Absolute vs. relative risk (Infographic)

01 March 2017

Relative risks are often reported in newspaper headlines, but without the context of absolute (or baseline) risk, this information is meaningless. Absolute risk numbers are needed to understand the implications of relative risks and how specific factors or behaviours affect your likelihood of developing a disease or health condition. This infographic will help you to understand the difference between absolute risks and relative risks, using the example of processed meat consumption and risk of bowel cancer.
**Absolute risk**
Is the likelihood of a health effect occurring under specific conditions.

For instance, the chance of a person developing heart disease is based on factors such as:
- age
- physical activity
- sex
- diet
- genetics

Commonly expressed as:
- a 1 in 10 chance of developing heart disease
- a 10% chance of developing heart disease

**Relative risk**
Is the likelihood of an event occurring in a group of people compared to another group with different behaviours, physical conditions or environments.

<table>
<thead>
<tr>
<th>Meats: saturated</th>
<th>Vegetarian</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inactive</td>
<td>Physically active</td>
</tr>
<tr>
<td>Overweight</td>
<td>Normal body weight</td>
</tr>
<tr>
<td>Low income</td>
<td>High income</td>
</tr>
</tbody>
</table>

For instance expressed as: processed meat consumption increases risk of bowel cancer by 18%.

Relative risks alone do not tell the full story...

If absolute risk is 2 in 10...
50% increase
...risk increases to 3 in 10

If absolute risk is 4 in 10...
50% increase
...risk increases to 6 in 10

**Example: processed meat and bowel cancer**
What does a 18% increased risk of bowel cancer really mean?

- 20 people

For people who eat the least processed meat:
- ...56 of 1000 will develop bowel cancer
- Absolute risk is 5.6%

For people who eat the most processed meat:
- ...66 of 1000 will develop bowel cancer
- Absolute risk increases to 6.6%

Absolute risk numbers are needed to understand relative risks!