

What is Aging?

Apart from birth and death, aging is perhaps the only experience that EVERY human being shares. But even so, no one fully understands it. Man has pondered the same questions throughout history - What is aging? Why does it happen? Can we stop it?

We all age, but everyone does so in a little bit different way and at different rates. Some people live much longer than others and some have a much better quality of life than others. Gerontology is the study of these differences and the search for their causes. Scientists want to understand the process and causes of aging so that the quantity of life can be maximized. The result of their studies has produced several different theories with the ultimate goal being to determine what causes aging and use that knowledge to intervene and postpone or stop the aging process.

The theories of aging fall into three main categories-genetics, damage, and imbalance. The genetic theories suggest that one or more genes dictate cellular aging within the nucleus of the cell. Damage theories are based on the concept that chemical reactions that naturally occur begin to produce irreversible defects. The gradual imbalance theories assume that the brain, endocrine glands, and immune system gradually begin to fail, and this produces an imbalance among the systems and reduced effectiveness in each system, causing one or more of the systems to ultimately fail.

Since the mid 19th century the life span in the US has nearly doubled. Most of the increase in life expectancy is due to declines in death from infectious disease. Unfortunately, the death rate from infectious disease has been replaced by deaths from degenerative or "lifestyle" diseases. Most people would agree that living a long life without health, and being unable to take care of one's self, is not a good thing. So when we consider that more and more people are living longer, we must also consider the problems that are created when the quality of these extended years is poor.

Morbidity is defined as the absence of health. All too often it is a condition in which many frail elderly live for a long time before they die. The major chronic diseases that eventually lead people to morbidity are arteriosclerosis, cancer, osteoarthritis, diabetes, and emphysema. These diseases usually start early in life and progress throughout the lifespan, becoming worse each decade until it becomes terminal. An example is diabetes, which could begin as obesity at age 20, progress to glucose intolerance at age 30, elevated blood glucose at age 40, sugar in the urine at age 50, medicine required at age 60, and blindness and amputation at age 70... not a pretty picture huh?

It has been estimated that by the year 2040 the average life expectancy of older people could increase 20 years. Some say that by the middle of the 21st century there could be 16 million people in the US over the age of 85. These same people say that the average 65 year old will spend 7 1/2 years of the remaining 17 years living with some functional disability. If the present rate at which people are being added to the category of those experiencing morbidity is projected to the future, a 600% increase in healthcare costs will occur. Social and medical programs are directly linked to the size and health status of the elderly population of a society. Not only the number of years that seniors live-but the way they live their remaining years-will determine the quality of life not only for them, but indirectly for all of us.

The emphasis in gerontological research has begun to shift from lengthening life to increasing years of health. The new goal is to shorten the period of time that people live in an unhealthy, dependent state. If scientific advances allow us to live 15 or 20 years longer, but if these 15-20 years consist mainly of pain and suffering and dependence on others, what have we accomplished?

Because chronic diseases begin early in life and develop gradually, a healthy lifestyle can prevent or greatly postpone the start of some of these chronic diseases like diabetes, emphysema, and heart disease. The longer the diseases are prevented, the less time an individual would experience morbidity in their later years. As a matter of fact, individuals who practice sound health habits and prevent the onset of chronic disease for many years may NEVER experience morbidity.

Some gerontology experts argue that lessening morbidity will never happen, while others argue just as vigorously that it HAS to. Those who doubt that we can significantly lessen morbidity say that even though we have evidence that individuals who change their lifestyle experience a lower incidence of morbidity that the majority of individuals will not or cannot change their lifestyles! The doubters are also concerned that fixing the responsibility of an illness on the behavior of individuals is “blaming the victim”. Individuals must take responsibility for the quality of their own lives in the areas that they can control.

While it is important for health professionals to develop and enhance life-extending strategies, we also must provide strategies that enable people to live as well as they can. There needs to be a balance between the quantity and the quality.

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