

Stroke care management and pressure ulcer assessment tool

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Student Number: 21127187 Module: Assessment and Therapeutic Care Management Module Code: AN 602 Assignment Title: A Case study: Stroke Care Management and Pressure Ulcer Assessment Tool Word Count: 3296 Date Submitted: 11th January, 2012 This academic work aims to present a clinical case study of a patient who is diagnosed of cerebrovascular accident (CVA), also called “stroke”, achieve a deeper understanding of debilitating post-stroke complications using an assessment guide and nursing interventions to the nursing diagnosis of impaired skin integrity.

This essay aims to incorporate the utilisation of a pressure ulcer grading assessment tool to establish baseline assessment data and facilitate ongoing wound care management in relation to pressure ulcers (PrUs) as one of long term problems encountered in the care of a stroke patient. A holistic assessment of the patient will be required, identifying activities of daily living to enable the nurse to devise a plan involving the therapeutic team in line with identified nursing diagnoses.

Due to limitation on word count, the essay will focus more on the present health status in relation to areas pertinent to PrUs management during the rehabilitation process. For the purpose of this academic work, the patient will be protected by the Nursing and Midwifery Council (NMC) Code of Conduct (2008) by use of a pseudonym, ‘Mr. X’. Mr. X, is an 87 year-old elderly obese patient, with long-term diagnosis of Hypertension (HPN) and Non-Insulin Dependent Diabetes Mellitus (DM), on maintenance medications, who was recently diagnosed of Cerebrovascular Accident (CVA).

Mr. X was transferred to a nursing home after the acute hospitalisation for long-term care. Brunner (2008) defines CVA, Ischemic Stroke, or “ Brain Attack” as sudden loss of neurologic functioning resulting from blood flow disruption in cerebral blood vessels. Stroke has two main types, Ischaemic and Hemmorhaegic: the former is caused by an infarct of blood clot in brain artery and accounts for 80 % of all stroke cases; while the latter is caused by bleeding into the brain tissues accounting to 20 % of stroke occurrences (Feigin et al, 2003).

Stroke is the third leading cause of death and is a major cause of adult neurological disability which affects approximately 130, 000 people a year in the UK (National Audit Office, 2005). Mr. X was diagnosed of having left middle cerebral artery (MCA) infarct 7 months ago resulting to neurological deficits on the contralateral side of the body. The extent of deficits following stroke depends upon the affected cerebral artery and subsequent areas of brain tissue compromised of blood supply by the damaged vessel (Porth, 2007). Upon assessment, Mr.

X has right side hemiplegia, contralateral sensory impairment, dysphasia, bowel and bladder incontinence, and an existing Category I PrUs on both heels. The hemiplegia is explained by Brunner (2008) that because motor neurons decussate, a disturbance of motor control on one side of the body may reflect damage to the motor neurons on the opposite side of the brain. Williams et al (2010) states that following a MCA infarct, there is alteration of the brain’s ability to process and interpret sensory data which results in Mr. X’s sensory impairment.

Porth (2007) defines aphasia as a general term with varying degrees of inability to comprehend, integrate, and express language. Porth (2007) further states that a stroke on the MCA territory is the most common aphasia-producing stroke. It is then imperative to understand the pathology of affected areas of the brain to anticipate presence of motor, sensory, and speech deficits where the nurses and entire therapeutic team can intervene. For the purpose of data gathering and assessment, Gordon's Functional Health Pattern (1987) is utilised as a framework of this essay.

The model presents 11 functional health patterns categorized systematically for data collection and analysis, and is used as a guide in the development of a comprehensive nursing data base (Gordon, 2000). The nurses can identify functional patterns as the clients' strengths and dysfunctional patterns as the nursing diagnoses, which assist the nurse in developing the care plan (Gordon, 1994, 200). The assessment guide is particularly chosen because it gives the nurse a full opportunity to examine not only the physical aspect of human functioning but includes physiological and psychological disturbances experienced by the patient. Nursing diagnoses can then be derived from the wide-range of assessment data collected. The Gordon's assessment tool is thereby used as a framework for ensuring that all aspects of an individual's patient's life are considered. However, this essay will only focus on the following health patterns: Cognitive - Perceptual, Nutritional-Metabolic, Activity and Exercise where nursing problems were identified and thereby require therapeutic care management.

The Agency for Healthcare Policy and Research Guideline for Post-Stroke Rehabilitation (AHCPR, 2005) recommends that initial assessment of stroke patients should include a complete history and physical assessment with emphasis on medical co-morbidities, level of consciousness, skin assessment and risk of PrUs, mobility, and bowel and bladder function. Moreover, the following areas of assessment contribute to the development of PrUs: impaired sensory perception or cognition, decreased tissue perfusion, nutrition and hydration status, friction and shear forces, skin moisture, mobility, and continence status (Brunner, 2008; Porth 2007).

The specific areas mentioned above will be of greater emphasis due to its contribution to PrU management in post-stroke Mr. X. Based upon history taking, Mr. X has been living with Hypertension (HPN) and DM for 12 years and has been insulin dependent for 5 months now after the occurrence of stroke. Past medical history must be taken into essential consideration especially in chronic conditions to ascertain levels of compliance to medical interventions, perception towards illness, and impact on patient's lives (Crumbie, 2006).

Establishment of rapport and consequently gaining trust from the patient thereby enables the nurse to create a good baseline history assessment and attain patient's cooperation through the entire rehabilitation process. The nursing process first step is assessment which involves collecting data to help identify actual and potential health problems and patient needs. In order to develop appropriate nursing diagnoses, accurate assessments should be made to guarantee allocation of appropriate resources in the

planning stage to achieve expected outcomes. Potter and Perry, 2008). It could be suggested that nurses in this stage of nursing process should employ opportunities for holistic assessments and use critical thinking in determining focus areas to be included in the database. The cephalo-caudal principle of assessment is incorporated as a guide for presenting the health patterns, which sets the Cognitive – Perceptual pattern as the first to be approached highlighting assessments on cognition, perception, sensory, pain, and language.

Williams et al (2010) states that post-stroke damage to the brain can result to cognitive and sensory impairment which often includes a decrease in thinking, effective decision-making, memory, and perception. Mr. X's assessment of this health pattern reveals communication difficulty between patient and healthcare team. If communication problems arise, nurses conduct referrals to the Speech and Language Therapy (SLT) who diagnoses presence of aphasia. However, the type of aphasia has not been established yet since Mr.

X has been reportedly uncooperative to therapies. It could be suggested however, that basing on research, the Frenchay Aphasia Screening test (Enderby et al, 1987) can be utilised by the SLT to administer a quick language measure. Another recommendation is the participation of nurses in an interview (Inpatient Functional Communication Interview, McCooey et al, 2004) by the SLT to describe how Mr. X communicate at bedside to help the SLT diagnose communication problems, if any.

The limitation on data gathering and assessment process can be compromised at this stage because of problems on communication between the nurse and the patient. It could be suggested that a referral to a speech pathologist can be made to evaluate the patient's speech, language and ability to understand by testing verbal expression, writing ability, reading, and understanding of verbal expression (Barker, 2002). A nursing diagnosis identified is Impaired verbal communication related to effects of dysphasia.

It may be suggested that nurses should provide patients with aphasia a constant way of communicating, through hand gesture, tone of voice, facial expressions and verify responses with family members when warranted (Holland et al, 2003). It may also be necessary to talk slow, clear, in simple terms and render the patient ample time to understand the information given (Barker, 2002). Family members of aphasic stroke survivors may also experience difficulty in various roles of care giving since the patient cannot communicate effectively (Christensen and Anderson, 1989; Draper and Brocklehurst, 2007).

Therefore, it is also necessary to include the family, caregivers, and the nurses at bedside during therapies to maximise nursing care (Intercollegiate Stroke Working Party, 2008). Mr. X's perception of pain is assessed periodically at varying times of a day to ensure pain relief. Mr. X cannot verbalise pain, but most of the time shows facial grimaces while pointing to right shoulder and hand where pain are felt. Brunner (2008) says that as many as 70 % of stroke patients suffer severe shoulder pain that prevents patients to perform balance and perform self-care activities.

Mr. X upon physical assessment has painful shoulder, swelling and stiffness on right hand, defined by Brunner (2008) as shoulder-hand syndrome which causes a frozen shoulder and subcutaneous tissue atrophy, and is always painful. However, according to Edwards & Charlton (2002), it cannot be a cause of pain if managed correctly with appropriate limb support. In this regard, pain assessments should always be subjective and be backed up with objective data gathered. Nursing diagnosis identified is Chronic pain related to immobility secondary to disease process (Heath, 2008).

Mr. X has been prescribed with pain relief, Piroxicam gel onto pain areas three times a day and Tramadol tab daily. Piroxicam Gel is a non-steroidal anti-inflammatory drug that inhibits the enzyme prostaglandin thereby reducing pain and swelling whereas Tramadol is an Opioid analgesic (British National Formulary, 2010). Moreover, Mr. X has been receiving Amitriptyline HCl to help in the management of post-stroke pain but it causes cognitive problems and sedation (Brunner, 2008) thereby requiring safety nursing measures.

However, non-pharmacological nursing interventions should be employed first hand before medical interventions. Brunner (2008) suggests elevation of the hand and arm to prevent edema. National stroke guidelines recommend any patient whose range of motion at a joint is reduced should undergo passive stretching of all affected joints on a daily basis, and furthermore, taught to carers (Carter & Edwards, 2002) provided that pain relief is achieved at all times.

Referrals to physical therapy or occupational therapy are suggested to evaluate physical debilitations relating to functional mobility to promote pre-morbid independence and subsequently enhance quality of life (Barker, 2011). The second health pattern to be presented is Nutritional – Metabolic. Stroke can present a wide range of deficits which can affect ability to eat and predispose a post-stroke patient from malnutrition (Williams et al. , 2010).

It is supported by Shelton and Reding (2001) who integrates associated weakness and sensory loss on arm and face more than the leg in patients who has had occlusion of the MCA. Barker (2002) states that nearly one third of stroke survivors have dysphagia and chewing difficulties which prompts nurses strategies to liaise aspiration risk with SLT and nutritionist or dietitian. Special diet and caloric calculations may also be needed for Mr. X due to daily insulin management, not to mention daily blood glucose monitoring.

Waterlow (1985) emphasizes that those with eating difficulties are likely to eat less, thereby slowly predisposing to poor nutritional intake, so efforts should be directed at creating good balanced diet, is well-presented, and if possible, assistive devices are provided such as adapted cutlery for ease in eating, plate guards, non-slip pads and beakers for drinking. Monitoring of nutritional deterioration of post stroke patients is essential during rehabilitation phase thereby giving attention to nutritional intake, weight, gastrointestinal function, and general health condition (NICE, 2005).

Weekly weighing has been advocated and utilization of nutritional screening tools that are validated and reliable are recommended by NICE (2005). Review of systems provides skin assessment in nutritional metabolic health

pattern which revealed presence of pressure ulcer on heels. The European Pressure Ulcer Advisory Panel (EPUAP) and National Pressure Ulcer Advisory Panel (NPUAP) (2009, p7) defines, ' A pressure ulcer is localized injury to the skin and/or underlying tissue usually over a bony prominence , as a result of pressure, or pressure in combination with shear'.

Waterlow (1996) emphasizes that excessive weight increases pressure on a bony area thinly covered by tissue such as the sacrum, heels, and trochanters. Pressure ulcers (PrUs) on the heel is a very common site of PrUs, ranking second from the sacrum (Bennett & Lee, 1985; Hunter et al, 1985; Wong & Stotts, 2003) and is often painful (Black, 2005). Krueger (2006) in her study, stated that 25% of heel PrUs are related to diabetic neuropathy and peripheral arterial occlusive disease.

PrU classification systems describe how severe the tissue damage is through progressive numbers or categories (Dealey, 2009). Given that all professionals utilize same system, logic dictates that all PrUs will be objectively assessed, however, Ousey (2005) debates that many grading systems available are rather subjective in nature giving professionals varying assessment interpretations. Grading systems assists healthcare professionals identify the severity of PrUs and serve as a baseline for care plans. However, careful clinical judgement by the nurse s essential in ensuring that the classification systems are used only as a guide, professional skills in assessment are needed to ascertain objective assessment data. In conclusion, grading systems serve as valuable tools to determine pressure sore severity in clinical practice, audit, and research

(Beeckman, 2007). Moreover, consistency in the use of classification system will enable the professionals to define progress of healing, allow evaluation of goals of treatment, and revise plans as deemed necessary.

Based on the European Pressure Ulcer Advisory Panel (EPUAP) and National Pressure Ulcer Advisory Panel (NPUAP) (2009) Pressure Ulcer Classification System, Mr. X has a Category I PrU and is defined as an area of intact skin with non-blanchable redness of a localized area, usually on a bony prominence, which may present as painful, warm, and edematous. The NPUAP and EPUAP classification system was designed to provide commonality in the definition and grading / categorization / staging of pressure ulcer, which is applicable in international settings.

It has four categories, Category I to IV, each defining level of skin injury and adding physiologic descriptions, which is recommended by NICE (2005). Terms such as unclassified or unstageable and deep tissue injury (DTI) which are classified as category IV is discussed separately in the new guideline (NPUAP and EPUAP, 2009). Ousley (2005) stated that Surrey system of classifying PrUs is the simplest tool available, presenting same four levels in plain terms, however, warns professionals of its relative subjectivity due to its simplicity.

The EPUAP (2007) grading system is almost similar to NPUAP (2007), describing four grades, each is described in detail. However, according to a study done by Beeckman (2007), the EPUAP system of classification has a low inter-rater reliability because of complex details in the definition, leading

to a low commonality of professionals identifying the categories of PrUs, jeopardising audit of prevalence rates and affectivity of wound management.

The Torrance grading system involves five stages, each stage described simply and is easy to use, however it was not widely utilised because of its number of categories (Ousey, 2005), which may impose confusion against four categories, rather than achieving consensus. Healey (1995) in her study, revealed that Surrey, Torrance, and Stirling systems do not have a high level of reliability. Similarly, the Stirling Pressure Sore Severity scale (SPSSS) tool is argued by Healey (1995) to have the lowest reliability rate because of its most complex subscales under each category.

There are four stages starting from 0 where there is no evidence of pressure ulcer, then each category has subsections, describing the level of skin injury, wound bed, and presence of infection parameters (Ousley, 2005). However, Waterlow (1996) in her work on pressure sore prevention established the use of SPSSS as the standard classification system to be implemented because she argues that specialists and researchers need to define pressure ulcers in greater depth whereas the other systems' relative simplicity is regarded as weakness in lieu of its use on clinical audit.

In this regard, the NPUAP and EPUAP guideline is considered useful because it provides evidence-based assessment as it is proven to be an effective and reliable tool in every healthcare setting. This will enable the healthcare team to improve the care required for pressure ulcer due to a common baseline assessment of the ulcer, thereby requiring a specified care management depending on its stage. Nurses can then devise a care plan based on ulcer

grading, identify appropriate treatment, allocate care resources, implement the plan, and do continual evaluation of the care plan with its goal directed at wound healing.

However, to achieve this level of patient assessment and care, every nurse should possess the necessary knowledge and skills which can be achieved through continuing education and trainings in pressure risk assessment and PrUs management, an interdisciplinary collaboration (NICE, 2005). Nursing diagnosis identified is Impaired skin integrity related to immobility and decreased sensory perception secondary to disease process (Heath, 2009). Nursing management employed were repositioning Mr.

X every 2 hours avoiding positioning on pressure area (EPUAP and NPUAP, 2009) and taking weight off the mattress by placing a pillow or a folded blanket under entire length of the leg and not under the Achilles tendon to protect the knee as well (Waterlow, 1996; NPUAP and EPUAP, 2009, Langemo et al, 2008). There are marketed devices for heel protection but needs constant care giver assessment since these devices are found to not keep the heels off the bed better than pillows do (Tymec et al, 1997).

Relieving the pressure off the heels is often all that is needed to recover the tissues in category I Heel PrUs (Langemo et al, 2008) and if offloaded continuously hastens recovery time (Black, 2005). Periods of frustration and depression are sporadically experienced by 40 % of stroke patients throughout the recovery process or as a new phase in the trajectory of a chronic illness and is often underdiagnosed (Barker, 2002).

Ideally, a psychiatrist or a clinical psychologist diagnoses depression, but according to Intercollegiate stroke Working Party (2008) a healthcare professional with mental health training can diagnose using a clinical interview. It can also be suggested to use brief screening tools to identify patients at risk of depression such as the Hospital Anxiety and Depression Scale (Zigmond & Snaith, 1983) or the Geriatric Depression Scale GDS (Yesavage et al, 1982) which are validated tools to assess mood in stroke populations (Williams et al, 2010). Amitriptyline HCl, a Tricyclic antidepressant (BNF, 2010) is prescribed for Mr.

X, and is taken daily. Duncan (2005) sets the prevention of stroke recurrence as the highest priorities in stroke rehabilitation and is therefore the responsibility of the nurse to understand stroke risk factors and apply contemporary evidence based lifestyle changes after proper training (Lawrence et al, 2011). Barker (2002) reports that stroke survivors have 30% probability of recurring stroke within a year and 50% can suffer fatal strokes in 5 years. It could then be suggested that a Stroke Risk Screening Tool (Barker, 2002) be utilised to decrease risk of death and evaluate risk factors of Mr.

X such as HPN which is managed at present with antihypertensives, DM managed with Insulin injections, Hypercholesterolemia managed with Antilipidemics, advancing age, obesity, and diet. Therefore, an important aspect of nursing care is health education whereby nurses promote lifestyle change and supportive behavioral approach towards long-term health modification. In conclusion, nurses' role in the care of post-stroke patient is

multi-faceted, one that requires interprofessional linkage and deep understanding of contemporary evidence based interventions to address issues.

DH (2007) further suggests that post stroke patients and their carers should receive support from varying range of services made available locally. Most importantly, though nursing interventions are standardized as guidelines, it could be suggested that it may not be all applicable in every patient interaction and care should be individualized as needed (Landers & McCarthy, 2007). Therefore, it is of prime importance for nurses to understand that healthcare decisions are based from patient's individual choices derived from rational decision-making and the objective and professional advice of every member of the therapeutic team.

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