

Chapter

1

The Killer in Your Kitchen

“Salt kills? Really? Are you talking about the same salt that is in the shakers on every table in every restaurant across the world? The same salt added to every packaged food and most drinks that we buy? The same salt that we add to every preparation in our own kitchen and add some extra on the dining table? *That* salt? It *kills*?” I’ve heard reactions like this many, many times.

Salt kills! Yes, it does. There is no other way to put it except to put it bluntly, succinctly, straight up and firmly. And that is not all. This salt that you so routinely use causes extensive disability and dysfunction in many organ systems of the body, affecting many times more people than the number who have died from causes other than salt.

You know that smoking is bad news. For decades, smoking has been understood to be the number one cause of preventable death and disability. All the cancers that come from smoking,

Salt Kills

heart disease, emphysema, etc., are all well-known preventable health problems. Just don't smoke.

But scientists from prominent universities, with research sponsored by the World Health Organization, are now saying *our salt habit is the number one preventable health problem*. Isn't that shocking?

Let's get an overview of the extensive health problems that come from simply adding salt to our food and find out why salt is called Public Enemy Number One.

Salt: Public Enemy Number One

I woke up to see the headlines flashing everywhere. America had finally caught up with Osama bin Laden, the “most wanted” person ever. I remember 9/11 very vividly. In the middle of surgery, one of my assistants came running into the room shouting, “A big passenger plane hit one of the twin towers in New York!” I could not believe it. I barely finished the surgery and ran into the lounge where a big crowd was gathered. Everybody was glued to the TV. Right then another large passenger plane slammed into the second tower. The sight of the towers crumbling down and images of desperate people jumping to their deaths from the high floors disturbed me for a long time, even though I deal with death every day.

Close to 3,000 people perished in those buildings that day. Subsequently, during the invasion of Afghanistan, nearly 1,500 American soldiers lost their lives. The Iraq war death toll of American lives is currently estimated at 4,500. These events also changed the way we live—permanently. The amount of money and resources spent to defend ourselves has been astronomical. We still don’t feel safe, do we?

Let us look at another calamity. On April 26, 2011, an earthquake triggered a massive tsunami in the northern islands of Japan. I happened to see an amateur video shot from a hilltop as the massive wave gushed through the town carrying all the houses, cars, roads, and bridges with it. People who were at the leading edge of the wave were running as hard as they could to get to higher ground. Just imagine the commotion. The death toll is approaching 15,000, with more unaccounted for. At least

Salt Kills

100,000 people have been displaced. So many lives affected forever by a catastrophe over which they have no control. Understandably, the government of Japan is engaged in a massive relief effort.

Let us compare these and many similar events to the devastation caused by preventable health problems, specifically health problems that can be sidestepped simply by reducing salt in your diet. In my own extended family and in my neighborhood, there are any number of examples of diabetes, high blood pressure, heart disease, osteoporosis, asthma, stroke, stomach cancer and, of course, dementia. Pretty much every household is dealing with more than one of these issues. Is it just a problem with my family or my neighborhood? Not at all.

A brief look at each one of these health issues, which we'll explore in greater depth later on, will make the point that salt should be considered a bigger killer than 9/11 and the recent wars and calamities combined.

Most people know by now (or should know) that salt is responsible for high blood pressure and heart problems. But do you know that salt consumption contributes significantly to all these other problems?

For starters, dementia (loss of memory) is a worldwide problem affecting 35 million people. In the United States, almost two million people are affected by severe dementia, and another almost five million have milder forms of memory loss. High blood pressure caused by salt intake increases the risk of dementia by *six*, that is six *hundred* percent, not six percent. This information alone should be enough to make you throw away your saltshaker.

How about osteoporosis, which is referred to as the “silent

thief”? About 10 million Americans have osteoporosis and another 24 million have low bone mass, a precursor to osteoporosis. The number of hip fractures, wrist fractures and spinal fractures tops 1.25 million each year. These fractures cause severe suffering and long-term disability. About a quarter of hip fracture patients die in the very first year due to multiple complications. You can drop the prevalence of osteoporosis by as much as 30 percent simply by avoiding salt in your diet.

Let's look at stomach cancer, the second most common cause of cancer death worldwide, with nearly 800,000 reported cases per year. It is the number one cause of cancer death in countries like Japan, Korea, China and 39 different populations in 24 different countries. The research shows that salt intake significantly contributes to stomach cancer. The higher the salt intake, the higher is the likelihood of stomach cancer.

How big is the problem of obesity in America? Almost 30 percent of Americans are overweight. You do the math. We're not talking about looks here. Putting on pounds increases the risk of all these health problems many times over. No big secret. What many of us don't realize, however, is that the more salt you add to your food, the more you eat. All those unnecessary calories compromise your health.

Then comes asthma, which has become a very common problem among children in America. There are 22 million children in the United States affected by asthma; in addition, almost one in three people of Latino descent suffers likewise. Add salt to your diet and you are going to have more acute asthma attacks triggered by activity.

Lastly, salt consumption is a very big contributor for cardiovascular disease. In 2006, data from the Centers for Disease

Salt Kills

Control (www.cdc.gov) shows that 850,000 Americans died of heart disease and strokes in that year alone. Let's think about this number for a moment: 850,000 lives lost in one year? Unfortunately, the story gets much worse. There are 16 million Americans living with heart disease. Once you have been diagnosed with heart disease, your life is changed forever. Some of the other grim statistics to consider: of the 785,000 Americans who had their first heart attack in 2006, 470,000 had a second or third heart attack the same year. This data does not even include the number of people affected by heart failure, which is the number one reason for admission to the hospital among Americans 65 years and older.

The data about strokes is just as alarming. In 2006, 137,000 Americans died of stroke. The actual number of stroke victims was 795,000, of whom 185,000 had their second or subsequent stroke.

By the way, the World Health Organization (WHO) has declared cardiovascular disease to be the number one killer worldwide, not just in America.

When you add all this up, we are talking about millions upon millions of people who are prematurely killed or maimed by salt intake. A series of scientific papers also sponsored by WHO and stemming from many prominent universities worldwide has shown exactly that. In any discussion about causes of preventable health problems, smoking usually takes the top spot. Smoking harms millions across the globe; therefore, smoking has been at the number one position among preventable causes of cardiovascular health problems for many decades.

Salt: Public Enemy Number One

Smoking still remains a huge problem, but new information about salt reveals that the number of deaths that could be reduced by mere salt reduction exceeds the number of lives that could be saved if people quit smoking. In one of the most telling publications, again sponsored by WHO, the number of deaths that could be avoided in a 10-year period worldwide is estimated at 13.8 million. This number still does not include the figures for disability and dysfunction, which would be several times that number.

What is the big difference if we name salt enemy number one or enemy number 100?

Let us compare how we as a society respond to these different catastrophic human problems. Acts of terrorism or a tsunami are not under the control of an individual, but salt intake is. Aren't we way too lackadaisical about a much larger problem affecting human lives? If you know who your primary enemy is, you will run away from it as fast as you can to safer ground, just like the tsunami victims did. If you are a parent, you will do the best you can to protect your children from that enemy. And if you are a government, you will pool all your resources to hunt down your most important enemy, just as in the case of Osama bin Laden.

Let's get rid of enemy number one in our food: salt.

Research

The urgent need to reduce sodium consumption

Havas S et al. 2007. Journal of the American Medical Association 298(12):1439–1441.

American Medical Association

- Worldwide, 16.7 million people die due to cardiovascular disease.
- About 26 percent of worldwide population has high blood pressure.
- Annual deaths from cardiovascular disease in USA: 850,000.
- Prehypertension, defined as BP greater than 120/80 and less than 140/90 mm Hg affects 27 percent of the population.
- Lifetime probability of having high blood pressure is 90 percent.
- Processed foods contribute to 77 percent of salt consumption in the U.S.

The authors issue a “call for action” to reduce salt intake. They cite the potential prevention of 150,000 deaths. Also discussed are the efforts by the AMA to get the FDA to remove salt from “Generally Accepted As Safe” (GRAS) status.

Projected effect of dietary salt reductions on future cardiovascular disease

Bibbins-Domingo K et al. 2010. New England Journal of Medicine 362:590–599.

University of California San Francisco, Stanford University,
and Columbia University

American Heart Association and NIH

Using the Coronary Heart Disease policy model, projected health benefits are calculated. Reducing salt consumption by only 3 g/day from current levels of 15 to 20 g/day would accomplish the following benefits:

- New cases of coronary artery disease in U.S. reduced in the range of 60,000 to 120,000 per year.
- Number of strokes reduced in the range of 32,000 to 66,000 per year.
- Heart attacks reduced in the range of 44,000 to 99,000 per year.
- Annual deaths from any cause reduced in the range of 44,000 to 92,000 per year.
- Savings of 194,000 to 392,000 quality life years.
- Health care cost savings of \$10 billion to \$24 billion per year.
- In a 10-year period, 1 g/day salt reduction would be more cost effective than medications in all persons with high blood pressure.

Health benefits that can be realized by further reductions of salt intake would be many times greater.

Reducing population salt intake worldwide: from evidence to implementation

He FJ, MacGregor GA. 2010. Progress in Cardiovascular Diseases.

Salt Kills

Queen Mary University, London, U.K.

The authors, who have extensively contributed to the body of information on the health problems of salt consumption, make the following observations:

- High blood pressure is responsible for 62 percent of strokes and 49 percent of coronary artery disease.
- Cumulative evidence comes from ecological findings, population studies, prospective cohort studies and outcome trials.
- Salt consumption is linked to several other health problems including obesity, left ventricular hypertrophy, osteoporosis, asthma severity, and stomach cancer.

The authors encourage a worldwide action plan to reduce salt consumption in order to achieve benefits in a very large area of health problems.

Chronic disease prevention: health effects and financial costs of strategies to reduce salt intake and control tobacco use

Perviz Asaria et al. 2007. *Lancet* 370:2044–53.

Kings Fund, London, U.K.; University of Auckland, Auckland, N.Z.; World Health Organization (WHO); Harvard School of Public Health, Boston, U.S.

The authors published a series of well-known papers about chronic diseases. This particular paper calculates (using WHO risk assessment protocol) the health impact of reduction of salt intake and tobacco use. According to WHO's database, cardio-

Salt: Public Enemy Number One

vascular disease has emerged as the number one cause of death and disability worldwide.

Over a 10-year period, 13.8 million deaths are determined to be avoidable, 75 percent of them from cardiovascular disease.

Reduction in salt intake is calculated to have the most impact in reducing these avoidable deaths worldwide—more so than reduction of tobacco use.

In addition, intervention to reduce tobacco use is more difficult and expensive, largely because of addiction to tobacco.

These findings lead the researchers to state: “Salt is enemy number one.”

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about salt and other health-related issues,
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