

Tobacco or Health: Alcohol or Cancer

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1. *Tore Sanner, Ph.D., gave the keynote address at the recent WWCTU Convention in Stavanger, Norway. He is a professor at the Norwegian Radium Hospital in Oslo and at the University of Oslo, Norway.*
2. The use of tobacco originates from America where it has been used for centuries by the native populations. Some of the native populations in America smoked tobacco, while others chewed or sniffed tobacco.

Tobacco was brought to Europe by Columbus in 1492 and the use of tobacco was soon spread to most of Europe. The first commercial growth of tobacco started in Virginia, USA in 1612. Despite some anti-tobacco movements, the popularity of tobacco increased dramatically after the U.S. Civil War. When the mechanical cigarette machines were introduced in 1894, cigarettes became inexpensive and emerged as the tobacco product of choice. During the World War II, cigarettes were included in soldiers' rations.

When tobacco was first introduced into Europe, smoking was recommended for medicinal purposes. Faith in the positive benefits of smoking began to fade in the second half of the nineteenth century.

With the growth of the cigarette habit, which became as well-established among doctors as in the general population, the collective sense that tobacco might be a hazard to health was dulled. In Norway, in 1950, 75% of all male medical doctors smoked.

In 1930, some German scientists suggested that smoking might cause cancer and in 1938 scientists at Johns Hopkins University in Baltimore found that smokers died earlier than non-smokers. The American Cancer Society warned about possible adverse health effects of smoking in 1944, but admitted that the evidence was weak.

A turning point comes in the 1950s. Some British and American scientists found that smoking caused lung cancer. However, from the public point of view, it was probably an article in the American magazine, *The Reader's Digest*, in 1952 about smoking and health hazards that had most effect.

This represented the first threat to the tobacco industry and resulted in the development of cigarettes from a simple agriculture product to a high technology product. The tobacco industry was afraid that people would stop using their products and developed new products that they claimed gave a "cleaner smoke" and might thus reduce possible adverse health effects. They wanted the smokers to change to the new products instead of stopping to smoke.

The second threat of the tobacco industry was the findings that also passive smoking had adverse health effects. This resulted in restrictions in smoking in a number of smoke-free arenas. As a consequence, the tobacco industry developed new types of cigarettes like "Premier", "Eclipse" and "Accord" and more recently, the electronic cigarette.

Let us first consider the effect of the first threat to the tobacco industry.

The cigarettes available in the beginning of the 1950s consisted primarily of some tobacco wrapped into some thin white paper. Today the cigarettes are advanced, high technology products. Those of you who may have tried to smoke a cigarette in the 50s will remember that it was not a good experience; you started to cough and may even have vomited. Today, the smoke is more smooth and you will also become addicted much faster. From a consumer point-of-view, the introduction of filters and “light” or “mild” cigarettes in about 1970 may be the most important changes.

The technology for preparation of the tobacco has changed in such a way that the industry is able to use nearly the whole tobacco plant, not only the leaves, and they can use less tobacco per cigarette. As tobacco is expensive, these changes have increased their earnings.

3. Most cigarettes today have filters. Around these filters are small holes. When the smoker sucks, he will partly get smoke from the burning tobacco and partly suck in air through the holes. The tobacco smoke is diluted. The experienced smoker will, however, partly block the holes by their fingers to get a stronger smoke.

A number of changes have also been made with the paper, not only with the porosity of the paper, but also with additives that affects combustion.

4. In about 1970, the tobacco industry started to add a number of different chemicals to the cigarettes. The purpose was to make the cigarettes more attractive and to enhance the addiction.

About 600 different chemicals are used as additives and about 10% of the weight of a cigarette represents different additives. A number of the additives add to the attractiveness of tobacco products, and may promote initial smoking.

- Some of the additives increase the bio-availability of nicotine affecting the acidity of the smoke (ammonia).
- Other additives reduce the irritating effect of the smoke by using local anaesthetics (menthol).
- Some increase the uptake of nicotine by opening the airways (theobromine.)
- Some increase the addictiveness of the nicotine. An example are the sugars that form acetaldehyde during the burning of the cigarette. Several studies have shown that acetaldehyde increases the addictive effect of nicotine.
- The tobacco industry also adds flavorings to make the products more appealing to children (candy or fruit taste).

5. The tar and nicotine content of the smoke have been reduced as a function of the new technology developed. Since smokers need a certain amount of nicotine, the consequence is that smokers today smoke differently from smokers 50 years ago. They take more puffs with larger volumes from each cigarette. They inhale deeper and they may block the holes in the filter. This means that although they may smoke a mild or very mild cigarette, which according to the label contains less tar and nicotine, they do actually inhale the same amounts of tar and nicotine as did the smokers in the 50s and earlier.

6. The tobacco industry has fooled the consumer to change to a mild cigarette instead of stopping smoking. The tobacco industry has by purpose mislead smokers to believe that the new cigarettes are less dangerous. The conclusion is that although the cigarettes have changed dramatically over the last 60 years, the disease risks associated with smoking have not.

How dangerous is it to smoke today? **Tobacco is the only product you can buy that causes death when used as intended.**

7. We know that 50% or every second daily smoker dies earlier than their non-smoking friends due to tobacco-related illnesses. We also know half of the smokers that die of tobacco-related illnesses, die before they are 65 years old. They are losing 20-25 years of their life. Statistically, a smoker reduces his or her life with 7 – 10 minutes per cigarette or with the time they use to smoke. Moreover, 45% or nearly half of all deaths among men in their best age, 35 – 54 years old are due to smoking.

8. If we consider the worldwide effects of tobacco use, tobacco use is the leading cause of preventable death, and killed about 100 million in the 20th century. Today tobacco use kills more than 5 million people each year worldwide. If current trends persist, tobacco will kill more than 8 million people worldwide each year by 2030.

9. Why is it so dangerous to smoke? Tobacco smoke contains more than 4,000 chemicals; 90 of the chemicals can cause cancer. Several hundreds of them are harmful, many of them are so toxic that they are forbidden to be used in products that you may buy in the shops.

Here are some examples:

Nicotine is the substance that cause addictions. It is very toxic. Infants and children are especially susceptible to nicotine. Symptoms of nicotine poisoning have been seen in children who have eaten a cigarette butt.

Carbon monoxide is a very toxic gas. It is the gas that makes car exhaust so dangerous and is responsible for several deaths every year.

Arsenic is a substance that you know from many of Agatha Christie's criminal books where arsenic was the poison used to kill people. It does also cause cancer.

Benzene causes leukemia. It was previously used in paints and in glues, but is now forbidden.

Polonium-210 is a radioactive daughter product of radon and this substance may be of importance in relation to development of lung cancer in relation to smoking.

10. Let us now look on some of the smoking-related diseases.

We will first consider respiratory diseases because the smoker exposes his lungs to the tobacco smoke and he may expect that he will first observe the adverse health effects of smoking in the lungs.

Here is a list of common respiratory diseases:

- Shortness of breath and coughing
- Increased frequency of respiratory infections
- Chronic bronchitis
- Emphysema
- Chronic obstructive pulmonary disease (COPD)
- Lung cancer and cancer of the oral cavity

11. Shortness of breath and coughing may be found very early. It is even found in young people that smoke. A study was carried out on adolescence 15 -19 years old. Even among those smoking only a few cigarettes per day, coughing and shortness of breath are increased. About 1/3 of those smoking 10 – 20 cigarettes per day experience coughing and shortness of breath.

12. It has been shown that among men 22 – 59 years old who smoke less than 10 cigarettes per day about 10% have airway obstructions, and among those smoking more than 10 cigarettes, 1 out of 5 have airway obstructions.

13. We shall now consider cancer. This figure shows the number of cancer deaths among men in the USA in the period 1930 to 2005. Several conclusions can be drawn from this figure. The most important observation is the very great increase in lung cancer.

Lung cancer was a rare disease before the Second World War, but on the rise. By 1955 it had become the most common cancer. As I told earlier it was first in the early 1950s that the scientists started to warn about the adverse health effects of smoking. Most of the increase in cancer death rates for men prior to 1990 was attributable to lung cancer. However, since 1990, the lung cancer death rate in men has been decreasing since the smoking frequency among men started to decrease about 1980. This decrease in lung cancer has been estimated to account for about 40% of the overall decrease in cancer death rates in men. Stomach cancer mortality has decreased considerably since 1930. Death rates for prostate and colorectal cancers have also been declining.

14. This figure shows cancer deaths among women in the USA. The increase in lung cancer did not start before 1965. The reason is that women started to smoke several years after men had started, and moreover, it takes many years to develop cancer. Lung cancer is currently the most common cause of cancer death in women. The frequency has now leveled out, and it will start to decrease as in men.

We know that the chemicals in smoke are absorbed in the lungs and will follow the blood stream around in the body. This is the reason that smoking do not only induce cancer in the lungs, but also in a number of other organs.

15. It has now been shown that smoking can cause cancer in:

- Lungs
- Oral cavity
- Pharynx
- Larynx
- Oesophagus
- Pancreas
- Urinary bladder

- Kidney
- Uterine cervix
- Ovary
- Bone marrow (leukaemia)
- Stomach
- Colorectum
- Nasal cavity
- **Female breast**

Whether smoking can cause cancer in the female breast has been discussed for a long time.

At the meeting in the World Health Organizations cancer research institute last autumn it was concluded that there is “limited” evidence that smoking causes cancer in the female breast. That was a strong statement and for practical purposes, it implies that scientists agree that smoking can also cause cancer in the female breast.

16. This slide show how the risk of lung cancer depends on the age when a person starts to smoke. A person starting to smoke before the age of 15 has two times the risk for lung cancer as a person starting to smoke at the age between 20 and 24. This is a general observation. Also in the case of respiratory diseases and cardiovascular diseases, the risks of adverse health effects are greater the younger a person is when starting to use tobacco.
17. The risk of lung cancer increases linearly with the number of cigarettes smoked per day. Thus, a person smoking 5 cigarettes per day has 5 times the risk of a non-smoker to develop lung cancer, and a person smoking 20 cigarettes per day has 20 times the risk of a non-smoker to develop lung cancer.
18. Cardiovascular diseases are the most important cause of death in relation to smoking.
 - Myocardial infarction
 - Sudden unexpected death
 - Strokes
 - Atherosclerosis
 - Abdominal aortic aneurysm
 - Peripheral vascular disease
19. The risk of heart infarction is increased 2 times by smokers that only smoke on the average between 1 and 4 cigarettes per day. Since heart infarction is very common in the general population a 2 times increase will represent a very substantial risk.

In contrast with lung cancer, the risk of heart infarction levels off. Thus, a person smoking 2 packs a day has about 5 times the risk of a non-smoker for developing heart infarction. However, since the risk in the general population is quite high, this will imply that nearly all people smoking 2 packs a day will get a heart infarction.

20. Cardiovascular diseases are responsible for 50% of the death caused by smoking in Norway; 30% are due to cancer and respiratory diseases account for the last 20%. Altogether 14% of all deaths in Norway are due to smoking. In other west European and North American countries, the numbers are similar.

21. Now for a few words about the effects of smoking cessation. Already shortly after smoking cessation the person will feel better, it will be easier to walk up stairs, and food will taste better. Most important, the risk of smoking-related diseases decreases.

- **Stroke** risk is reduced to that of a person who never smoked after 5 to 15 years of not smoking
- **Cancers of the mouth, throat, and esophagus** risks are halved 5 years after quitting
- **Cancer of the larynx** risk is reduced after quitting
- **Coronary heart disease** risk is cut by half 1 year after quitting and is nearly the same as someone who never smoked 15 years after quitting
- **Chronic obstructive pulmonary disease** risk of death is reduced after you quit. Lung cancer risk drops by as much as half 10 years after quitting
- **Ulcer** risk drops after quitting
- **Bladder cancer** risk is halved a few years after quitting
- **Peripheral artery disease** goes down after quitting
- **Cervical cancer** risk is reduced a few years after quitting
- **Low birth weight baby** risk drops to normal if you quit before pregnancy or during your first trimester

One of the most important effects is the rapid decrease in risk of coronary heart disease. A woman that stops smoking when she is between 55 and 59 years old will add about 3 years to her life and a woman between 65 and 69 will add one year to her life.

The most important decision a smoker can make to improve health is to stop smoking.

Several studies have shown, however, that just reducing the numbers of cigarettes per day has little effect on the health risk. The reason is probably that if a person smoking for instance 20 cigarettes per day, reduces the number of cigarettes, the person will automatically also change the way of smoking to receive more nicotine from each cigarette. Thus, the amount of toxic chemicals from each cigarette will increase in such a way that there are no net health effects.

The conclusion is: if you are a smoker and want to improve your health, it is necessary to stop smoking completely. Just to reduce the number of cigarettes per day seems to have little or no effect.

22. Let us now discuss passive smoking.

Passive smoking is what you do when you are in a room where people are smoking and you breathe in smoke. The environmental smoke consists primarily in what we call side stream smoke. That is the smoke coming from the cigarette between the puffs.

We differentiate between effects after short-term exposure and long-term exposure. Short term exposure is when you are going to a place where smoking is permitted. You may feel irritation of eyes and bronchia. If you have asthma, it may trigger an asthma attack, and if you have angina pectoris, it may also trigger an attack.

Long term exposure is when your husband is smoking or smoking is allowed at your workplace. Long term exposure may result in reduced lung function, cancer of lung, pharynx, larynx and female breast as well as heart infarction.

23. Most people do not recognize how high the exposure is. This can be illustrated by some calculations. We will consider a closed room of 10 m² without ventilation and we are sitting in the room for one hour. There is a smoker in the room. We will receive about 9% of the amounts of nicotine and tar that the smoker receives. On the other hand we will receive 50% of the amount of nitrosamines that the smoker receives. Nitrosamines are potent carcinogens.
24. The reason that we receive only 9% of nicotine and tar while we receive 50% of the nitrosamines is that the side stream smoke differs from the mainstream smoke that the smoker inhales. This is because when the smoker inhales, the temperature of the burning cigarette increases and the oxygen available also increases. For some of the most toxic substances, the relative concentrations in the smoke we inhale as passive smokers are in fact higher than in the mainstream smoke that the smoker inhales.

- It is important also to realize that smokers are also exposed to passive smoking and that passive smoking is in fact more dangerous for the smoker than for the non-smoker. This can be illustrated
25. if we consider the risk of lung cancer among smokers exposed to passive smoking. It is a complicated figure. The main point is however, that if passive smoking had the same effects on smokers that it has on non-smokers, we would have expected what we call an additive effect. However, on average they are close to what we call a multiplicative effect or higher.

26. We can also illustrate it with effect of environmental tobacco smoke or passive smoking on any exacerbation of chronic cardiac disease during two weeks preceding the survey. You observe the columns representing passive smoking are higher for smokers than non-smokers.
27. Before I leave cigarette smoking, I would like to say a few words about occasional smoking. Many people, especially young people, think that it may not be so dangerous to smoke only on certain occasions. That is wrong. First of all, most daily smokers start as occasional smokers. It is very easy to become addicted. Secondly, the few studies that are available show that even occasional smoking represents a health hazard especially in relation to myocardial infarction and death in relation to heart attack which is increased by about 50%.
28. I will now say a few words about snuff. When more and more areas become smoke-free and many smokers want to stop smoking, the tobacco industry is trying to come up with new addictive tobacco products like they did with "mild" cigarettes some 50 years ago.

This new product is snuff or snus which is the Swedish word for snuff. There are two types of snuff: the dry snuff that is sniffed into the nose and the moist snuff that is put in the mouth.

In Europe, moist was primarily used by farmers and forest workers in Finland, Norway and

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Sweden. In the European Union, the sale of moist snuff was forbidden in 1992. The reason was that EU would not permit a new addictive and carcinogenic tobacco product on the market. At that time it was known that snuff could cause cancer of the oral cavity. In Europe, you can today only buy snuff in Norway and Sweden.

29. In Norway among men in the age group 16 – 44 years the daily use of snuff has increased from less than 3% in 1985 to more than 15% today. Thus, in Norway today more than ¼ of young men use snuff. The use of snuff in Sweden is even higher. What is even more scaring is that among schoolboys in the age of 14 -15 years close to 30% are using snuff. Moreover, while it was only men that used snuff previously, more and more women and young girls are starting to use snuff.
30. One of the reasons for the increasing popularity of snuff is that it now is available in a number of popular tastes. Moreover, portion snuff is available as a standard pouch size, as well as mini-portion. The portion bags are made from the same material as tea bags.
31. Here is listed some of the adverse health effects of snuff use:
- Nicotine addiction
 - Oral lesions, gingival recession, leukoplakia
 - Increased blood pressure
 - Increased risk of sudden death of cardiovascular diseases
 - Increased risk of cancer of:
 - oral cavity
 - pancreas
 - oesophagus
 - Musculoskeletal injuries during physical training
 - Pregnancy, similar but less than with smoking

The adverse health effects of snuff have been studied much less than the effects of smoking. We may expect that in the future more adverse effects of snuff use may be found.

It is also important to know that all these studies on snuff have been carried out on men that started to use snuff in their 20s, while today many start to use snuff before they are 15 years old, and as I stated earlier, the adverse health effects increase the younger a person is when starting to use tobacco.

32. I will now turn to “alcohol or cancer”. I assume that you know most of the adverse effects of alcohol and I will only mention some:
A few of the adverse effects of alcohol include:
- Alcohol consumption:
 - Road-traffic deaths
 - Fire
 - Drowning
 - Suicides and acute poisoning.
 - Health problems:
 - Mental problems
 - Cirrhosis of the liver
 - Cancers at various sites
 - Effects on the developing embryo and fetus

33. In relation to cardiovascular diseases some good effects have been found: The relationship between alcohol intake and the occurrence of cardiovascular disease appears to be J-shaped, with the risk for abstainers being slightly higher than that in moderate drinkers (i.e., those consuming fewer than two or three drinks per day) and substantially lower than that for heavy drinkers. However, the protective effects have to be considered in relation to the risk of being addicted to alcohol and the risk of cancer.

34. The World Health Organization (WHO) in 1987 named these cancer sites as being related to the use of alcohol:

- oral cavity
- pharynx
- larynx
- oesophagus
- liver

Additional cancer sites were included in the evaluation by WHO in 2007 and reconfirmed in 2009:

- colorectal
- pancreas
- female breast**

Worldwide it has been estimated that 6% of all cancer deaths are caused by the use of alcohol. New adverse health effects are regularly detected.

Of the cancers detected in 1987, the risk of cancer in the oral cavity, pharynx, larynx, oesophagus are also increased by smoking and there is a synergistic effect between smoking and alcohol use for these cancers. That implies that among users of alcohol who also smoke, the risk of these cancers is much higher than you would expect just by adding the risks. In the case of liver cancer this occurs primarily among people infected with hepatitis virus.

The new cancers identified in 2007 have also been found in relation to smoking. The most important finding is female breast cancer.

35. The risk of breast cancer increases with the number of drinks per day.

36. To conclude:

- With alcohol consumption there is a linear increase in the risk of breast cancer.
- The relative risk of breast cancer increases by 7% for each drink of alcohol per day.
- 4% of the breast cancers in developed countries are attributable to alcohol.

Even those who drink can agree with many of the goals of the Woman's Christian Temperance Union:

- no one wants young people to drink and harm themselves.
- no one wants people to drink and then drive, and
- no one wants people to become alcoholics.

The WCTU has the only safe and simple answer to every one of those concerns - don't drink!

37. THANK YOU!

Tobacco or Health

Alcohol or Cancer

Stavanger 14 May 2010

Tore Sanner

PhD, Professor

The Norwegian Radium Hospital

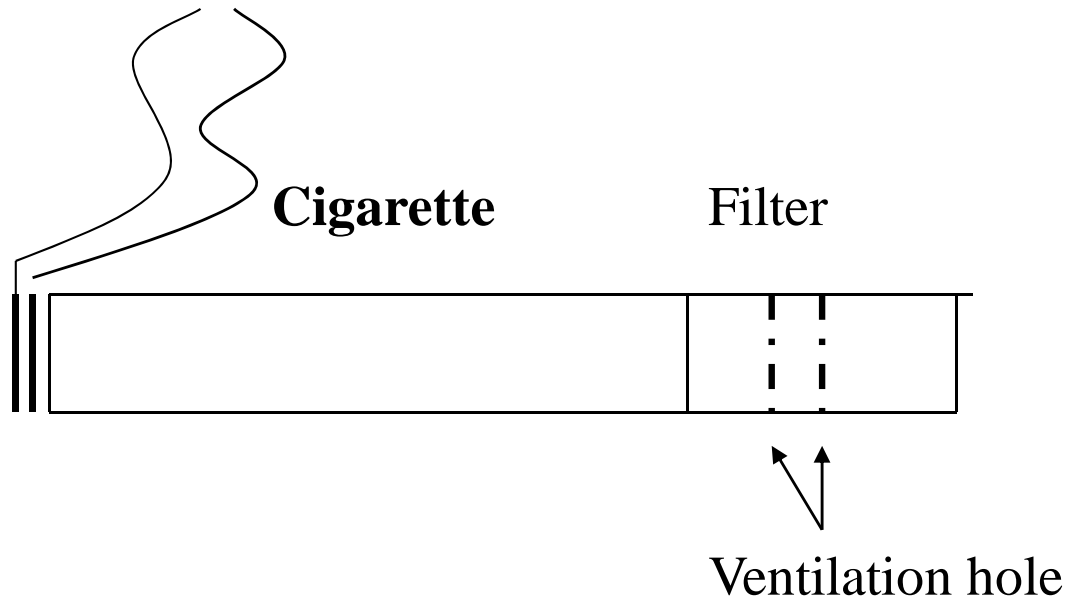
University of Oslo

HISTORY

Natives in America, smoked, chewed and sniffed tobacco

- 1492. Columbus brought tobacco to Europe.
- 1894. Mechanical cigarette machines
- 1940 – 1945 Cigarettes included in soldiers rations
- 1950-ties Smoking can damage your health
- 1980-ties Passive smoking can damage your health

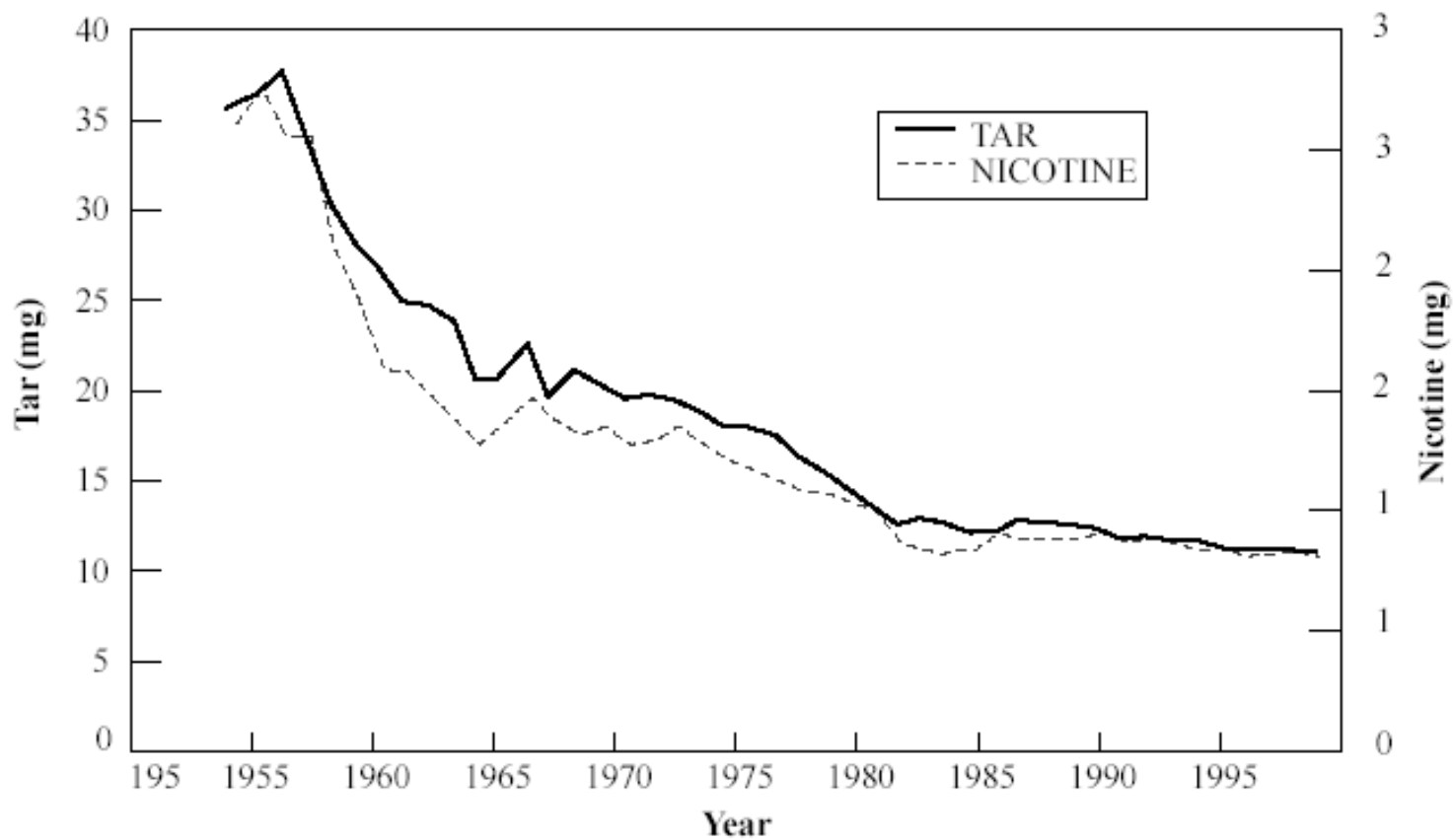
Modern cigarette



Purpose of tobacco additives

- Increase bioavailability of nicotine (ammonia)
- Reducing the irritating effect of the smoke by local anaesthetics (menthol)
- Increase uptake of nicotine by opening the airways (theobromine)
- Increase addictiveness of nicotine (sugars generating acetaldehyde)
- Add flavorings to make products more appealing to children (candy or fruit taste)

Figure 1-1
Sales-Weighted Tar and Nicotine Values for U.S. Cigarettes as Measured Using the
FTC Method 1954*-1998



**THE TOBACCO INDUSTRY HAS FOOLED
THE CONSUMER TO CHANGE TO A MILD
CIGARETTE INSTEAD OF STOP SMOKING**

**Thus, although the cigarettes have changed
dramatically over the last 60 years.**

**The disease risks associated with smoking
have not.**

Risk of death by smoking

- 50% of daily smokers die earlier than their non-smoking friends
- 50% of these die before they are 65 years (losing 20-25 years)
- Life is reduced with 7 – 10 minutes per cigarette
- 45% of all deaths among men 35 – 54 years old are due to smoking

Worldwide effect of tobacco use

- Tobacco use is the leading cause of preventable death, and killed about 100 millions in the 20th century
- Tobacco use kills today more than 5 million people each year worldwide
- If current trends persist, tobacco will kill more than 8 million people worldwide each year by the year 2030

Chemicals in tobacco smoke

- More than 4000 chemicals
- 90 carcinogenic substances
- Several hundred harmful chemicals

Nicotine, insecticide

Carbon monoxide, very toxic gas

Arsenic, causes cancer

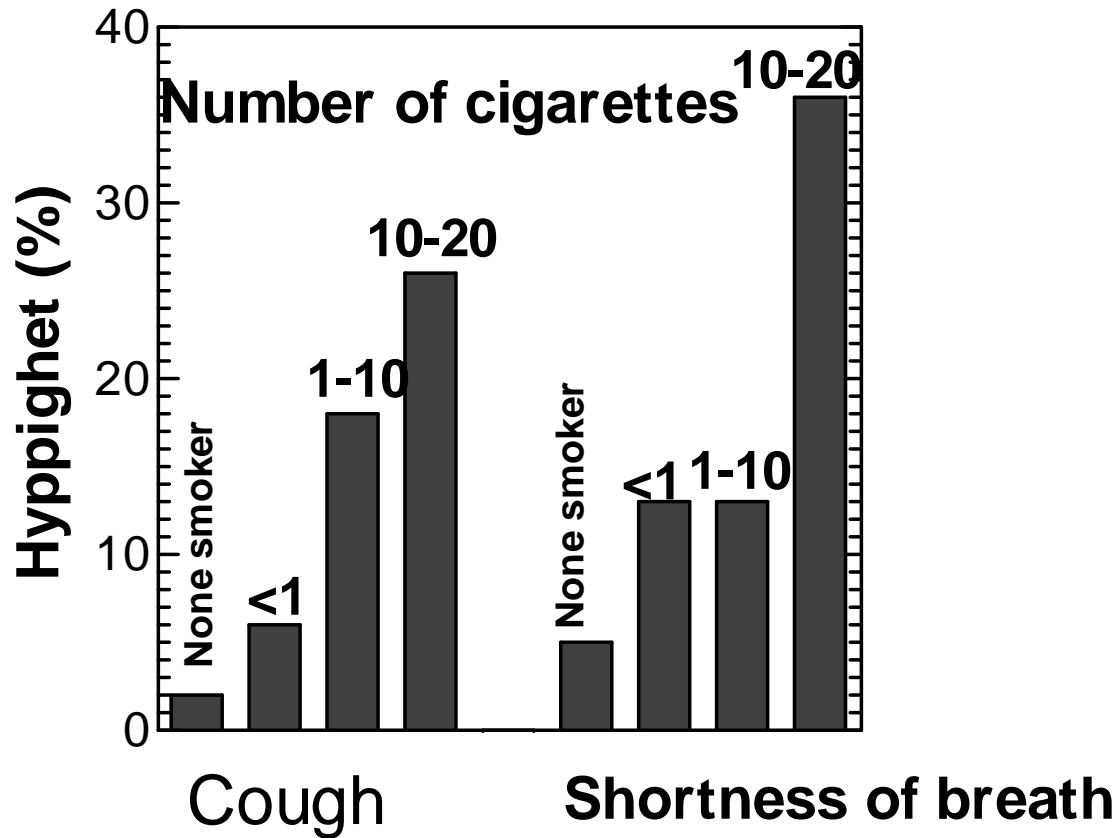
Benzene, causes leukemia

Polonium-210, radioactive substance

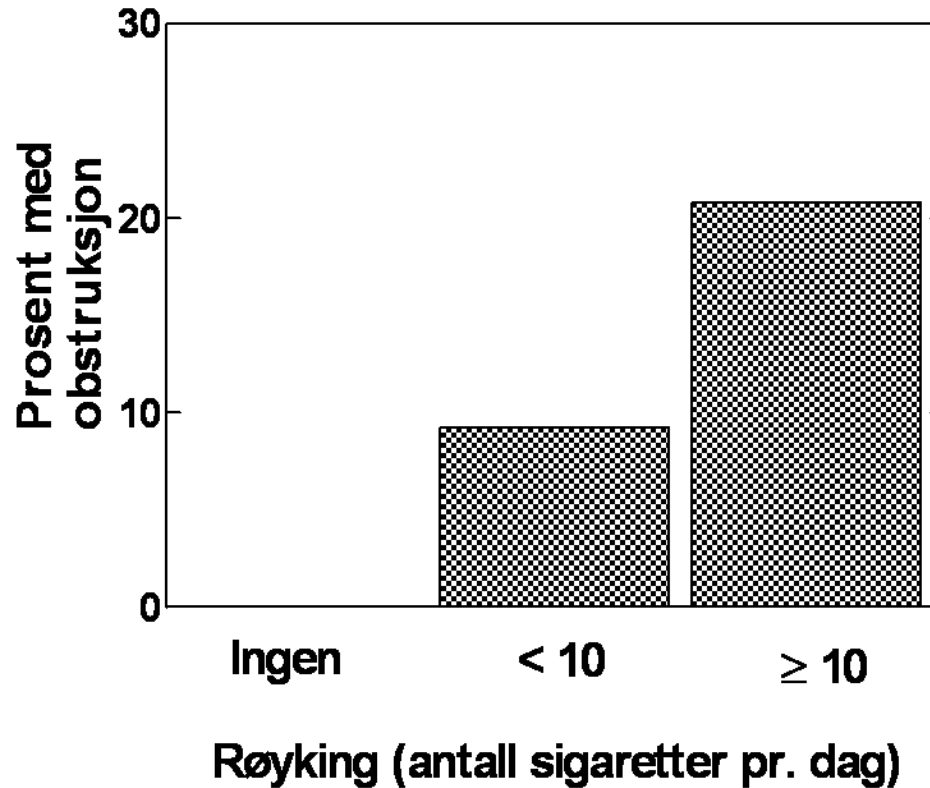
RESPIRATORY DISEASES

- Shortness of breath and coughing
- Increased frequency of respiratory infections
- Chronic bronchitis
- Emphysema
- Chronic obstructive pulmonary disease (COPD)
- Lung cancer and cancer of the oral cavity

Respiratory symptoms by young people 15 - 19 years of age

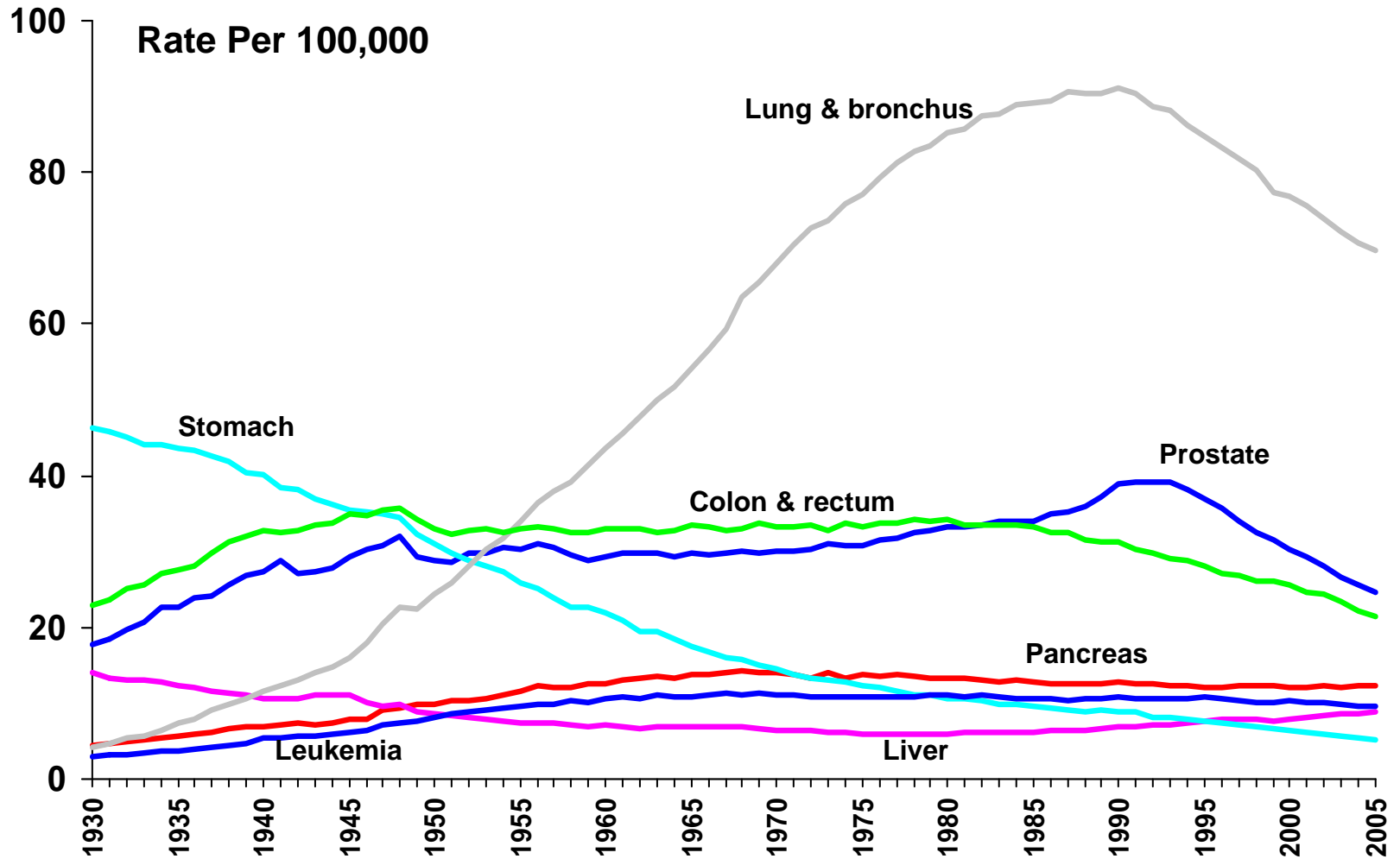


FOREKOMST AV LUFTVEISOBSTRUKSJON



Airway obstruction in men 22 – 59 years old as a function of smoking (Hummerfelt and Gulsvik, 1995).

Cancer Death Rates* Among Men, US, 1930-2005

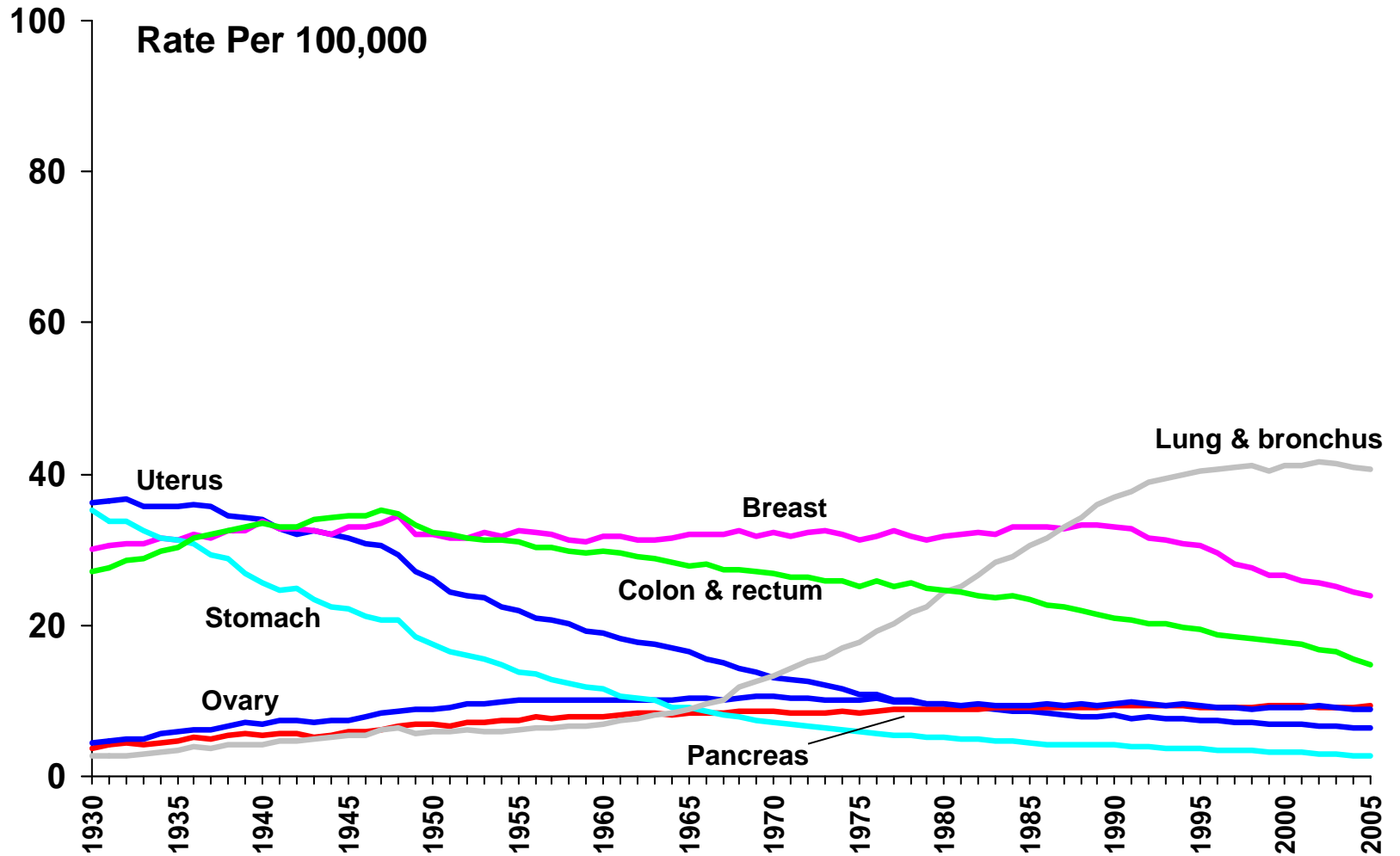


*Age-adjusted to the 2000 US standard population.

Source: US Mortality Data 1960-2005, US Mortality Volumes 1930-1959,

National Center for Health Statistics, Centers for Disease Control and Prevention, 2008.

Cancer Death Rates* Among Women, US, 1930-2005



*Age-adjusted to the 2000 US standard population.

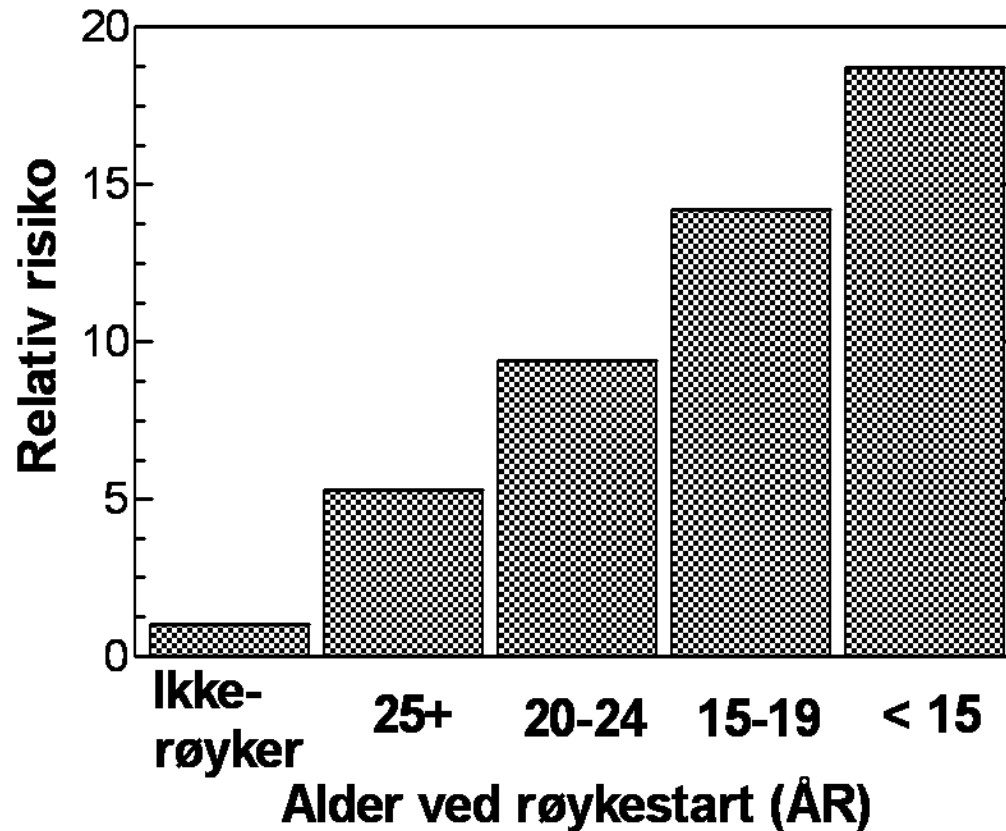
Source: US Mortality Data 1960-2005, US Mortality Volumes 1930-1959,

National Center for Health Statistics, Centers for Disease Control and Prevention, 2008.

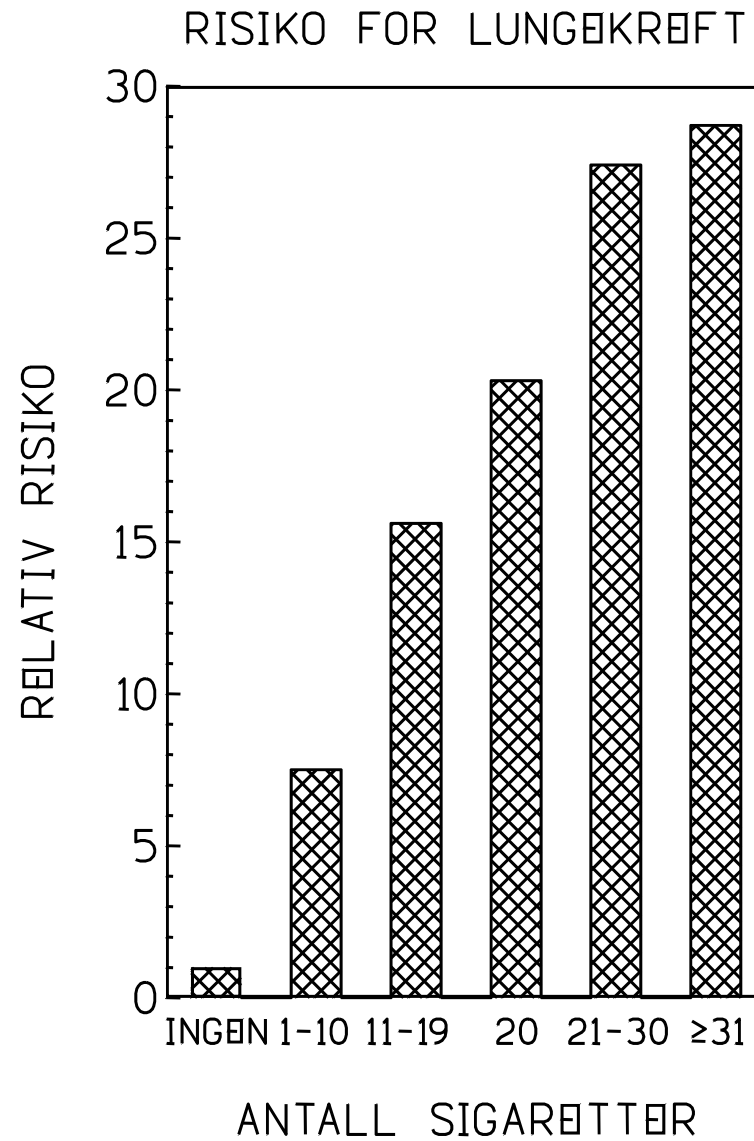
CANCER

- Lung
- Oral cavity
- Pharynx
- Larynx
- Oesophagus
- Pancreas
- Urinary bladder
- Kidney
- Uterine cervix
- Ovary
- Bone marrow (leukaemia)
- Stomach
- Colorectum
- Nasal cavity
- Female breast

RISIKO FOR LUNGEKREFT



Effects of age for starting to smoke on the risk of lung cancer (Kahn, 1966).

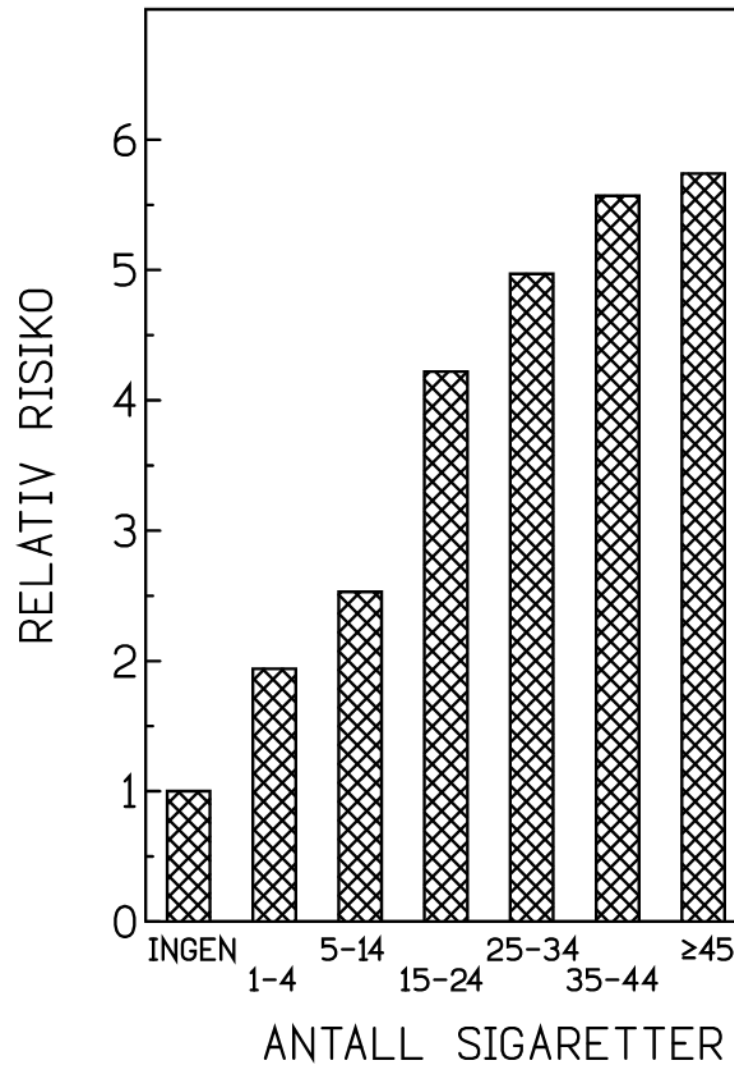


Effect on number of cigarettes per day on the risk of lung cancer (Garfinkel og Stellman, 1988).

Cardiovascular Disease

- Myocardial infarction
- Sudden unexpected death
- Strokes
- Atherosclerosis
- Abdominal aortic aneurysm
- Peripheral vascular disease

RISIKO FOR HJERTEINFARKT



Effect on number of cigarettes on the risk of heart infarction (Kawachi et al., 1994).

DEATH CAUSED BY SMOKING IN NORWAY

- Cardiovascular diseases (50%)
- Cancer (30%)
- Respiratory diseases (20%)
- **14% OF ALL DEATHS ARE CAUSED BY
SMOKING**

Smoking cessation

- **Stroke** risk is reduced to that of a person who never smoked after 5 to 15 years of not smoking
- **Cancers of the mouth, throat, and esophagus** risks are halved 5 years after quitting
- **Cancer of the larynx** risk is reduced after quitting
- **Coronary heart disease** risk is cut by half 1 year after quitting and is nearly the same as someone who never smoked 15 years after quitting
- **Chronic obstructive pulmonary disease** risk of death is reduced after you quit
Lung cancer risk drops by as much as half 10 years after quitting
- **Ulcer** risk drops after quitting
- **Bladder cancer** risk is halved a few years after quitting
- **Peripheral artery disease** goes down after quitting
- **Cervical cancer** risk is reduced a few years after quitting
- **Low birth weight baby** risk drops to normal if you quit before pregnancy or during your first trimester

PASSIVE SMOKING

- **Short term exposure**

 - Irritation of eyes and bronchia

 - Asthma attack

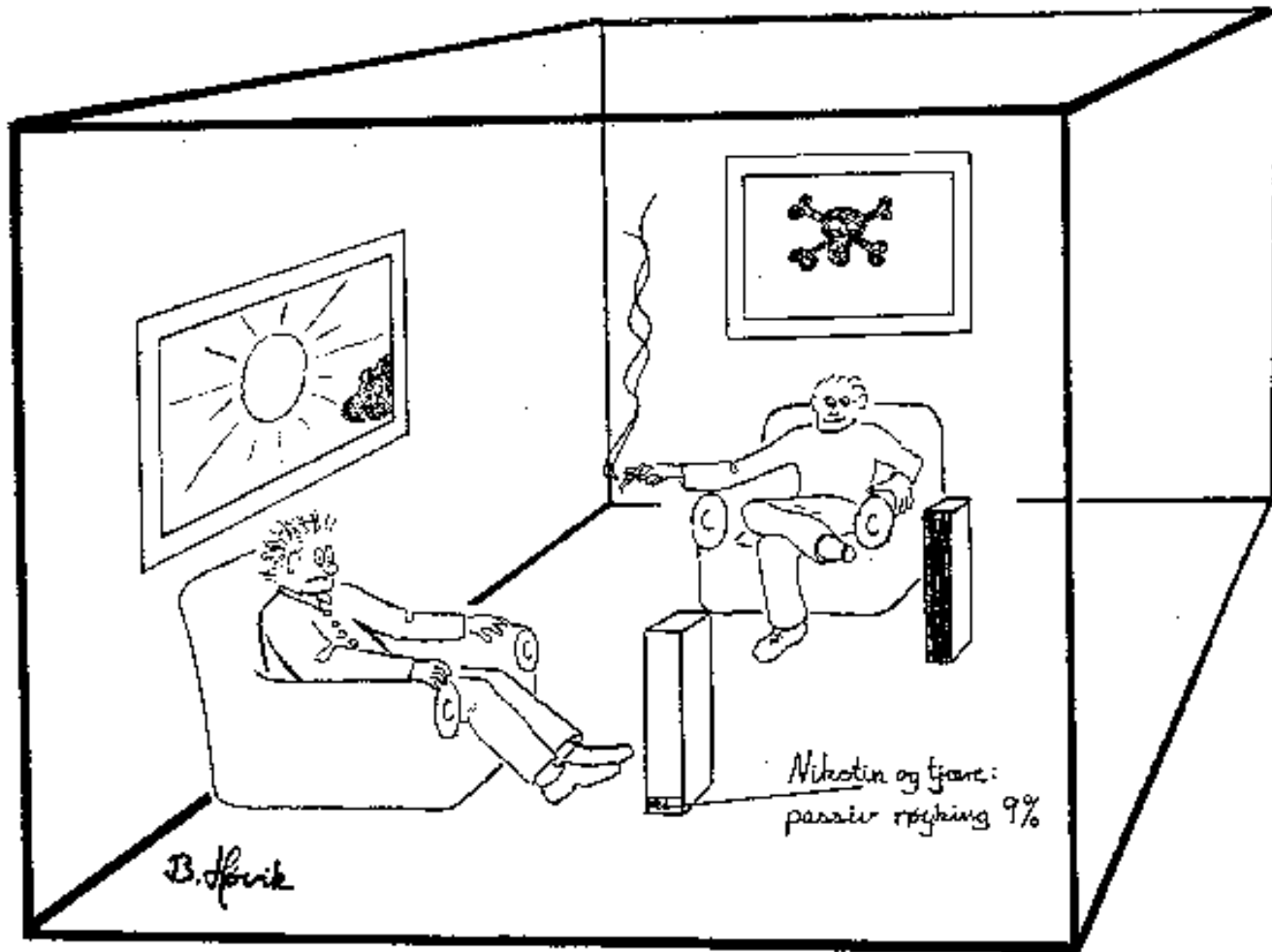
 - Angina pectoris

- **Long term exposure**

 - Reduced lung function

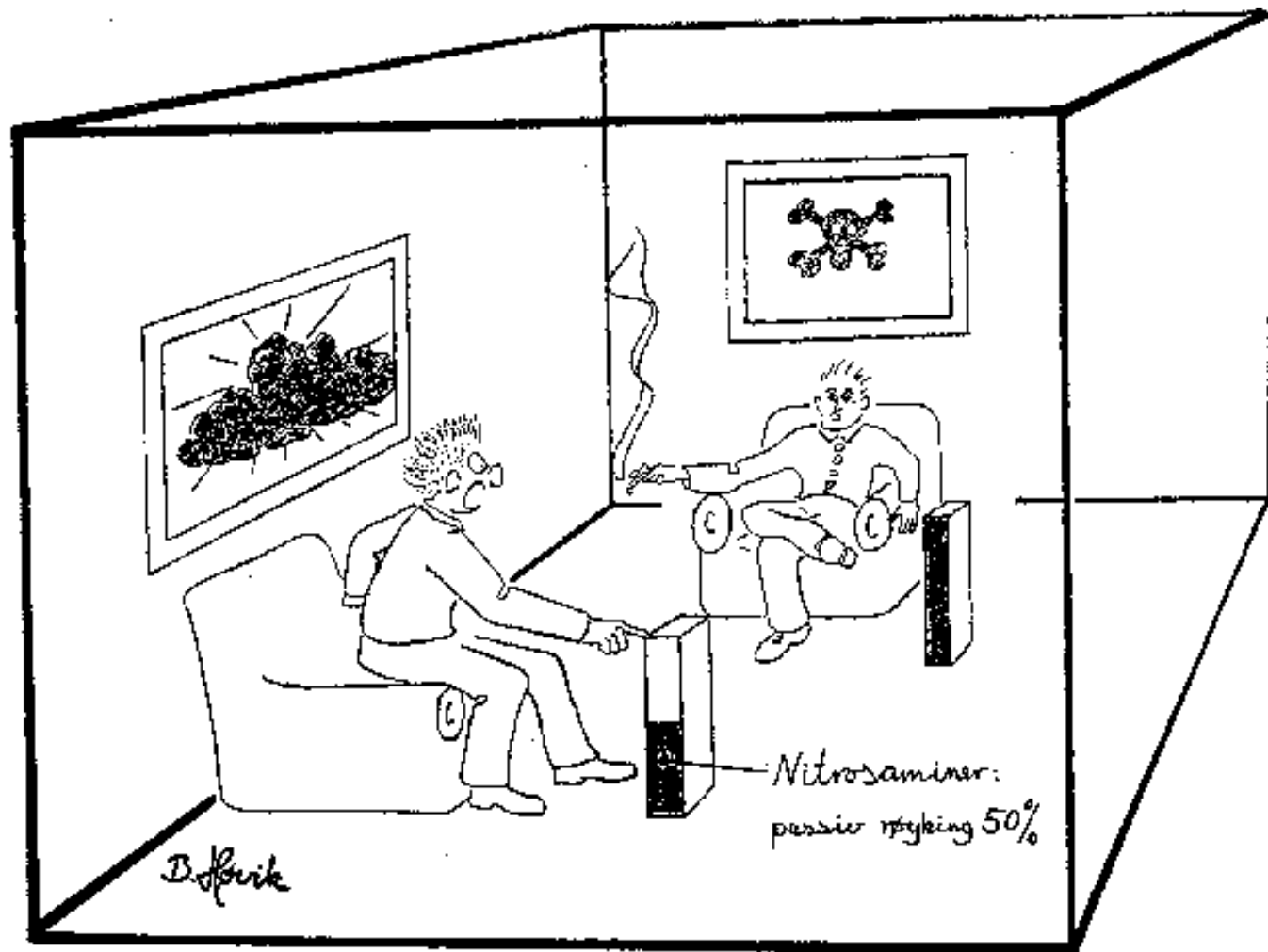
 - Lung, larynx, pharynx and breast cancer

 - Heart infarction

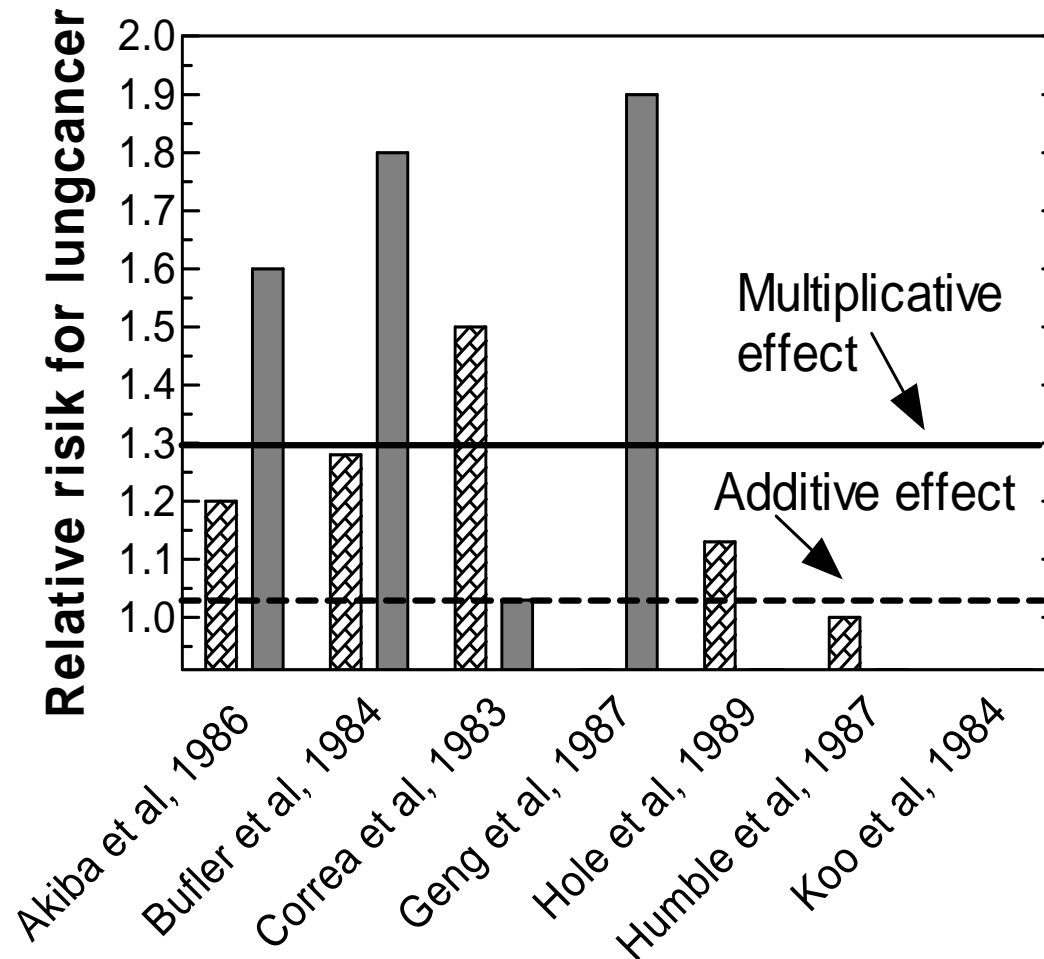


Nikotin og tjære:
passiv røyking 9%

8m²



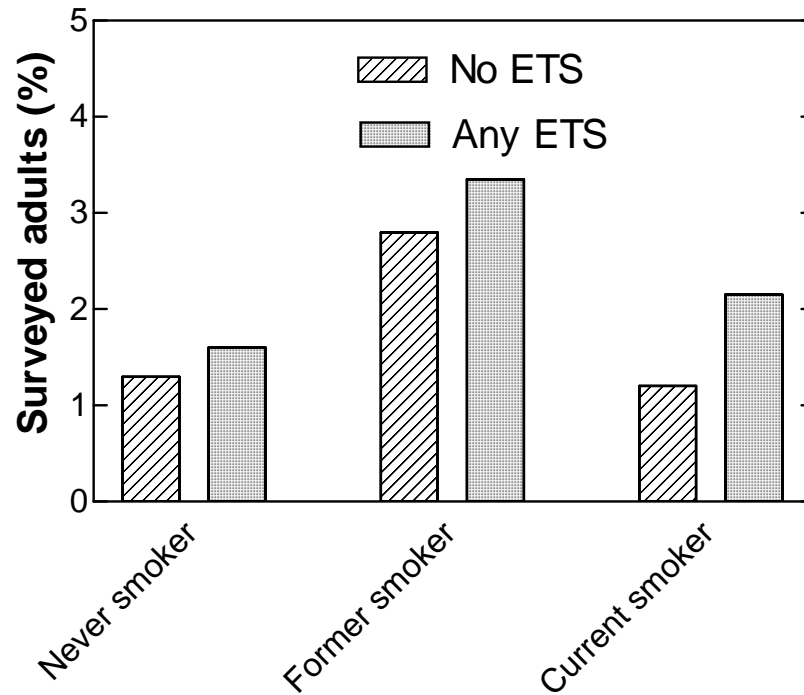
8m²



Hole et al. Kohorte, OR=1,13(95%KI=0,79-1,63)

Case control: Metaanalyse, OR=1,3(95%KI=1,1-1,5)

Effect of ETS on any exacerbation of chronic cardiac disease during two weeks preceding the survey

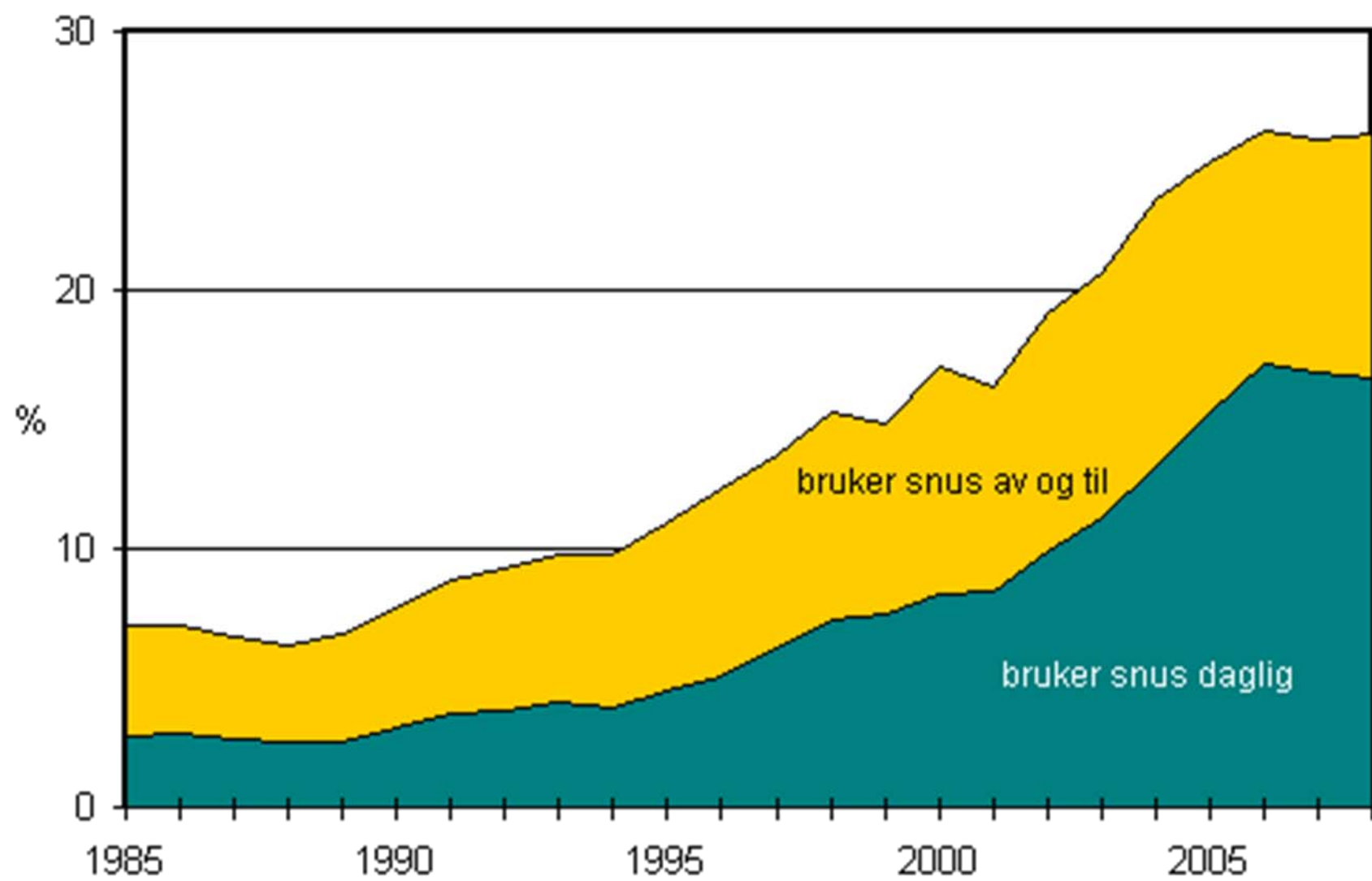


Occasional Smoking

- Myocardial infarction
RR = 1.5 (95% CI 1.0-2.3)
- All-cause mortality
RR = 1.6 (95% CI 1.3-2.1)

Swedish Snus – Oral Moist Smokeless Tobacco





Snuff is becoming popular in Norway



HEALTH EFFECTS OF SNUFF

- Nicotine addiction
- Oral lesions, gingival recession, leukoplakia
- Increased blood pressure
- Increased risk of sudden death of cardiovascular diseases
- Increased risk of cancer of:
 - oral cavity
 - pancreas
 - oesophagus
- Musculoskeletal injuries
- Pregnancy

ALCOHOL AND HEALTH

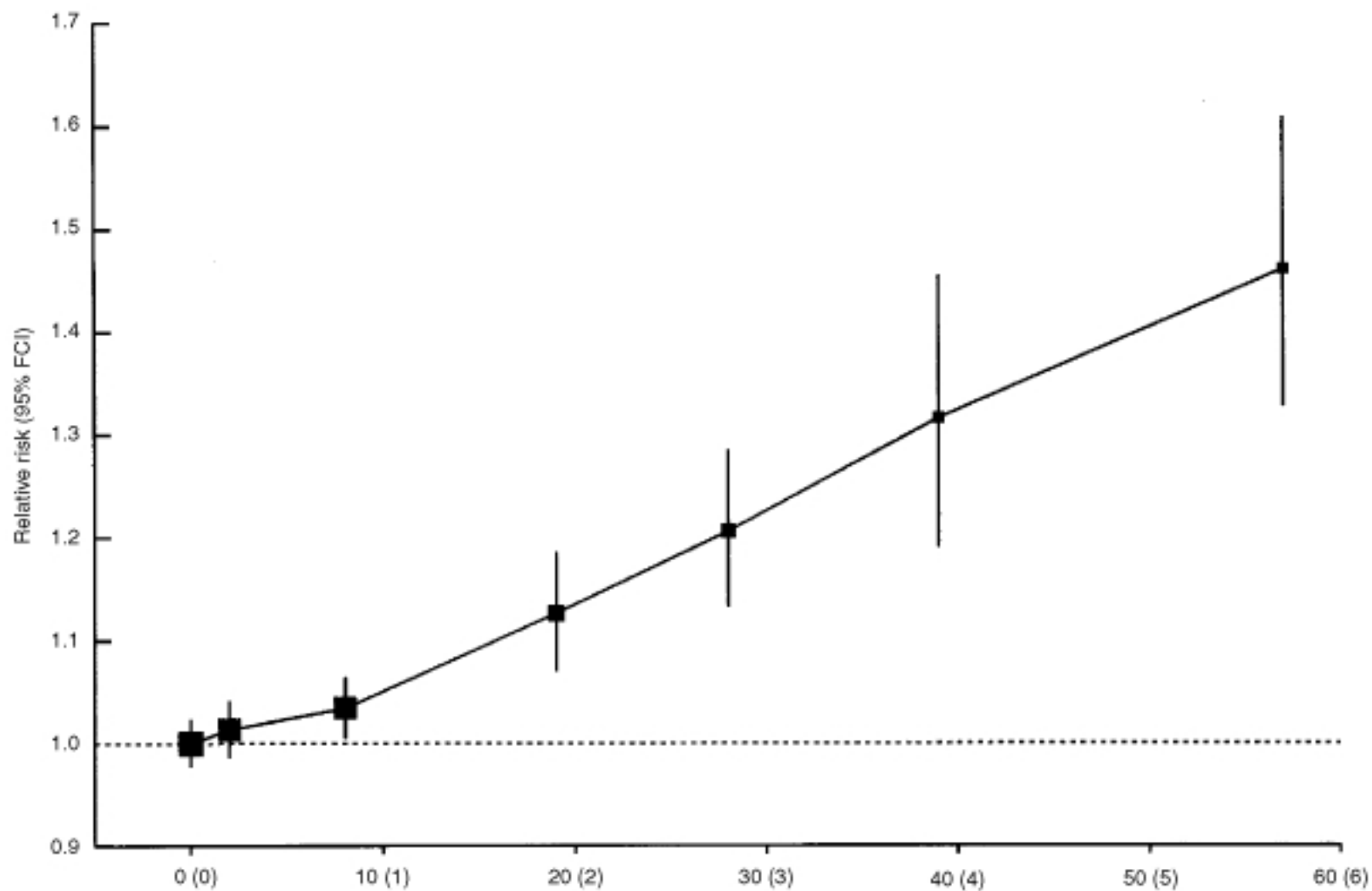
- Alcohol consumption
 - Road-traffic deaths
 - Fire
 - Drownings,
 - Suicides and acute poisoning.
- Health problems:
 - Mental problems
 - Cirrhosis of the liver
 - Cancers at various sites
 - Effects on the developing embryo and fetus

ALCOHOL AND CARDIOVASCULAR DISEASES

The relationship between alcohol intake and the occurrence of cardiovascular disease appears to be J-shaped, with the risk for abstainers being slightly higher than that in moderate drinkers (i.e., those consuming fewer than two or three drinks per day) and substantially lower than that for heavy drinkers

ALCOHOL AND CANCER

- Cancer sites in the evaluation by WHO in 1987:
 - oral cavity
 - pharynx
 - larynx
 - oesophagus
 - liver
- Additional cancer sites in the evaluation by WHO in 2007 and reconfirmed in 2009:
 - Colorectal
 - Pancreas
 - Female breast**



Self-reported alcohol consumption, g per day (- number drinks daily)

ALCOHOL AND BREAST CANCER

- The risk of breast cancer increase linear with alcohol consumption
- The relative risk of breast cancer increased by 7% for each drink of alcohol per day
- 4% of the breast cancers in developed countries are attributable to alcohol.

THANK YOU!