

Dietary reference values for energy

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Executive summary

Health Council of the Netherlands



The Health Council of the Netherlands has derived new dietary reference values for energy for infants, children and adults of various ages, including women who are pregnant and those who are breastfeeding. This advisory report is a partial advisory report within the scope of the evaluation of Dutch dietary reference values.

The Health Council considers that harmonisation of reference values across the EU is preferable. Accordingly, the Council's Committee on Nutrition has evaluated the extent to which the European Food Safety Authority's (EFSA) dietary reference values can be adopted in the Netherlands. The committee's evaluation also took into account six reports from other national and international organisations that are relevant to the Netherlands.

An average requirement for energy

The energy requirement is expressed in kilocalories or kilojoules. Energy is needed for

all life processes, to maintain body weight and for physical activity. Additional energy is indicated for growth in infants, children and pregnant women. Women who are breast-feeding also need energy to produce breast milk.

The dietary reference values for energy are provided as average requirements. The average energy requirement is suitable for applications at group level and is relevant to public education on nutrition, for example as provided by the Netherlands Nutrition Centre.

Energy requirement varies widely between people

The energy requirement varies widely from person to person. Age, body weight and physical activity pattern are major influencing factors.

For this reason, the average energy requirement is not suitable for application to individuals.

If necessary, a dietician can estimate an individual's energy requirement based on prediction equations when issuing personal dietary advice. However, these equations can also underestimate or overestimate the personal energy requirement. It is therefore always important to monitor body weight for control purposes.

EFSA's dietary reference values converted to the Dutch situation

In determining the average energy requirement for adults, children and infants, the committee has adopted EFSA's approach. Like EFSA, it also gives the average energy requirement for adults and children for a number of levels of physical activity. The committee uses different reference weights, however, because the average Dutch person is taller and therefore slightly heavier than the average European. The average additional energy requirement for



pregnant women is slightly higher than EFSA's estimate, as the committee, based on research published after the EFSA report, assumes an optimal weight gain of 13.8 kg as opposed to the 12 kg used by EFSA. The average additional energy requirement for women who are breastfeeding is lower than the value used by EFSA, as the committee does not add any energy costs for breast milk synthesis. Figure 1 (on the next page) shows the average daily energy requirements for the different groups.

Changes compared to 2001 values

The committee now sets average energy requirements for a number of levels of physical activity, whereas in 2001, an average requirement was set for a single (average) level of activity. The committee bases its approach on more recent prediction equations for resting energy expenditure, more recent reference values for height and weight and a more recent estimate of optimal weight gain in pregnancy. The additional energy requirement during pregnancy has now been specified for each

trimester, whereas a single value was derived for the entire pregnancy in 2001. The additional energy requirement for women who are breastfeeding is lower than in 2001. This is because the committee now assumes that, although energy is required for the milk itself, the energy costs of the metabolic processes involved in breast milk production are zero and that, in the first months after the birth, more energy is released due to the breakdown of fat mass. An average requirement was previously set for infants aged 0 up to and including 5 months. However, no value is provided now, as the baby drinks as needed in this period, and the average composition of breast milk is considered optimal. For infants aged 6 months to 1 year, the average energy requirements are now specified for each month, with separate values for males and females.



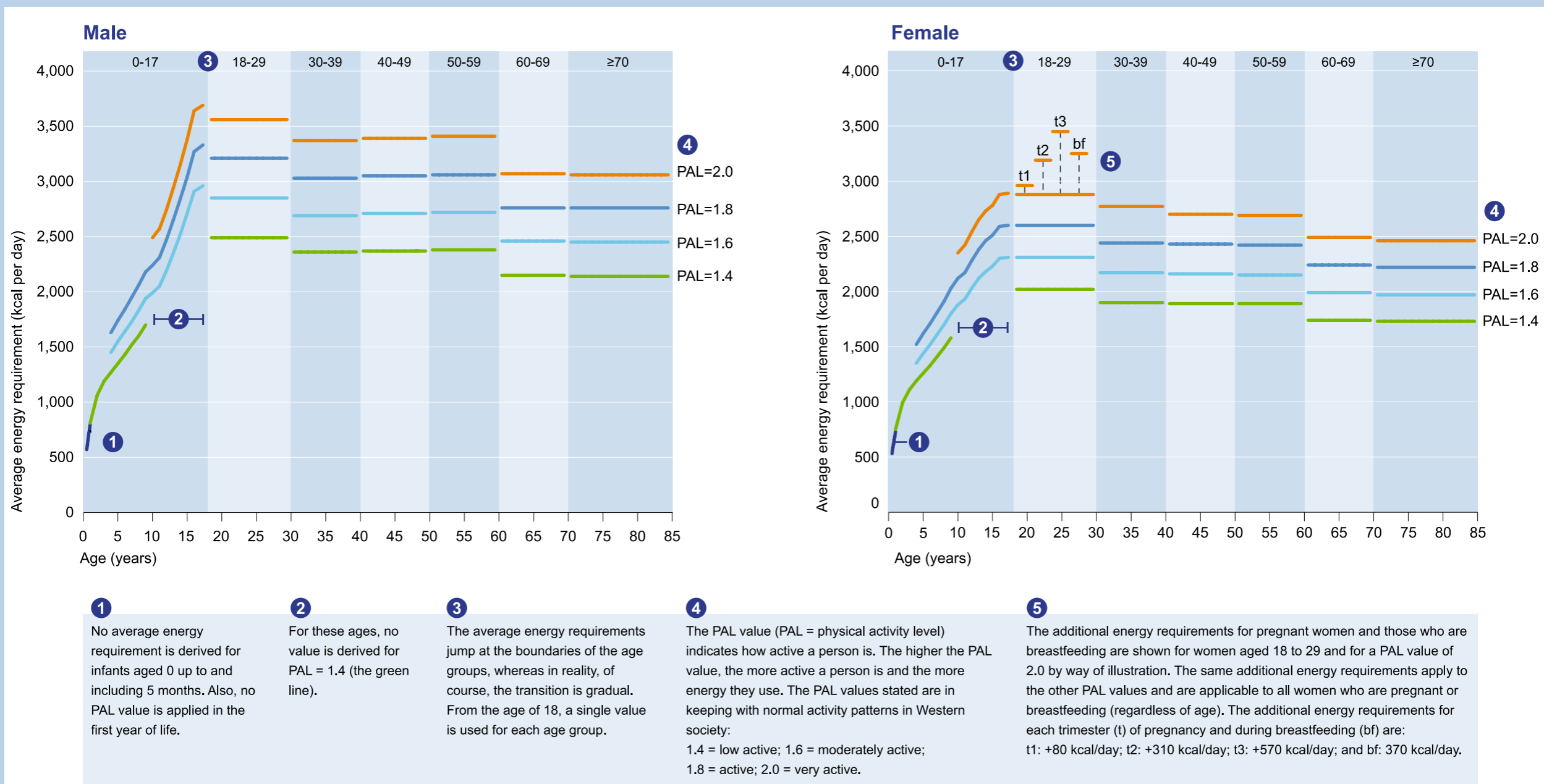


Figure 1 Average daily energy requirements for men and women by age and physical activity level (PAL value)

The Health Council of the Netherlands, established in 1902, is an independent scientific advisory body. Its remit is “to advise the government and Parliament on the current level of knowledge with respect to public health issues and health (services) research...” (Section 22, Health Act).

The Health Council receives most requests for advice from the Ministers of Health, Welfare and Sport, Infrastructure and Water Management, Social Affairs and Employment, and Agriculture, Nature and Food Quality. The Council can publish advisory reports on its own initiative. It usually does this in order to ask attention for developments or trends that are thought to be relevant to government policy.

Most Health Council reports are prepared by multidisciplinary committees of Dutch or, sometimes, foreign experts, appointed in a personal capacity. The reports are available to the public.

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