

*Communication Disorders
in Aging*

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*Communication Disorders
in Aging*

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Foreword

Older adults are in most instances no different than younger ones other than the fact that they have grown older. They have the same personality as they did when they were young; maybe it is a little stronger, but it is basically the same. They look the same except for some wrinkles and sagging skin, and are maybe a little shorter due to the pull of gravity over the years. Their voice will be the same except for the possibility of some change due to the aging vocal mechanism, so pitch may raise slightly, and they may speak a little louder due to a decline in their hearing. Their walking gait may slow just a little since they may not exercise as much as they used to and their joints might ache, and they may be wearing reading glasses since there may be a change in their near vision. But, everyone is different, and some people age faster and more dramatically than others. When I was in my first year of graduate school, one of my classmates by the name of Bob was, at age 23, bald, ashened faced, somewhat prematurely wrinkled, and had a voice that resembled that of an older man. In other words, he looked and acted “old,” at least to me. So, we are all aging differently. I like to think of myself as a younger/older person, but perhaps I am deluding myself into visualizing myself as such.

The one aspect of growing older that seems to be common among people is that disorders of communication are more often observed. Those are the result of stroke and other related diseases and disorders of the peripheral and central nervous system, Parkinson’s disease, hearing impairment, the influences of drugs and medications on their ability to communicate, and the various forms of dementia. Further, environmental factors can influence the ability of older adults with impaired hearing to a greater degree than younger adults.

Counseling must be adapted to take into consideration the age and status of the older adult as compared to the counseling

strategies used with younger adults and children. And, if an older adult experiences a dramatic change in their ability to communication with family and friends, the result can be even more devastating in light of the many other changes that frequently occur as a person ages. For example, the death of a spouse, difficulties with transportation, financial difficulties, restricted mobility due to physical decline, the inability to hear, can all influence the ability of an older adult to take advantage of and respond to the services by the rehabilitation professional.

This book is designed to help people understand the process of aging, its impact on the human organism, the disorders of communication that are more frequently observed in older adulthood, and the impact of those disorders on them. Most importantly, it provides information on how to serve those individuals who experience the various disorders of communication that can affect them. I hope it helps you to understand the frustrations that approximately 32 million adults over age 60 years experience as a result of various disorders of communication, and ways we can assist them—that is, in a world of people who may not understand the impact of those disorders on older adults, how best to communicate with them, and importantly, in places that are not meant for communication.

This book is intended for use in the academic preparation of all who will serve older adults in a variety of settings, including those in audiology and speech-language pathology, nurses who are preparing to become geriatric nurse practice specialists, those who are preparing to become gerontologists, psychologists, family practice physicians, geriatric medicine specialists, and others who serve or who are preparing to serve older adults.

However, due to the very practical nature of this book, it will also prove to be a wonderful resource for family members and other significant persons in the life of older adults who experience a disorder of communication. The information contained within this book is that which many persons who know or serve older adults request from the author/editor when he speaks at conferences and conventions around the United States, Europe, and Canada.

Students will appreciate *Communication Disorders in Aging*, because it is clear and easy to read, and the content is practice oriented rather than laden with philosophical discourse. Professionals who teach and/or practice in any field that serves older adults will like it because it does not burden them with information that may not be topic related, or cause them to feel guilty that their students were required to purchase a book that contains more information than was needed.

Communication Disorders in Aging is designed to focus on the most important *practical* aspects for understanding the processes involved in recognizing and assisting older adults who possess various disorders of communication. It contains the material needed to understand the nature of disorders of communication in older adulthood and the processes for serving those who possess it. However, it avoids the technical detail of more cumbersome, theoretical texts.

The 12 chapters provide students and professionals with concise and clearly readable information on the elements and process for serving older adults who possess communication impairments. The beauty of this text is in the ease of reading that students, professionals, and laypersons will applaud. It is clear and readable in its presentation.

—Ray H. Hull, PhD

Preface

This book is written for those who desire to gain a basic understanding of disorders of communication that can affect people as they age, and how they are served. The purpose is to provide a basic look at the nature of communicative impairments that primarily affect older adults, the psycho-social-communicative impact of communicative impairments on the life of older adults, and the processes for assisting older adults who possess those impairments that can be used by both service providers, and the family of the older adult.

The chapters of this book present information on

1. the special nature of aging and the impact of impairments of communication on older adults;
2. an overview of various disorders of communication that primarily affect older adults, and a review of older adults in America;
3. the impact of various drugs and medications that are prescribed for older adults and their potential negative influences on communication and response to assessment and treatment of the disorders that older adults may possess;
4. a look at modifications in assessment and treatment that are appropriate for older adults;
5. counseling the communicatively impaired older adult;
6. the influence of family on service provision on behalf of older adults;
7. a look at various disorders of communication that primarily affect adults as they age including those of
 - a. aphasia,

- b. laryngectomy and other diseases and disorders of the voice,
 - c. Parkinson's disease and related disorders,
 - e. the many shades of dementia, and
 - f. hearing impairment and its impact on older adults;
8. the impact of the environment on communication by older adults; and
9. special considerations on the provision of services on behalf of confined older adults who reside in nursing homes and other types of health care facilities, among other topics.

The book is intended for use in the academic preparation of all who will serve older adults in a variety of settings, including those in audiology and speech-language pathology, nurses who are preparing to become geriatric nurse practice specialists, those who are preparing to become gerontologists, psychologists, family practice physicians, geriatric medicine specialists, and others who serve or who are preparing to serve older adults.

Due to the very practical nature of this book, it will also prove to be a wonderful resource for family members and other significant persons in the life of older adults who have impaired hearing. The information contained within this book is that which many persons who know or serve older adults request from the author when he speaks at conferences and conventions around the United States, Europe, and Canada.

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involved in assisting older adults who possess various disorders of communication. It contains the material needed to understand the nature of disorders of communication in older adulthood and the processes for serving those who possess it. However, it avoids the technical detail of more cumbersome theoretical texts.

The 12 chapters provide students and professionals with concise and clearly readable information on the elements and process for serving older adults who possess communication impairments. The beauty of this text is in the ease of reading that students, professionals, and laypersons will applaud. It is clear and readable in its presentation. It is “holistic” in scope, and within its pages is a neatly presented and eclectic approach to serving diverse populations of older adults.

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Demography and Characteristics of Communicatively Disordered Older Adults

Raymond H. Hull

Introduction

It is estimated that more than 80% of all persons who possess disorders of communication are past the age of 21 years. It is further estimated that 95.5% of those with hearing impairment are past the age of 17 years (National Advisory Neurological Diseases and Stroke Council, 1999). Within that percentage, the prevalence of hearing impairment becomes 10 times greater during the fifth, sixth, seventh, and eighth decades of life. According to Carstensen (1989), approximately 70% of older adults who were tested at various sites, including nutritional centers, senior centers, and other community sites, possessed speech-language or hearing problems.

The estimate of the incidence of speech disorders among those aged 65 years and above is 212,448 (Fein, 1989). When other

communicative impairments, including disorders of language as a result of stroke, or motor-speech disorders arising from such diseases as Parkinson's, multiple sclerosis, amyotrophic lateral sclerosis, cancer of the larynx, and others are included, the incidence rises to over 1.5 million. Hearing impairment is, further, estimated to affect over 36 million adults in the United States (National Center for Health Statistics, 2008), with the number of those age 65 years and above estimated at 28 million. The total, then, of the incidence of all forms of communication disorders among persons over age 65 years is estimated to be more than 29.5 million, if the communicative disturbances arising from the dementias are also included. In light of the significant increase in the survival rate of persons who have incurred traumatic closed head injury, and the continued increase in longevity of most older persons, one can expect the incidence of communication disorders among the elderly to continue to increase.

Projected incidence figures into the year 2050 (Fein, 1983) show dramatic differences between younger and older populations. While the incidence of speech disorders among persons over age 65 will increase from 15% in 1960 to 39% in the year 2050, the incidence among children 0 to 15 years will decrease from 44% in 1960 to 23% in 2050. The most dramatic incidence differences are predicted in the percentage who possess hearing impairment among adults aged 65 years and older—the incidence is predicted to increase from 37% in 1960 to 59% in the year 2050.

It is currently estimated that the present incidence of hearing impairment among persons aged 65 and beyond is close to 50% (Saunders, Konrad-Martin, & Hull, 2012). If one also notes the dramatic increase in the number of persons who will survive beyond age 65 years over the time span from the present into the middle of the 21st century, the actual numbers of persons with impaired hearing will, indeed, be great. On the other hand, the incidence of hearing impairment among children from age 0 to 15 years is estimated to decrease from 6 to 2% between the years 1960 and 2050 (Fein, 1983).

Communication Disorders Among Older Adults

Among the various disorders of speech, language, and hearing, the following appear primarily to affect older adults.

Laryngectomy and Other Disorders That Affect the Vocal Mechanism

The surgical removal of the vocal mechanism (laryngectomy) because of cancer affects approximately 13,000 persons each year (National Cancer Institute, 2013), and the incidence appears to be rather stable. Of all human cancer, laryngeal cancer is the second most common respiratory cancer after lung cancer (Cattaruzza, Maisonneuve, & Boyle (1996). The ratio of men to women who acquire cancer of the larynx is 7:1. Again, the incidence figures are estimates.

Other forms of disease or insult can result in the loss of voice. For example, such diseases as amyotrophic lateral sclerosis (ALS) may result in degeneration of vocalization, along with other effects on speech. The incidence of ALS is approximately 5,000 to 10,000 persons (Muscular Dystrophy Association, 1997). Onset is most frequently observed between the ages of 50 and 60 years.

Muscular dystrophy of late onset may result in vocal degeneration, resulting in a weak voice and difficulty sustaining phonation. According to the Muscular Dystrophy Association, there are approximately 200,000 persons who possess MD of late onset. The age of onset appears to be ages 40 to 50 years. As more persons with ALS and MD live longer, the incidence of these disorders will likewise increase.

Aphasia

Aphasia is a general term used for disorders that manifest themselves as difficulty in formulating language (calling up the symbols

to be used for speech), comprehending what others are saying, or perhaps expressing oneself. People with aphasia not only have difficulty speaking and calling up the words they desire to say, but may also find it difficult to read, to write, to comprehend the speech of others, or to work with numbers.

The most common cause of aphasia is stroke in older adulthood. The stroke (cerebral vascular accident) results in damage to the brain. If the damage occurs in the area of the brain responsible for motor speech (Broca's area), or to various speech-language association areas related to visual language or auditory language, any of a number of forms of aphasia can occur. Other causes of aphasia are tumors, traumatic injury resulting from automobile accidents, or infectious diseases such as encephalitis. When language and speech are impaired, the injury is almost always to the left hemisphere of the brain, which is most frequently the dominant hemisphere for language and speech.

There are approximately 1 million persons in the United States who possess some form of aphasia (Centers for Disease Control and Prevention, 2012). According to the National Stroke Association in their 2008 report, the number of new cases of aphasia due to stroke or other causes is estimated at 800,000 annually in the United States (National Stroke Association, 2008). The majority are past 65 years of age. According to Engelter et al. (2006), 15% of individuals under age 65 years experience aphasia, and that percentage increases to 43% for individuals age 85 years and older. By age 85 years, the incidence rises to about 5,000 per 100,000 persons. According to a report by the U.S. Department of Health and Human Services (2008), 75% of those who suffer from stroke are aged 65 years or older. Approximately 400,000 persons per year suffer a stroke, with transient or permanent symptoms of aphasia.

Parkinson's Disease

Parkinson's disease is found primarily among older persons and affects both articulation of speech and vocalization of speech

sounds. Articulation is slowed, but the major disability is that of a progressive inaudibility that, understandably, frightens the person who possesses this disorder because of a progressive inability to be heard or understood.

The basis for Parkinson's disease appears to lie within the substantia nigra. According to Drachman (1980), in cases of Parkinson's disease the substantia nigra is lacking in pigmented cells, and the basal ganglia are depleted of dopamine. The etiology is uncertain.

Treatment by a speech-language pathologist is necessary on a preventive basis or to maintain audibility and intelligibility on a maintenance program. Given that, because of medical advances, more persons who have Parkinson's disease are living for longer periods of time, and many of these persons require such treatment for maintenance of their capability to communicate with others. L-Dopa, a harbinger of dopamine, however, appears to extinguish some symptoms of Parkinson's disease at least for a period of time.

To date, few incidence figures exist regarding the number of persons who possess this disorder or who can benefit from rehabilitative services. From the limited data available, it is estimated that between 1 and 1.5 million people have Parkinson's disease of some degree (Van Den Eeden, Tanner, Bernstein, et al., 2003). There are approximately 25,000 to 45,000 new cases reported during each year (Robertson-Tchabo, 1985). The age of onset is usually past age 50 years. For 1 in 200, the age of onset is from ages 50 to 60 years. For 1 in 100, the age of onset is age 50 years and older (Van Den Eeden et al., 2003).

Confusion-Disorientation-Dementia

Other communication disorders found among older adults are viewed as acquired cognitive disorders resulting in a reduced ability to use language skills well, generally called "confusion," or otherwise being noncommunicating or communicatively impaired without specified lesion or disorder. These may include

impaired judgment, impaired memory, disorientation to time and place, reduced visual and auditory attention span, impairment of thought processes, and difficulty organizing and sequencing information. The cause has been determined commonly to be the result of minor right hemisphere strokes. No concrete information regarding the numbers of older persons who possess these disorders is currently available. The reported incidence among the total population of persons ranging in age from 65 to 85-plus years varies from author to author.

Because *senility*, *chronic brain syndrome*, *organic brain syndrome*, *confusion-disorientation*, and the many other terms used to describe the cause and/or the characteristics of these older adults frequently vary from person to person, so do the statistics of their incidence. From observing the data, one could conclude that from around 2 to 30% of all persons older than 65 years of age are “demented” to some degree as the result of any single or multiple cause. Too often, however, the label has been one of convenience. Selzer and Sherwin (1988) found that large numbers of persons diagnosed as having “chronic brain syndrome” could respond to treatment.

In regard to incidence, a meta-analysis (Prince et al., 2013) found global prevalence of dementia from all causes to be between 5 and 7% for adults ages 60 years plus. According to the American Speech-Language-Hearing Association (<http://www.asha.org>, 2016), the Centers for Disease Control and Prevention cites prevalence data for specific causes of dementia, typically Alzheimer’s disease. But, the National Institutes of Health places dementia under the category of Serious Mental Illness. According to the American Speech-Language-Hearing Association, starting at age 65, the risk of developing the disease doubles every 5 years. Up to 5.3 million Americans have Alzheimer’s disease (Hebert, Scherr, Bienias, Bennett, & Evans, 2003). Further, according to Heron et al. (2009), Alzheimer’s disease has become the sixth leading cause of death in the United States, and the fifth leading cause of death among persons age 65 and older.

Some causes are reversible, and others are not. Some are drug or medicine related. It can also be said with a fair degree

of accuracy that the incidence figures increase among the very elderly—that is, aged 80 years and beyond—and that there are more “demented” persons residing in nursing homes. For nursing home residents, whether the symptoms are related to isolation from home and family, emotional disturbance, or drugs used to sedate agitated residents is sometimes up for debate.

Health professionals can be a vital force in facilitating a progression toward reality, a reorientation to more efficient language usage, and a greater understanding of efficient means of communication between the patient and his or her family, nurse, or physician.

Hearing Loss

There are almost as many estimates of the incidence of this disorder as there are professionals assessing or treating those who possess it. Because of the complexity of the disorder involved in presbycusis, incidence studies such as the Public Health Service National Health Surveys have resulted in the collection of generally unreliable data. Much of this appears to be a result of a lack of reliable criteria for describing hearing impairment in older age.

It would appear that the greatest cause for the apparent inability to arrive at a consistent set of criteria includes the definitions used to describe “hearing impairment” by those establishing failure criteria. We do know that elderly people are more likely to have a hearing impairment than younger people. Almost 8% of people under age 17 years have some degree of hearing impairment. Between ages 45 and 64 years, it has been estimated that the incidence rises to 12%; between ages 64 and 74 years, to 24%; and over 75 years, to 39% (National Center for Health Statistics, U.S. Department of Health and Human Services, 2007 Health Interview Survey).

Schow and Nerbonne (1980) found the incidence of hearing loss among nursing home patients to be over 80%. Even though some survey figures regarding presbycusis appear to be rather realistic, estimates reported by practicing audiologists would

indicate that the incidence of hearing impairment that can interfere with communication among persons aged 62 years and beyond may be greater than anticipated—as high as 50 to 60% (Hull, 2001). Perhaps the reason this figure is higher than others is that audiologists are using criteria that include the more subtle symptoms of presbycusis. Those symptoms are the difficulties described by the elderly as interfering with communication even when pure-tone and speech reception thresholds would indicate that hearing should be functional. The symptoms described by audiologists include auditory discrimination difficulties, disorders of auditory processing, disorders of auditory synthesis, or simply the inability to understand the speech of others. In other words, the alert audiologist is including those measurable or describable difficulties in his or her definition of presbycusis that are often not observed on the audiogram.

Again, a reasonable estimate is probably 50% of the some 29 million persons older than the age of 65 years (Hull, 2001), although other estimates indicate that the percentage may be as high as 80% (Brock, 1975).

Characteristics of the Elderly in the United States

The latest census figures indicate that there are approximately 43.1 million persons residing in the United States who are aged 65 years and older (American Association of Retired Persons, and the Administration on Aging, DHHS, 2014). About one in every seven persons in the United States is over age 65 years.

The difference between older communicatively disordered adults and their younger counterparts centers principally upon their age. By “age,” we are referring to all that may accompany advanced years, including the sometimes unpleasant changes that occur on social, physical, economic, and personal bases as one reaches the sixth, seventh, eighth decades, and beyond. Some changes occur suddenly and dramatically. Others may be forced upon them, whereas some are planned, or at least expected. These factors, however, are ones that a speech-language pathologist or audiologist must take into consideration when plans for services