

What Are the Chances? Risk in the Real World

Suzanne M. Mahon, RN, DNSc, AOCN®, APNG

Increased survival from cancer has been a result of improved treatment and the earlier detection of cancer. This column will provide a focus on wellness for patients with cancer, their caretakers, and health professionals. This inaugural column provides a review of a basic epidemiologic principle—risk assessment, which is central to wellness.

Life is risky business. Although the world is filled with various risks, never before has more been known about how to manage them. People take risks every day, at times worrying more about certain risks than about others. Sometimes worry is appropriate; other times, it is not. Often, little or no thought is given to the dangers associated with activities. People choose to take certain risks. Every morning, millions of workers make decisions about how to get to work. Should they take a car, bus, or train; walk; or bike? Dangers are associated with each, but statistically, a bus is safest (Pringle, 1989).

Risk is an elusive concept for professionals and the public. As oncology professionals identify their personal risks for cancer as well as provide risk assessments to patients and their loved ones, they must consider the science of risk assessment.

The Psychology of Risk

A key factor involved in risk taking is whether a hazard is voluntary. People are much more willing to take or accept risks when they believe they have some control. People may smoke, drink, drive recklessly, fail to use a seatbelt, or go hang gliding because they feel they are in control. Involuntary hazards such as pollutants from industries, additives in food, and riding on commercial airlines frequently scare people more because

they tend to feel powerless and more vulnerable to hazards.

Even when people believe they have control over situations, the amount of control may not be near what is perceived. Automobile drivers may feel in control of their destinies, but even the best defensive driving techniques cannot prevent some accidents. Often, people simply are overconfident or overvalue their judgment.

People often attach great significance to unlikely events if they seem important to them. For example, the meltdown of a nuclear plant is a highly unlikely event, but some people may be extremely worried about it. Winning a huge prize in a lottery also is associated with a very remote chance, but people often wager significant sums of money, no matter how slight their chances, in hopes of becoming instant millionaires.

The dread factor greatly influences perception (Pringle, 1989). Some events, such as nuclear weapon attacks, natural disasters, and terrorism, score higher on the dread factor continuum. Cancer is particularly feared and, for many, still is erroneously associated with protracted suffering and certain death.

Conceptualization of Risk

Experts in risk usually are more concerned about the quantity of risk, whereas the public often is more concerned about the quality of risk. If only a few lives per hundred thousand are at risk from a particular exposure, concern about the risk may be minimal for public health officials. For those exposed, however, the risk and its associated fears may be very real. Thus, interpretation about various risks is very personal. Almost everyone who has been diagnosed with cancer will affirm that, in retrospect, it did not matter what their personal risk for developing the malignancy was, once diagnosed. The only important aspects after diagnosis are whether the disease was detected when still amenable to effective, tolerable treatment. If knowledge of risk resulted in improved screening and earlier diagnosis, accurate perception and assessment of risk were clinically valuable.

The conceptualization of risk is rooted in psychology, science, and statistics. Helping people to understand complex scientific and statistical information in clear, simple form is the biggest challenge in risk

Suzanne M. Mahon, RN, DNSc, AOCN®, APNG, is a clinical professor in the Division of Hematology/Oncology in the Department of Internal Medicine at Saint Louis University in Missouri.

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