ACUTE STROKE UNIT ORIENTATION

2023

MODULE 9: MOOD AND BEHAVIOUR CHANGES

Learning Objectives

Upon completion of this module, nurses will be able to:

- Understand the potential impact of stroke on mood and behaviour
- Identify signs and symptoms of post-stroke depression
- Understand their role in assessing for mood and behaviour changes
- Name strategies for managing mood and behaviour changes post-stroke
- Be aware of pharmacological and non-pharmacological treatments for mood and behaviour changes post-stroke
- Teach basic self-management strategies for mood and behaviour changes post-stroke

For the most up to date information please refer to the following Canadian Stroke Best Practice Guideline when completing this module:

Mood, Cognition and Fatigue following Stroke | Canadian Stroke Best Practices

9.1 Mood and Post- Stroke Depression

Stroke can affect the survivor's emotions and self-image. It can also affect relationships with family, friends and others. Many people who survive a stroke feel fear, anxiety, frustration, anger, sadness and grief for their physical and cognitive losses. These feelings are a natural response to the effects of a stroke; post-stroke depression goes beyond these feelings.

A person with post-stroke depression will present with depressed mood or loss of interest or pleasure along with four other symptoms of depression (e.g., weight loss, insomnia, psychomotor agitation, fatigue, feelings of worthlessness, diminished concentration, suicidal ideation) lasting two or more weeks. People with post-stroke depression experience more sleep disturbances, vegetative symptoms, and social withdrawal than depression triggered by other causes.

Symptoms usually occur within the first three months after stroke; however, may occur at any time. Several mechanisms, including biological, behavioural, and social factors, are involved in its pathogenesis.

Vascular depression is a newer concept incorporating a broader range of depressive disorders. Vascular depression is related to small-vessel ischemia and people experiencing vascular depression may have white matter disease seen on brain imaging. People who have experienced a stroke with vascular depression have later age of onset, greater cognitive impairment, less family and personal history of depression, and greater physical impairment than geriatric persons with nonvascular depression. They have been found to have different responses to treatment and different prognoses. In addition, persons with vascular depression with executive dysfunction and/or persons who show progression of white matter hyperintensities over time have a poor response to treatment with antidepressants and a more chronic and relapsing clinical course (Lanctôt et al., 2020).

Post-stroke depression is reported to affect approximately one third of people at some time following the stroke event. Many studies report the highest incidence of post-stroke depression may present within the first three to six months following stroke.

Post-stroke depression is associated with poorer functional recovery, increased risk for dependence, poorer cognitive function and reduction in social participation. In addition, the presence of poststroke depression has been associated with increased risk for mortality. Appropriate identification, diagnosis and treatment of post-stroke depression have been associated with improved outcomes.

Anxiety and apathy have been reported in 20-30% of people who have experienced stroke, either alone or in combination with a diagnosis of post-stroke depression.

Families and caregivers of people who have experienced a stroke are also at risk for depression, with the reported incidence as high as 30% to 60% of caregivers experiencing depressive symptoms (Lanctôt et al., 2020)

Risk factors

The risk factors associated with increased risk for post-stroke depression include:

1. Genetic factors
2. Being a female
3. A personal or familial history of depression, as well as a history of diabetes mellitus
4. Stroke severity
5. Having suffered a left frontal or left basal ganglia lesion
6. Severity of impairment in activities of daily living
7. Cognitive impairments such as executive dysfunction
8. Communication deficits and social isolation

(Saikaley et al., 2020).

Depression versus sadness

It can be difficult to differentiate depression from a normal episode of sadness. Everyone experiences sadness after a loss of a loved one, job difficulties, money problems, family issues or illness. Over time, the mind and body begin to cope with what's happened and make adaptations, and the feelings of sadness diminish.

The difference between depression and sadness is that the feelings last and are often much more severe. A stroke survivor may be experiencing a clinical depression when feelings of unhappiness occur most days, endure for more than a couple of weeks, and begin to interfere with areas of that survivor's life, such as thinking, emotions, relationships, physical health and work. Physical symptoms can add to emotional symptoms and depression can begin to interfere with all aspects of life (Rodriguez, 2009).

Depression can and will affect the patient's ability to participate and perform in rehabilitation activities, decreasing both physical and mental recovery post-stroke. The negative effect of depression underscores the need for early detection and treatment of post-stroke depression which may serve to enhance functional recovery.

Depression as a stroke risk factor

Research has shown a strong link between depression and stroke onset. This is independent of other risk factors. Stroke risk increases with the severity of depression and so management of depression is important in prevention of a recurrent stroke. Some authors have suggested that depression is as big a risk factor for stroke as hypertension (Hakim, 2011).

Depression can be characterized by a number of signs and symptoms; however, these can vary.

Some of the more common signs and symptoms are:

- Feelings of sadness, patient may appear to be "be down in the dumps"
- Loss of interest in activities
- Apathy (e.g., loss of enjoyment of things that the patient once enjoyed)
- Decrease in concentration
- Feelings of anxiety
- Loss of appetite and/or increase in appetite
- Increase in physical complaints
- Isolation (e.g., avoiding people and avoiding socializing)
- Decrease in self-esteem
- Lack or change in confidence
- Suicidal ideation
- Lack of motivation
- Change in sleep patterns
- Decrease in energy and/or extreme fatigue
- Irritability & Anger

It is essential to have an understanding of the stroke survivor's pre-existing personality and mood which may be accentuated post-stroke. The *Social Worker* can connect with the patient/family to provide a more detailed profile.

9.2 Depression Screening

Because of the close link between depression and stroke, the *Canadian Stroke Best Practice Recommendations*: Mood, Cognition and Fatigue following Stroke (2019) state that:

1. All patients with stroke should be screened for depressive symptoms, given the high prevalence of depression poststroke, the need for screening to detect depression, and the strong evidence for treating symptomatic depression poststroke (Evidence Level B).
2. Screening should be undertaken by trained professionals using a validated tool to maximize detection of depression (Evidence Level B).
3. Stroke patient assessments should include evaluation of risk factors for depression, particularly a history of depression (Evidence Level C).
4. For patients who experience some degree of communication challenge or deficits following stroke, appropriate strategies for screening of possible Post Stroke Depression (PSD) should be implemented to ensure adequate assessment and access to appropriate treatment (Evidence Level C).

For screening for post-stroke depression specifically in acute care, the Canadian Stroke Best Practice Recommendations (2019) state that:

Screening for post-stroke depression may take place at various stages throughout the continuum of stroke care, especially at transition points, as time of onset for post-stroke depression can vary and include:

a. At transfer from an inpatient acute setting to an inpatient rehabilitation setting;

b. From an inpatient rehabilitation setting before return to the community;

c. During secondary prevention clinic visits;

d. Following discharge to the community, during follow-up appointments with consulting specialists, and during periodic health assessments with primary care practitioners.

Screening for depressive symptoms could be considered during the initial acute care stay, if deemed medically appropriate, particularly if evidence of depression or mood changes is noted or if risk factors for depression are present.

Repeated screening may be required since the ideal timing for screening for post-stroke depression is unclear.

Validated screening tools for depression

The following are validated screening tools for depression as suggested by the Canadian Stroke Best Practice Recommendations (2019):

- Geriatric Depression Scale (GDS)
- Hamilton Anxiety and Depression Scale (HADS)
- Beck Depression Inventory (BD-II)
- Center for Epidemiological Studies Depression Scale (CES-D)
- Depression, Obstructive sleep apnea and Cognitive Impairment Screen (DOC)
- Patient Health Questionnaire 9 (PHQ-9)

Tools to consider for Aphasic patients:

- Stroke Aphasic Depression Questionnaire-10 (SADQ-10)
- Aphasia Depression Rating Scale (ADRS)

Depression Screening and Management

Stroke has great physical effects on the survivor. It can also affect mood. This change in mood can affect how well the stroke survivor and family cope. An understanding of depression and providing support can help a survivor and their family adjust to the changes (HSF, 2018).

Canadian Stroke Best Practice Recommendations:

All people who have experienced a stroke should be considered at risk for post-stroke depression, which can occur at any stage of recovery.

i. People who have experienced a stroke and families should be given information and education about the potential impact of stroke on their mood.

ii. People who have experienced a stroke and families should be provided with the opportunity to talk about the impact of stroke on their lives at all stages of care

Successful treatment for depression after stroke is highly desirable not only because of the distress of the emotional disorder itself for those who experience it, but also because of its effects on rehabilitative outcomes.

Treatment initially begins with watchful waiting. Watchful waiting is defined as a period of time when the patient who displays mild depressive symptoms is monitored closely without additional therapeutic interventions to determine whether the mild depressive symptoms will improve. The time frame for watchful waiting varies in the literature, somewhere between two to four weeks (Lanctôt et al., 2020).

When a patient screens positive for depression, this needs to be communicated to the Physician and Social Worker for full depression assessment and management:

- The Physician and Pharmacist on your team may be involved in determining the correct medication to treat post-stroke depression.

- The Social Worker can provide counseling and be a valuable source of information, resources, programs and/or services, support groups, and/or education sessions that should be part of your patient's recovery from depression. Consult with the Social Worker any time their involvement would be of value.

Treatment and management will be individualized to the needs of each individual stroke survivor, but they typically include pharmacology, non-pharmacological therapies and other treatment approaches.

Pharmacotherapy

- Pharmacological treatment should be considered and started if the depression is persistent or worsens and interferes with clinical goals.
- No one drug class has been found to be superior for post-stroke depression. However, side effect profiles suggest that the Selective Serotonin Reuptake Inhibitors (SSRI) may be favored in this population.
- Response to medications should be monitored regularly by a health professional. If a good response is achieved, treatment should be continued for a minimum of 6 to 12 months. Examples of a 'good response' may be indicated by positive changes in thoughts and self-perceptions (e.g., hopelessness, worthlessness, guilt), emotional symptoms (e.g., sadness, tearfulness), neurovegetative symptoms (e.g., sleep, appetite), and improved motivation to carry out daily activities.

Non-Pharmacological Therapies

- It is reasonable to consider either cognitive-behavioural therapy or interpersonal therapy as one of the first line treatments for depressive symptoms post stroke
- Psychotherapy may be included as an adjunct in combination with antidepressants
- Problem-solving therapy (i.e., cognitive-behaviour therapy) has been shown to have efficacy for prophylactic treatment for post-stroke depression
- Other approaches to adjunctive treatment include music, mindfulness, and motivational interviewing

There are several ways that you can help:

- Observe and listen, build a connection with the person
- Encourage compliance with medication, especially advising how long medication can take to work (4-6 weeks); treatment should be continued for a minimum of six months before slowly withdrawing
- **Remind the person that help is available, and depression can be treated**
- Always educate patients and caregivers on post-stroke depression and available services with the support of the *Social Worker* or *Physician*
- Involve caregiver and family and/or friends in treatment
- Encourage emotional expression
- Refer to a *Recreation Therapist*

Severe depression can lead to recurrent thoughts of death (not just fear of dying), recurrent suicidal ideation with or without a specific plan for suicide, or a suicide attempt. If the individual you are working with expresses these symptoms or you have concerns regarding harm to self or others, safety is of utmost importance. Take immediate action by advising the appropriate team member

9.3 Strategies for Managing Behaviour Changes

Behaviour and personality changes can result from a stroke. Strokes that occur in the temporal and/or frontal lobes of the brain may cause personality changes, emotional and behavioural changes (HSF, 2018). The behaviour changes can also be a result of cognitive and/or perceptual deficits resulting from the stroke.

Stroke survivors may become more impulsive and act without thinking about the consequences. Many survivors are unaware of their deficits after a right hemisphere stroke, which means they may require monitoring for potentially unsafe behaviours. Some patients experience a flat affect, which means face and tone of voice do not show changes in emotion, whether they are telling a joke or discussing something sad.

The behaviour changes may not be consistent. For example, a stroke survivor may be acting appropriately one day, but the next day the survivor may have some inappropriate behaviour.

Assessment of Behaviour Changes

The impact of stroke on behaviour depends on where the stroke was in the brain, how severe it was, and how the survivor behaved before the stroke. Having an understanding of the stroke survivor's pre-existing personality and moods which may be accentuated post-stroke, will help with your assessment. The *Social Worker* may be able to connect with the patient/family to provide a more detailed profile.

Becoming familiar with and watching for the following signs may help to identify behaviour changes in the patient:

Emotional lability

- Rapidly changing, inappropriate, prolonged or excessive emotional responses to a given situation
- Emotions do not match the situation (e.g., cry at a happy story)
- Lack of emotional control
- Emotional response is extreme (e.g., laugh uncontrollably after hearing a joke, or cry uncontrollably)

Social isolation

- Decreased participation in events that normally would have been of interest to the survivor prior to the stroke
- Avoidance of family and/or friends and social gatherings
- Poor self-image, low self-esteem, feelings, of sadness, despair, or helplessness can lead to increased social isolation

Anger and aggression

- Angry outbursts or inability to control anger or aggression
- Persons with stroke can become irritable, impulsive, hostile and less tolerant
- Can lead to physical or verbal aggression
- Overt aggression is usually observed during the acute stage in patients
- Cognitive and physical impairments, communication difficulties and pain are examples of things that can increase likelihood of anger

Apathy

- Complete lack of feeling, emotion, motivation or interest about a person or activity
- Lack of interest in activities of daily living, or in any leisure activities
- The stroke survivor may appear indifferent or suppress emotions
- Failure at an activity, embarrassment, fear of failure, fatigue, or depression can lead to apathy

Social judgment

- Talk or act inappropriately in social situations
- Can lead to inappropriate behaviour such as sexual disinhibition, wandering and repetitive behaviour
- Poor judgement can lead to poor decision making e.g. buying 15 pairs of socks
- Personality changes cognitive impairment, lack of insight caused by the stroke can all lead to increased poor social judgement

Anxiety

- Feelings of fear, worry and unease that can manifest physically such as in high blood pressure
- Is more excessive than just feeling stressed
- Can lead to recurring thoughts or worries
- Can have anxiety on its own or with depression
- Worrying about having another stroke, being unable to drive or that you're never going to feel better, can lead to increased anxiety

Anxiety disorders occur when symptoms become excessive or chronic. In the post-stroke literature anxiety has been defined both by consideration of the presence and severity of symptoms using validated screening and assessment scales (such as the Hospital Anxiety and Depression Scale), or by defining syndromes using diagnostic criteria (e.g., panic disorders, general anxiety disorder, social phobia) (CSBPR – Lanctôt et al., 2020)

Strategies for Managing Behaviour Changes

Stroke has an unpredictable impact on basic personality which can be devastating for the person with stroke and their loved ones. People often don't realize they are acting differently, and this can make it difficult to address the changes. Everybody needs time to find ways to cope with the changes.

Emotional lability

- Be aware of triggers which can include things such as:
    - Excessive fatigue
    - Stress, worry and/or anxiety
    - High levels of sensory stimulation
    - Time pressures, pressure to perform, or pressure to speak (e.g., on phone)
    - Experiencing strong emotions or discussing emotional topics (e.g., relationships, a significant loss)
    - Demands from others
    - Very sad or funny situations
- Take time away from the trigger and/or situation to settle the emotions
- Confirm with them if the emotions you are seeing outside match what they are feeling inside
- Don't focus on the behaviour; at times it may be appropriate to continue with normal conversation
- Use of distraction may be beneficial in helping the patient refocus
- Give support and explain to the patient and family that this is a common effect of the stroke
- Involve a *Social Worker* as needed
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Social isolation

- Encourage patient to join into a group or leisure activity
- Look for ways to overcome barriers to make it easier for them to participate
- Be supportive and encourage patient to talk about their fears and/or concerns
- Promote independence to help them achieve confidence

Anger and aggression

- Identify triggers such as clutter, overstimulation, fatigue, pain, etc.
- Plan together a solution to the problem causing the outburst
- Treat pain with analgesic
- Learn preferences and routines and follow when possible
- If aphasic, use communication boards and supportive conversation techniques
- Set reasonable and/or attainable goals
- Recognize limitations and offer assistance or support during activities that cause frustration.
- Encourage a stroke diary to illustrate the patient's progress
- Involve family in care
- Involve a *Social Worker* and/or *Psychologist* if needed

During an outburst:

- Always use a calm approach. Discreetly remove the person away from the situation or activity that triggered the outburst
- Redirect their attention elsewhere, such as to a favourite activity
- Stay safe. If the person becomes violent, give them space and seek help from others if necessary
- Report the incident to a relevant team staff member (HSF, 2020)

Strategies for Managing Behaviour Changes

Apathy (lack of interest)

- Ask the stroke survivor what interests them, and build on this
- Encourage, but do not force participation
- Support patient's decision not to participate but continue to ask/invite
- Praise patient for accomplishments
- Try to reduce frustration in activities by choosing activities that the patient will be able to participate in

Social judgment

- Inform patient that they are being inappropriate
- Do not criticize but encourage alternative action and/or conversation to deal with situations
- Reinforce appropriate behaviours
- Recognize patient's limitations and do not place patient in unsuitable situations if possible
- Inform family that impaired social judgment may be caused by the stroke

Anxiety

- Be aware of anxiety producing foods such as caffeine and processed food
- Suggest coping strategies that may include exercise, journaling, listening to music
- Encourage them to practice relaxation techniques e.g. yoga, meditation

The best treatment for anxiety disorders usually involves a combination of mindfulness, cognitive therapy, and diet changes. But medication may be necessary in severe cases.

People who have experienced a stroke with cognitive impairment and evidence of changes in mood (e.g., depression, anxiety), or other behavioural changes on screening could be referred to and managed by an appropriate mental healthcare professional (Canadian Stroke Best Practice Recommendations, 2020)

In cases of severe, persistent or troublesome tearfulness, emotional incontinence or lability, a trial of antidepressant medication should be considered. Side effect profiles suggest that some selective serotonin reuptake inhibitors may be preferred over others for this population.

Self-management of behaviour changes

- Encourage self-awareness and the ability to recognize one's limits.
- Rearrange the environment to allow the survivor as much independence as possible.
- Identify triggers and limit exposure to situations or activities that are overwhelming.
- Recommend the stroke survivor join a community support group
    - Stroke - After Stroke Program | March of Dimes Canada
    - Living with Stroke | Heart and Stroke Foundation
    - Health Services for Ontario - thehealthline.ca

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