

Test Your Knowledge:

Ten Questions on Tobacco Addiction

This quiz is related to the Research in Translation in the September issue of *PLoS Medicine* (DOI: 10.1371/journal.pmed.0020266).

Gavin Yamey

Question 1. Roughly how many tobacco-related deaths are there each year worldwide?

- About 1 million
- About 5 million
- About 10 million

Question 2. How many current smokers will eventually be killed by their tobacco use?

- One in 20
- One in ten
- One in two

Question 3. Roughly what proportion of smokers live in the developing world?

- 35%
- 55%
- 65%
- 85%

Question 4. Which one of the following is a risk factor for smoking in adolescence?

- Higher socioeconomic status
- Participation in extracurricular activities, including sports
- Emotional closeness to parents
- Physical or sexual abuse

Question 5. Roughly what is the percentage of attempts to quit smoking without assistance that are successful?

- 1%–10%
- 30%–40%
- 60%–70%

Question 6. Based on the best available clinical evidence, how much does nicotine-replacement therapy increase the odds of quitting?

- 1.5- to 2-fold
- 2- to 4-fold
- 5- to 7-fold

Question 7. Which one of the following statements best reflects the evidence on different forms and doses of nicotine-replacement therapy for treating nicotine addiction?

- There is good evidence that therapy provided in the form of gum is superior to therapy in the form of a nasal spray or an inhaler at achieving abstinence.
- There is good evidence that oral therapy is superior to patches at achieving abstinence.
- In highly dependent smokers, there is good evidence that a 4-mg dose of gum is more effective than a 2-mg dose in achieving abstinence.

Question 8. Which one of the following antidepressants is most likely to increase the odds of quitting smoking?

- Venlafaxine
- Nortriptyline
- Moclobemide
- Fluoxetine
- Setraline

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Gavin Yamey is a senior editor at *PLoS Medicine*. E-mail: gyamey@plos.org

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Question 9. Which one of the following best reflects the evidence on smoking-cessation interventions to increase the chances of quitting?

- There is good evidence that acupuncture is more effective than control (sham acupuncture).
- There is good evidence that hypnotherapy increases rates of abstinence at six months more than no treatment.
- Although physicians commonly advise their patients to quit, there is no good evidence that such advice increases the odds of quitting.
- Although training health professionals to ask patients about smoking and to offer them treatment leads to an increase in the number of smokers offered advice and support, there is no evidence that such training leads to more people quitting.

Question 10. Which one of the following is likely to be the most effective at helping smokers quit?

- Group behavioral therapy
- Self-help materials
- Opioid antagonists (such as naltrexone)

Answer 1. About 5 million

The World Health Organization states: “With 4.9 million tobacco-related deaths per year, no other consumer product is as dangerous, or kills as many people, as tobacco” [1].

References

1. World Health Organization (2003) An international treaty for tobacco control. Geneva: World Health Organization. Available: <http://www.who.int/features/2003/08/en/>. Accessed 29 August 2005.

Answer 2. One in two

Half of those who smoke today—that is, about 650 million people—will eventually be killed by their tobacco use [1].

References

1. Tobacco Free Initiative (2005) Why is tobacco a public health priority. Geneva: World Health Organization. Available: http://www.who.int/tobacco/health_priority/en/index.html. Accessed 29 August 2005.

Answer 3. 85%

About 85% of the world’s smokers live in developing countries [1].

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1. Jha P, Ranson MK, Nguyen SN, Yach D (2002) Estimates of global and regional smoking prevalence in 1995 by age and sex. *Am J Public Health* 92: 1002–1006.

Answer 4. Physical or sexual abuse

Risk factors for smoking in adolescence include lower socioeconomic status, family stress, psychological distress (especially depressive symptoms), exposure to physical or sexual abuse, and parents who smoke. Closeness to parents and participation in extracurricular activities appear to be protective [1].

References

1. Simantov E, Schoen C, Klein JD (2000) Health-compromising behaviors: Why do adolescents smoke or drink: Identifying underlying risk and protective factors. *Arch Pediatr Adolesc Med* 154:1025–1033.

Answer 5. 1%–10%

The exact percentage of attempts that are successful is

controversial, partly because this proportion is difficult to measure, but it is likely to be in the 1%–10% range [1].

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1. Jain A (2003) Treating nicotine addiction. *BMJ* 327: 1394–1395.

Answer 6. 1.5- to 2-fold

A Cochrane systematic review of nicotine-replacement therapy for smoking cessation found that the odds ratio (OR) for abstinence with therapy compared to control was 1.77 (95% confidence interval [CI], 1.66–1.88) [1].

References

1. Silagy C, Lancaster T, Stead L, Mant D, Fowler G (2004) Nicotine replacement therapy for smoking cessation. *Cochrane Database Syst Rev* 2004: CD000146.

Answer 7. In highly dependent smokers, there is good evidence that a 4-mg dose of gum is more effective than a 2-mg dose in achieving abstinence.

A Cochrane systematic review of nicotine-replacement therapy for smoking cessation found no evidence that one form of therapy is better than any other, but it did find that in highly dependent smokers, there was a significant benefit of 4-mg gum compared with 2-mg gum (OR, 2.20; 95% CI, 1.85–3.25) [1].

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1. Silagy C, Lancaster T, Stead L, Mant D, Fowler G (2004) Nicotine replacement therapy for smoking cessation. *Cochrane Database Syst Rev* 2004: CD000146.

Answer 8. Nortriptyline

A Cochrane systematic review found six randomized controlled trials of nortriptyline as a smoking cessation; the review found that the drug doubled the odds of quitting smoking (OR, 2.79; 95% CI, 1.70–4.59) [1].

The review found one trial of venlafaxine, and one trial of moclobemide, and neither of these trials detected a significant long-term benefit in smoking cessation. The review also found five trials of selective serotonin reuptake inhibitors: three of fluoxetine, one of setraline, and one of paroxetine. None of these detected significant effects in smoking cessation, and there was no evidence of a significant benefit when the results were pooled.

References

1. Hughes JR, Stead LF, Lancaster T (2005) Antidepressants for smoking cessation. *Cochrane Syst Rev* 2005: CD000031.

Answer 9. Although training health professionals to ask patients about smoking and to offer them treatment leads to an increase in the number of smokers offered advice and support, there is no evidence that such training leads to more people quitting.

A Cochrane systematic review of randomized trials of training health-care professionals about smoking cessation found that such training “had a measurable effect on professional performance” [1]. Training led to an increase in the number of people identified as smokers by health professionals and the number of smokers offered advice and support, but there was no strong evidence that training led to a change in smoking behavior.

A systematic review of 22 randomized trials of acupuncture failed to detect an effect of acupuncture on smoking cessation when compared to sham acupuncture at any time point (including at six and 12 months) [2].

A systematic review of nine trials that compared hypnotherapy with 14 different control interventions was unable to show that hypnotherapy had a greater effect on six-month quit rates than other interventions or no treatment [3]. Heterogeneity between trials prevented the authors from being able to calculate a pooled OR.

In a systematic review of physicians' advice on quitting, pooled data from 17 randomized trials of brief advice versus no advice (or usual care) showed a small but significant increase in the odds of quitting (OR, 1.74; 95% CI, 1.48–2.05) [4]. This increase equates to an absolute difference in the cessation rate of about 2.5%.

References

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2. White AR, Rampes H, Ernst E (2005) Acupuncture for smoking cessation. *Cochrane Database Syst Rev* 2005: CD000009.
3. Abbot NC, Stead LF, White AR, Barnes J, Ernst E (2005) Hypnotherapy for smoking cessation. *Cochrane Database Syst Rev* 2005: CD001008.
4. Lancaster T, Stead LF (2005) Physician advice for smoking cessation. *Cochrane Database Syst Rev* 2005: CD000165.

Answer 10. Group behavioral therapy

A systematic review of group behavior therapy programs found 16 trials that compared a group program with self-help materials. There was an increase in cessation with the use of a group program (OR, 2.04; 95% CI, 1.60–2.60) [1].

A systematic review of opioid antagonists for smoking cessation identified two trials of naltrexone versus placebo [2]; both trials found no significant effect of the drug on quit rates.

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