



The Rehabilitation Psychologist

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PROFESSIONAL SECTION:

ELEMENTS OF PSYCHOSOCIAL REHABILITATION [SERIES: PART-2]

EMOTIONAL REACTIONS TO CHRONIC ILLNESS OR DISABILITY

Advances in research and the delivery of health care have reduced mortality from disease and extended life expectancy. We are living longer, but are we necessarily living better? (Turner, 2000). Sudden, unexpected, or life-threatening chronic illness or disability engenders a variety of reactions. How individuals view their condition, its causes, and its consequences greatly affects what they do in the face of it. They may view their condition as a challenge, an enemy to be fought, a punishment, a sign of weakness, a relief, a strategy for gaining attention, an irreparable loss, or an uplifting spiritual experience. Although emotional reactions vary, the following are common.

Grief

Grief is a normal reaction to loss. Individuals with chronic illness and disability may experience loss of a body part, loss of function, role, or social status, or other perceived losses that lead to a reaction of grief. Although the grieving and the progression through stages of grief vary from person to person, a common initial reaction is shock, disbelief, or numbness during which the diagnosis or its seriousness may be denied or disputed. As individuals acknowledge the reality of the situation, the grief reaction may become more pronounced.

After repeated confrontations with elements of loss, normal adaptation results in a gradual change in emphasis and focus that enables individuals to accept the loss emotionally and to make the adjustments and adaptations that are necessary to re-establish their place within the everyday world. When the grief reaction is prolonged, individuals may develop a pathological grief reaction, which may become more disabling than the

chronic illness or disability itself.

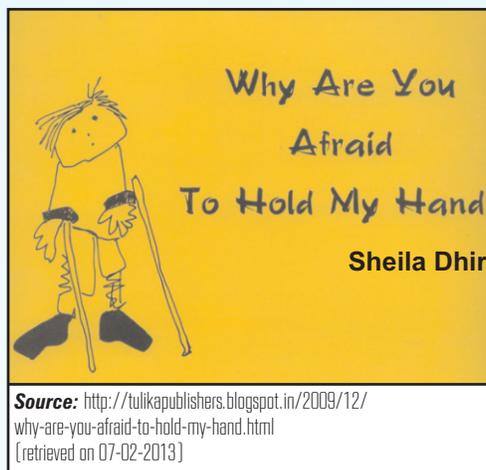
Fear and Anxiety

Individuals normally become anxious when confronted with threat. A chronic illness or disability can pose a threat because of the potential loss of function, love, independence, or financial security. Threat causes anxiety. Some individuals fear the unknown or unpredictability of a condition, which provokes anxiety. For others, hospitalizations that immerse them in a strange and unfamiliar environment away from home, family, and the security of routine produce anxiety. When conditions are life-threatening, fear and anxiety may be associated not only with loss of function, but also with loss of life. Fear and anxiety associated with chronic illness or disability can place individuals in a state of panic, rendering them psychologically immobile and unable to act. Helping them regain a sense of control over their situation through information and shared decision making can be an important step in reducing anxiety and facilitating rehabilitation.

Anger

Individuals with chronic illness or disability may experience anger at themselves or others for perceived injustices or the losses associated with their condition. They may believe that their chronic illness or disability was caused by negligence or that their condition was avoidable. If they perceive themselves as victims, anger may be directed toward the persons or circumstances they blame for the condition or situation. If they believe that their own actions were partly to blame for the chronic illness or disability, anger may be directed inward.

Anger can also be the result of frustration. Individuals may vent frustration and anger by showing hostility toward those who



have no relationship to the development of the chronic illness or disability and no influence over its outcome. Anger may also be an expression of the realization of the seriousness of the situation and its associated feelings of helplessness. At times, anger may not be openly expressed but rather expressed through quarreling, arguing, complaining, or being excessively demanding in an attempt to gain some control. Helping individuals express anger in appropriate ways and enabling them to experience a sense of control over their situation can help to resolve anger, which could otherwise be detrimental to successful rehabilitation.

Depression

With the realization of the reality, seriousness, and implications of the chronic illness or disability, individuals may experience feelings of depression, helplessness and hopelessness, apathy, and/or dejection and discouragement. Signs of depression include sleep disturbances, changes in appetite, difficulty concentrating, and withdrawal from activity. Not all individuals with chronic illness or disability experience significant depression, and, in those who do, depression may not be prolonged. The extent to which depression is experienced varies from person to person. Prolonged or unresolved depression can result in self-destructive behaviors, such as substance abuse or attempted suicide. Individuals with prolonged depression should be referred for mental health evaluation and treatment.

Guilt

Guilt can be described as self-criticism or blame. Individuals or family members may feel guilt if they believe they contributed to, or in some way caused, the chronic illness or disability. Those who develop lung cancer or emphysema after years of tobacco use, or those who receive a spinal cord injury from an accident that occurred because they were driving while intoxicated, may experience guilt because of the role they played. In other

instances, they may experience guilt because they feel their chronic illness or disability places a burden on their family or because they are unable to fulfill former roles. Family members may experience guilt because of anger or resentment they have toward the individual with a disability. Guilt may also be associated with blame. Family members may actively demonstrate scorn or contempt toward the individual with chronic illness or disability, causing him or her to feel more guilty. Guilt may be expressed or unexpressed and can occur in varying dimensions. It can be an obstacle to the successful adjustment to the condition and its limitations. Self-blame or blame ascribed by others is detrimental not only to the individual's self-concept, but also to rehabilitative efforts as a whole. Guilt that affects rehabilitation potential or well-being is an indication that referral to appropriate professionals for evaluation and treatment may be appropriate.

The emotional dimensions of chronic conditions are often overlooked when medical care is considered. It can be difficult to diagnose depression in the medically ill but diagnosis and treatment are essential. Doctors may be well equipped for the biomedical aspects of care but not for the challenges of understanding the psychological, social, and cultural dimensions of illness and health. Rehabilitation Psychologist can play an important part in helping the patients to maintain healthy coping skills. Rehabilitation Psychologist reflects on the emotional dimensions for support, including how professional development and training may enhance professional satisfaction and patient care, and the important role that relationships and outside activities have in providing balance. (Turner, 2000)

Turner J & Kelly B (2000). *Emotional dimensions of chronic disease*, *Western Journal of Medicine*, 172, 128-130

Falvo D (2005). *Medical and Psychosocial Aspects of Chronic Illness and Disability*, 3ed, Jones and Bartlett Publishers, Inc. Canada.

VISITOR'S SECTION: BRAIN AND BEHAVIOR

Neurotransmitters

In the previous issue we have understood what action potential is: it is communication within the cell body (neuron). Communication within the neuron will decide the information flow between two neurons. Each neuron is literally connected to thousands of other neurons. The nature of information determines the mode of neuronal communication, which is electrical or chemical. If the information which needs speed (fast) is basically through electrical mode of communication (e.g., reflexes) and anything other than that (e.g., complex behaviours and learning process) is carried out mostly by

chemical type of communication.

The terminals of each axon houses neurotransmitters (chemical substance used for sharing information). A substance can be considered as transmitter, if it demonstrates the following:

1. The substance exists in the presynaptic axon terminals
2. The substance is released in significant quantities when nerve impulses reach the terminals
3. Specific receptors that recognize the released substance exist on the post synaptic membrane
4. Blocking release of the substance prevents presynaptic nerve impulses from altering the activity of the postsynaptic cell.

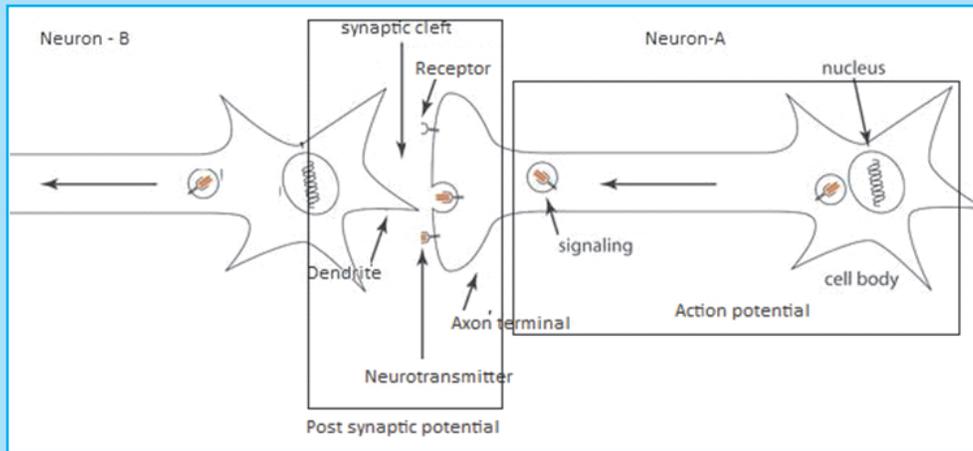


Figure-1 displays a schematic representation of chemical communication between two neurons involving neurotransmitter. Note that a neurotransmitter is received by post synaptic neuron through a specialized chemical called 'receptors'. A neurotransmitter can be excitatory/inhibitory depending on its structure and function.

Neurotransmitters affect their targets by interacting with receptors (yet another chemical substance) embedded in the postsynaptic neuron membrane that recognizes the transmitter. The transmitter molecule binds to the receptor, changing its shape to open an ion channel (fast! Ionotropic receptors) or slow (metabotropic receptors). There are two kinds of neurotransmitters – INHIBITORY and EXCITATORY. Excitatory neurotransmitters are not necessarily exciting – they are what stimulate the brain. Those that calm the brain and help create balance are called inhibitory. Inhibitory neurotransmitters balance mood and are easily depleted when the excitatory neurotransmitters are overactive.

Inhibitory Neurotransmitters

SEROTONIN is an inhibitory neurotransmitter – which means that it does not stimulate the brain. Adequate amounts of serotonin are necessary for a stable mood and to balance any excessive excitatory (stimulating) neurotransmitter firing in the brain. If you use stimulant medications or caffeine in your daily regimen – it can cause a depletion of serotonin over time. Serotonin also regulates many other processes such as carbohydrate cravings, sleep cycle, pain control and appropriate digestion. Low serotonin levels are also associated with decreased immune system function.

GABA (Gamma-aminobutyric acid) is an inhibitory neurotransmitter that is often referred to as “nature's VALIUM-like substance”. When GABA is out of range (high or low excretion values), it is likely that an excitatory neurotransmitter is firing too often in the brain. GABA will be sent out to attempt to balance this stimulating over-firing.

DOPAMINE is a special neurotransmitter because it is considered to be both excitatory and inhibitory. Dopamine helps with depression as well as focus, which you will read about in the excitatory section.

Excitatory Neurotransmitters

ACETYLCHOLINE – is a neurotransmitter that is important for the formation of memories. Studies have shown that levels of acetylcholine are reduced in the brains of people with Alzheimer's disease. Any stress (due to a drug, disorder, or situation) causes the level of acetylcholine to decrease, interfering with the brain's functioning. As people age, the brain produces less acetylcholine. Thus, if any condition causes the acetylcholine level to decrease further in older people, they are more likely to experience confusion. Confusion means different things to different people, but professionals use the term to describe people who cannot process information normally. Confused people cannot:

- Follow a conversation
- Answer questions appropriately
- Understand where they are
- Make critical judgments that affect safety
- Remember important facts

DOPAMINE is our main focus neurotransmitter. When dopamine is either elevated or low – we can have focus issues such as not remembering where we put our keys, forgetting what a paragraph said when we just finished reading it or simply daydreaming and not being able to stay on task. Dopamine is also responsible for our drive or desire to get things done – or motivation. Stimulants such as medications for ADD/ADHD and caffeine cause dopamine to be pushed into the synapse so that focus is improved. Unfortunately, stimulating dopamine consistently can cause a depletion of dopamine over time.

NOREPINEPHRINE is an excitatory neurotransmitter that is responsible for stimulatory processes in the body. Norepinephrine helps to make epinephrine as well. This neurotransmitter can cause ANXIETY at elevated excretion levels as well as some “MOOD DAMPENING” effects. Low levels of norepinephrine are associated with LOW ENERGY, DECREASED FOCUS ability and sleep cycle problems.

EPINEPHRINE is an excitatory neurotransmitter that is reflective of stress. This neurotransmitter will often be elevated when ADHD like symptoms are present. Long term STRESS or INSOMNIA can cause epinephrine levels to be depleted (low). Epinephrine also regulates HEART RATE and BLOOD PRESSURE.

GLUTAMATE is considered to be the major mediator of excitatory signals in the mammalian central nervous system and is involved in most aspects of normal brain function including cognition, memory and learning. Glutamate does not only mediate information, but also information which regulates brain development and information which determines cellular survival, differentiation and elimination as well as formation and elimination of nerve contacts (synapses). From this it follows that glutamate has to be present in the right concentrations in the right places for the right time. Both too much and too little glutamate is harmful. This implies that glutamate is both essential and highly toxic at the same time.

<http://www.neurogistics.com/TheScience/WhatareNeurotransmi09CE.asp>
http://www.merckmanuals.com/home/print/brain_spinal_cord_and_nerve_d_isorders/delirium_and_dementia/delirium.html
<http://www.neurotransporter.org/glutamate.html>

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