Weight gain in people who stop smoking

Health benefits of quitting smoking far outweigh the weight gain people may experience after giving up. However, a meta-analysis shows that the average weight gain of those who quit is higher than many female smokers report being willing to tolerate, and therefore professionals advising on smoking cessation may consider offering additional lifestyle advice to limit weight gain, such as increasing exercise.

Overview: People who smoke, particularly women, often raise concerns about weight gain as a reason not to quit. It is well known that giving up smoking can lead to weight gain. There are several reasons for this, including:

- nicotine speeds up the metabolism, so that the body burns calories at a faster rate
- nicotine suppresses the appetite and can affect the part of the brain responsible for the sensation of hunger
- appetite and sense of taste may improve, increasing the temptation to snack
- food can act as a substitute for cigarettes, and eating comfort food can act as a substitute for the 'high' felt after smoking a cigarette
- many people who have given up smoking find that they miss the physical 'hand-to-mouth' habit of lighting and smoking a cigarette and food provides something to do with their hands.

Current advice: Patient advice from NHS Choices emphasises the need to focus on giving up smoking rather than weight gain, because the health risks of smoking are much greater than those of gaining a few pounds temporarily. It advises people who want to avoid weight gain to try to eat the same amount as before and to be more active in their daily life, such as using the stairs instead of the lift or escalator, and getting off the bus one stop early.

NICE has a range of guidance about smoking cessation, which can be found via the NICE Pathway on smoking prevention and cessation. NICE has also produced public health briefings for local government on tobacco and physical activity, which are relevant to local authority officers and councillors, directors of public health, and commissioners and directors of adult social care and children's services.

New evidence: A meta-analysis of 62 trials assessed weight change among people who had successfully given up smoking for 12 months, with and without the help of nicotine replacement therapy (Aubin et al. 2012).

Results showed that giving up smoking was associated with an average weight gain of 4-5 kg after 12 months, most of which occurred within the first 3 months of quitting. This is higher than the typical 2.9 kg often quoted in smoking cessation advice leaflets and more than the 2.3 kg weight gain many female smokers report being willing to tolerate, on average, when thinking of quitting (Pomerleau and Kurth, 2004). However, the...
actual changes in body weight varied widely, with around 16% of quitters losing weight and 13% gaining more than 10 kg after 12 months. Estimates of weight gain were similar for people using different pharmacotherapies to support cessation, as were estimates from people especially concerned about weight gain.

The researchers suggest that when advising people on smoking cessation, health professionals might usefully explain possible weight gain within an expected range. However, further research is needed to identify the people most at risk of gaining weight and to clarify the best way to prevent weight gain after quitting.

Commentary: ‘The greater benefit from giving up smoking, compared to any ensuing weight gain, can lead clinicians to try to minimise quitters’ concerns. The finding in this meta-analysis that 13-14% of quitters gained more than 10kg at 12 months shows that this is an inappropriate response. A Cochrane review on intervention to prevent weight gain by many of the same authors shows that education alone may reduce quitting rates but pharmacological interventions in the short-term, and interventions to increase exercise in the long term, show promise (Farley et al. 2012). The higher estimate of post-cessation weight gain reported in this meta-analysis, compared to previous reviews, adds to the importance of finding the best strategy to limit weight gain after smoking.

“The authors discuss which quitters may need particular help, for example, those who gain weight quickly, immediately after stopping smoking and those who have put on significant weight in previous quit attempts. There is a concern that those who fail to quit but gain weight may be deterred from making future quit attempts, if that weight gain is permanent. However the authors found that, for smokers who gain weight on cessation, available data suggest that they lose weight again if they relapse to smoking.” – Dr Peter Elton, Director of Public Health, NHS Bury.

About this article: This article appeared in the October 2012 issue of the Eyes on Evidence newsletter. This free monthly newsletter from NICE Evidence outlines interesting new evidence and what it means for current practice. They do not constitute formal NICE guidance. The opinions of contributors do not necessarily reflect the views of NICE.

To receive the Eyes on Evidence e-bulletin, please complete the online registration form.