of pressure ulcers and also pressure ulcers on his heels and inner knees. " Pressure relieving surfaces work by conforming to the shape of the body and spreading the weight over a large body surface area". (Willock and

Maylor 2003 p57). Waterlow (1997) stated that “ 27. 3% of pressure ulcers were associated with equipment. With regards to Liam if he is not properly fitted for a chair and if the pressure relieving devices are not in place he is more susceptible to a pressure ulcer than those who have such equipment. In 1998, Waterlow paediatric pressure ulcer risk assessment was developed. It does not include a numerical score, but alerts users to potential risks and advises on preventative action. The community health nurse once Liam is discharged home must complete a Waterlow score to assess Liam’s need for such pressure relieving devices. Role of the Community Nurse Community nursing or Public Health Nursing has been defined as “ the science and art of preventing disease, prolonging life and promoting health through organised efforts of society". (Acheson 1988). As part of the community health nurse’s work, a major component is health promotion. The WHO 2005 Bangkok Charter for Health Promotion in a globalized World defines health promotion as “ the process of enabling people to increase control over their health and its determinants, and thereby improve their health". In community based settings primary, secondary and tertiary prevention services are provided and nursing intervention in these areas play an important role in preventing illness or disease. Primary prevention focuses on preventing initial occurrence of disease or injury. This can include education on illness prevention and health promotion on health lifestyle choices. It can also include education on nutritional advice for patients and also how to properly use car seats and restraint laws. Taking this back to Liam’s case, the community nurse must assess Liam for the need of a pressure relieving mattress, this in turn will prevent Liam from developing a pressure sore and

also educate Liam's parents on good pressure relieving techniques. Research indicates that constipation is a common problem related to immobility and should be managed with an adequate bowel regime. (Yiu and Kornberg 2008). The public health nurse will be able to educate Liam's parents on good nutritional techniques to prevent constipation and if the problem should arise the correct dosage for Laxatives. The Secondary prevention phase is early identification and treatment of disease or injury. This can involve screening for scoliosis and assessing the need for cough rehabilitation. This process does not prevent such occurrences but can provide early identification. Looking back on the challenges, one challenge for Liam is the possibility of the use of a cough-assist machine. The community health nurse along with the physiotherapist must be able to assess Liam's for such therapy. The community nurse must be able to detect any breathing difficulty or abnormalities in Liam's breathing. Early detection can prevent Liam from developing pneumonia, a common illness associated with the inability to clear secretions. In the tertiary prevention phase this area is used to maximise recovery after illness. Many patients in this phase may be hospitalised therefore the community nurse must liaise with the MDT to ensure all adequate resources are in place for the patients discharge. The main goal in this phase is rehabilitation. In Liam's situation he has now no longer able to walk, thus the use of a mechanical wheelchair may need to be put into place. The community nurse must liaise with the different companies who provide such equipment and arrange a day that suits both parents and Liam in order to avail of a teaching session. As well as health promotion and liaising with the MDT the community nurse has a sense of advocacy for their

clients. According to the UKCC (1989) advocacy is concerned with promoting and safeguarding the well-being and interests in children. Taking Liam into consideration, he may not be able to argue what kind of care he wants so the community nurse must be both an advocate for Liam and also his parents.

There is also the argument that a nurse is not always the best person to take on the role of advocate. As a health professional, a community nurse may form their own professional judgement or indeed let the relationship with the client blur this professional judgement. The role of advocacy is not about arguing a case for someone, but indeed allowing them to argue their own case.

Conclusion In conclusion to this assignment the author has explored all areas expected in order to gain a better understanding of Community Health Nursing. Although only two areas were covered in the challenges section, many more challenges can arise from DMD. Health promotion is vital in order to achieve optimal health and the Community Health nurse must have a good knowledge of all resources available. All areas covered have been adequately resourced and references are available.

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