

Putting Prevention into Practice

An Evidence-Based Approach

Interventions for Tobacco Smoking Cessation in Adults, Including Pregnant Persons

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Case Study

A 27-year-old patient, R.C., with a history of generalized anxiety disorder presents for a wellness examination. R.C. previously smoked a pack of cigarettes per day but has cut down to half a pack per day and started using electronic cigarettes (e-cigarettes) and is interested in eventually quitting the use of tobacco products. R.C. has no other significant medical history, takes no medications, and has an intrauterine device (IUD) for contraception. Physical examination findings are within normal limits.

Case Study Questions

1. Based on the U.S. Preventive Services Task Force (USPSTF) recommendation, which of the following behavioral interventions are effective options for R.C.?

- A. Nurse advice, which includes a verbal stop smoking message, print materials, and a one-month follow-up visit.
- B. Hypnotherapy for a minimum of 120 minutes, delivered over four or more sessions.
- C. Group-based counseling facilitated by a smoking cessation specialist, delivered over six sessions.
- D. Telephone counseling during scheduled calls, following an initial call to a smoking quit line, to take place over four months.

2. According to the USPSTF, which one of the following statements about the use of e-cigarettes for tobacco cessation is correct and should be shared with your patient?

- A. e-Cigarettes have been definitively shown to increase tobacco cessation in adults.
- B. e-Cigarettes are typically used only in the short term when used for tobacco cessation.
- C. The harms associated with e-cigarette use are well known and minor because nicotine is the only toxic substance emitted.
- D. The current evidence is insufficient to assess the balance of benefits and harms of e-cigarettes for tobacco cessation in adults, including pregnant persons.

3. R.C. is interested in IUD removal because R.C. and their partner would like to conceive. Based on the USPSTF recommendation, which one of the following statements about pharmacotherapy for tobacco cessation in pregnant persons is correct?

- A. Trials of bupropion sustained-release (Zyban) or varenicline (Chantix) pharmacotherapy during pregnancy did not show an increase in cessation.
- B. Clinicians should consider the severity of tobacco dependence in each patient and engage in shared decision-making to determine the best individual treatment course.
- C. Nicotine replacement therapy (NRT) has been definitively shown to be effective for tobacco cessation in pregnant persons.
- D. Pharmacotherapy for tobacco cessation in pregnant persons should be offered only after the first trimester of pregnancy.

See related U.S. Preventive Services Task Force Recommendation Statement at <https://www.aafp.org/afp/2021/0615/od1>.

This PPIP quiz is based on the recommendations of the USPSTF. More information is available in the USPSTF Recommendation Statement and supporting documents on the USPSTF website (<https://www.uspreventiveservicestaskforce.org>). The practice recommendations in this activity are available at <https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/tobacco-use-in-adults-and-pregnant-women-counseling-and-interventions>.

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CME This clinical content conforms to AAFP criteria for CME. See CME Quiz on page 719.

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Answers appear on the following page.

Answers

1. The correct answers are A, C, and D. The USPSTF concludes with high certainty that the net benefit of behavioral interventions and U.S. Food and Drug Administration-approved pharmacotherapy for tobacco smoking cessation, alone or combined, in nonpregnant adults who smoke is substantial¹ (see Table 4 in the USPSTF recommendation statement at <https://www.aafp.org/afp/2021/0615/od1.html#afp20210615od1-t4>). Most combination interventions include behavioral counseling involving several sessions (four or more), with planned total contact time usually ranging from 90 to 300 minutes. Effective behavioral interventions include physician or nurse advice, individual or group counseling, telephone counseling, and mobile phone-based interventions. Physician or nurse advice is often given in a single session lasting less than 20 minutes, with up to one follow-up visit within three months. Advice generally includes a verbal stop smoking message and is often given with print materials, additional advice from health care staff, or a referral to a cessation clinic. Individual or group-based counseling delivered by smoking cessation specialists typically includes review of smoking history and motivation to quit, help in the identification of high-risk situations, and the creation of problem-solving strategies. Individual counseling sessions are often face-to-face or via telephone with multiple follow-up sessions. Group-based counseling is typically delivered over six to eight sessions. Telephone counseling and mobile phone-based interventions are generally tailored to patients' smoking history and readiness to quit, focusing on increasing motivation and likelihood of quitting. They vary from two weeks to one year, with most taking place over three to four months, and can include automated text messages. Only limited evidence is available on hypnotherapy for tobacco cessation, so it is not included in recommended tobacco cessation interventions by the USPSTF.

2. The correct answer is D. The USPSTF found the evidence on the benefits and harms of e-cigarettes to increase tobacco cessation to be insufficient. Few randomized trials have evaluated the effectiveness of e-cigarettes to increase

tobacco smoking cessation in nonpregnant adults, and no trials have evaluated e-cigarettes for tobacco smoking cessation in pregnant persons.² Continued e-cigarette use after the intervention phase of trials remained high, indicating continued nicotine dependence. No tobacco product use is risk-free, including the use of e-cigarettes. Trial evidence on harms of e-cigarettes used for smoking cessation is limited. In addition to nicotine, most e-cigarette products contain and emit numerous potentially toxic substances. Also, an outbreak of e-cigarette, or vaping product, use-associated lung injury that occurred in the United States in late 2019 also suggests potential harms of e-cigarette use.

3. The correct answer is B. For pregnant persons for whom behavioral counseling alone does not work, evidence to support other options to increase smoking cessation during pregnancy are limited. The USPSTF identified no studies on bupropion sustained-release or varenicline pharmacotherapy for tobacco smoking cessation during pregnancy.² Few clinical trials have evaluated the effectiveness of NRT for smoking cessation in pregnant persons. Although most studies of NRT were in the direction of benefit, no statistically significant increase in cessation was seen. There is limited evidence on harms of NRT from trials in pregnant persons. In the absence of clear evidence on the balance of benefits and harms of pharmacotherapy in pregnant persons, clinicians are encouraged to consider the severity of tobacco dependence in each patient and engage in shared decision-making to determine the best individual treatment course.

The views expressed in this work are those of the authors and do not reflect the official policy or position of Tulane University or the U.S. government.

References

1. Krist AH, Davidson KW, Mangione CM, et al. Interventions for tobacco smoking cessation in adults, including pregnant persons: US Preventive Services Task Force recommendation statement. *JAMA*. 2021;325(3):265-279.
2. Patnode CD, Henderson JT, Coppola EL, et al. Interventions for tobacco cessation in adults, including pregnant persons: updated evidence report and systematic review for the US Preventive Services Task Force. *JAMA*. 2021;325(3):280-298. ■