Communication Facts: Special Populations: Stroke - 2004 Edition

Stroke is a cerebrovascular injury that occurs when blood flow to the brain is interrupted by a clogged or burst artery. The interruption deprives the brain of blood and oxygen, thereby causing brain cells to die. The specific abilities that will be lost or affected by stroke depend on the extent of brain damage and, most importantly, where in the brain the stroke occurred. When brain cells die, functions may become impaired or lost, causing paralysis, speech and language problems, memory and reasoning deficits, coma, and possibly death.

General Demographics

- Stroke is a leading cause of death in the United States, and a major cause of serious, long-term disability in adults. Estimates of stroke incidence in the medical and allied health literature range from 500,000 to 760,000 in the United States annually. However, these figures are based on symptomatic strokes and most likely do not reflect the incidence of non-symptomatic infarcts (tissue death resulting from insufficient blood supply) and hemorrhages (massive internal bleeding) (1-3).
- One third of stroke survivors are expected to experience another stroke within five years (3).
- Projected health care costs due to stroke vary from $40.9 million to $51 million annually. These estimates include nursing home costs and lost productivity (3, 4).
- There are few studies that analyze stroke in women, taking into account the vascular risk factors, cause of stroke, clinical picture, and outcome. According to one study, sex determines some clear differences in patients suffering a first-ever stroke (5).
- Stroke is a major cause of death and disability among African Americans (6, 7). Yet research on stroke knowledge and barriers to stroke prevention among African Americans is limited (6).
- Despite recent advances in treatment for stroke, there has been limited improvement in the public's knowledge of stroke signs and symptoms, initiation of stroke-risk-reduction behaviors, and the importance of early treatment-seeking actions (3).

Age

- The number of patients affected by stroke will increase as an effect of aging (8).
- Stroke in the young is rather rare. The proportion of juvenile stroke is strongly linked to the structure of the population (9).
- Individuals 15-44 years of age are generally considered young adults and have many risk factors mentioned that may include drug use, alcohol abuse, pregnancy, head and neck injuries, heart disease or heart malformations, and infections. Some other causes of stroke in the young are linked to genetic diseases (10).

Communication Disorders and Stroke

Changes in communication abilities after stroke are common. These changes can cause mild, moderate, or severe problems. The degree to which stroke-related communication changes will affect a person's functioning depends in part on how much the person used communication skills in everyday life before he or she had a stroke (11).

Cognitive-Communication Disorder

Cognitive-communication skills are the way individuals use the thought process to communicate. To communicate well, people need to be able to see and concentrate on what is going on around them. Cognitive-communication disorder after a stroke is the loss of the ability to see and concentrate on what is happening during communication. Because basic communication is often not impaired, people with cognitive-communication disorder may not realize that they have communication problems until they are in more complex settings (11).

Aphasia

Aphasia is a language disorder that results from damage to portions of the brain that are responsible for language, typically located in the left side. The disorder impairs the expression and understanding of language, as well as reading and writing (12).

- It is estimated that approximately 1,000,000 individuals in the United States have aphasia. The majority of these cases are a result of stroke (13).

- It is estimated that approximately 80,000 individuals acquire aphasia each year (12).
- Aphasia may co-occur with speech disorders, such as dysarthria or apraxia of speech, which also result from brain damage (12).

Dysarthria

Dysarthria refers to a group of speech disorders resulting from weakness, slowness, or poor coordination of the speech mechanism resulting from damage to a variety of points in the nervous system. Dysarthria may involve disorders to some or all of the basic speech processes such as respiration, phonation, and resonance (14).

- Speech errors that occur in dysarthria are highly consistent from one occasion to the next (14).
- The prevalence of dysarthria following a stroke is not well documented (14).

Apraxia of Speech

Apraxia of speech is a loss of the ability to make sequenced patterns of movements for talking.

- For most people, apraxia of speech comes from a stroke on the left side of the brain (11).
- Apraxia of speech is characterized by highly inconsistent errors (13).
- Although several studies have examined developmental apraxia of speech in children (15), a general population prevalence estimate is not provided.

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*Compiled by Andrea Castrogiovanni * American Speech-Language-Hearing Association * 10801 Rockville Pike Rockville MD 20852 * acastrogiovanni@asha.org*