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Fact Sheet: The SCORE Project

This fact sheet illustrates how risk factors greatly influence health and life expectancy and what an individual can actively do to reduce these. By significantly improving the influencing factors, a person could improve their health and life expectancy. For instance, the 'Systematic COronary Risk Evaluation Project' (SCORE project) risk assessment is a simple tool to predict deaths relating to heart or circulation problems (fatal cardiovascular disease, CVD) over a 10 year period.

The SCORE project data are based on national datasets from Europe, from around 250,000 people with approximately 3 million patient-years of follow-up.
It is based on the following risk factors:
- Gender
- Age
- Smoking habits
- Systolic blood pressure
- Total cholesterol levels.

The threshold for being at high risk is defined as ≥ 5% (greater than or equal to 5 percent); this means that 5 or more out of 100 people will die within 10 years.

An example:
A 40 year old man, who is a smoker, visits his doctor for a routine health check. The checks show the following:
- His blood pressure is 160 (systolic)/90(diastolic) (mm Hg) – a normal range of blood pressure is 90/60 to 140/90 (mm Hg).
- His cholesterol level is 8 (mmol/L) – a normal cholesterol level is less than 5.2 (mmol/L).
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By applying these data to the SCORE chart (see **Figure 1**) it turns out that his risk of getting a fatal CVD is 3% over a 10 year period. Suppose this man does not change his habits and continues with the same lifestyle pattern. It can be projected that at an age of 60 his risk for having a fatal CVD has increased dramatically to 24%. In other words, 24 out of 100 people with this risk will die.

Based on these findings the doctor and the 40 year old man should agree preventative actions to improve his health status, such as:
- dietary advice and changes to his diet
- plan for physical activity
- decision to stop smoking and help to stop smoking and
- prescription of medicines.

Let's say they agree on a plan, and the 40-year-old man follows this. He changes his lifestyle and comes back at the age of 60. He is a non-smoker with the following health data:
- His blood pressure is now 140/80 (mm hg) - this is within a normal range.
- His cholesterol level has dropped to 5 (mmol/l) - this is within a normal range.

By using the SCORE chart (see **Figure 1**), his risk of getting fatal CVD is now 5%, which is much better than the projected 24% if he had not made changes to his previous lifestyle. It is

important that he continues to follow the healthy lifestyle he has adopted in order to minimise the risk of getting fatal CVD as he gets older.

Figure 1: **SCORE chart to predict the total risk over a 10 year period for fatal CVD based on gender, age, smoking habits, systolic blood pressure and total cholesterol levels (Source: European Society of Cardiology).**

This example shows how the different factors such as gender, age, smoking habits, cholesterol levels, and blood pressure influence the risk of a fatal CVD. By using this SCORE chart the doctor can show the patient a visual representation of what will happen if habits or lifestyles do not change over time. The patient and doctor can then work together to develop a plan. If followed, this can lead to significant improvement of the influencing factors, thereby reducing the risk of a fatal CVD.

References

1. European guidelines on cardiovascular disease prevention in clinical practice (2012). *European Heart Journal* 33, 1635-1701.