Transcript

Let’s talk e-cigarettes

Podcast 41, April 2025, Professor Eden Evins

Speaker 1: Musical intro & outro

Speaker 2: Nicola Lindson, NL

Speaker 3: Jamie Hartmann-Boyce, JHB

Speaker 4: Edin Evans EE

Musical intro

If asking your mate down the pub about vaping is what they probably say, no one agrees if it's safer or not, so you might as well smoke anyway. Now what your mate needs is a Cochrane review. All the facts have been checked at least twice. They find there's a lot that the experts agree on might give you different advice.

Speaker 2 NL

Hi, my name is Nicola and I'm a researcher based at the University of Oxford in the UK.

Speaker 3 JHB

And I'm Jamie and I'm a researcher based at the University of Massachusetts Amherst in the United States.

Speaker 2

We are both members of the Cochrane Tobacco Addiction Group. Welcome to this edition of let's talk e-cigarettes. This podcast is a companion to a research project being carried out at the University of Oxford where every month we research the e-cigarette research literature to find new studies. We then use these studies to update our Cochrane systematic reviews of e-cigarettes for smoking cessation and interventions for quitting vaping. This type of review is called a living systematic review and in each episode we start by going through the studies we found that month and then go into more detail about a particular study or topic related to e-cigarettes.

Speaker 3

So this month we ran our searches on the 1st of April 2025. We found 9 new papers. Five of them were linked to studies we'd already identified in our review. One of them is a new ongoing study of E cigarettes for smoking cessation, and three of them are new ongoing studies about interventions for quitting vaping. We're going to tell you about those in a nutshell.

So, to start off the new ongoing study testing e-cigarettes for smoking cessation is a randomized trial being conducted in people living with HIV in Switzerland and is being led out of the University Hospital in Basel. They're recruiting people now and are aiming to enroll just under 1000 participants and to complete in 2027. So this is a big study. Participants in the intervention group will be offered what the trial lists call a smoking substitution menu consisting of nicotine E cigarettes, nicotine pouches or nicotine patches, and that arm will be compared to standard care. Smoking status is going to be measured at six months, along with a range of other outcomes related to health effects and the Swiss National Science Foundation and Novartis Foundation for Medical Biological Research are listed as study collaborators on the trial record. Over to you, Nicola to tell us about those new ongoing studies of interventions for quitting vaping.

Speaker 2

Thanks, Jamie. So the first of those studies that we found is called Breathe Free, which is a pilot randomised feasibility trial. It's aiming to enroll 90 people and is testing the effects of a behavioural faith-based intervention for quitting combustible tobacco and nicotine, vaping and it's being carried out by Augusta University in the US.

The second ongoing vaping cessation study is a randomised trial looking at the effectiveness of text messaging in addition to psychotherapy in school based smoking and vaping cessation programmes compared to no intervention, so it will recruit participants aged 12 to 18 years of age and take place in a hospital in Thailand. So this study and the previous study, because it recruits people using both combustible tobacco and vaping cessation, they'll both only be eligible for our review if when they're published, we're able to separate out the results of the interventions in people who were vaping at baseline, the final ongoing study looks at the use of transcranial direct current stimulation for reducing vaping. So this is basically gentle electrical currents that are applied to the scalp to try and influence brain activity. So in this study, participants will be randomised to either receive that transcranial stimulation or a sham technique which will act as a placebo. So the study hopes to recruit 40 participants and is being carried out by the Centre for Addiction and Mental Health in Canada and for all of those three studies because they're ongoing studies that we've had in trial registries, it's not clear who they are funded by at this stage.

Speaker 3

Thanks so much, Nicola. So for this month's deep dive. I had the pleasure of speaking with Professor Eden Evins from Mass General Hospital and the Harvard Medical School in Boston, MA, about her team's brand new trial of varenicline for youth, nicotine, vaping cessation, which was published in JAMA this month. In this study, 261 youth aged 16 to 25 who vaped and were interested in quitting were randomized to one of three different trial arms. The first group received referral to a text message program for vaping cessation. The second group received counseling and referral to the text message program as well as a placebo pill and the third group received counseling referral to the text messaging program and 12 weeks of the drug varenicline. Varenicline is a pill based drug that's used for quitting smoking. And it works by blocking the rewarding effects of nicotine. The study was funded by the National Institutes of Health in the US, and I'm going to hand over to Professor Evins to tell you more about it.

Thank you so much for coming here today. We really appreciate it. Could you start us by telling us a little bit about your background and how you got into research in this space?

Speaker 4

Ohh sure. So I'm a psychiatrist and I started out in treatment research working with people with serious mental illness but quickly came to nicotine as as it's a major problem for people with serious mental illness and back, 2005 was asked to to run the Center for Addiction Medicine or to lead that at Mass General. And so I broadened from nicotine to all sorts of addictions and growing a team. But I've always been focused on those nicotine dependence and those with and without serious mental illness.

Speaker 3

Fantastic. Thank you. And can you tell us a bit about your new study? We're so excited to see it.

Speaker 4

Sure. So you know, back in the in the late teens, we were astonished to see the rise of vaping amongst teenagers. You know, I think when we wrote this grant in 2019, something like 25% of high school seniors were vaping, which is a, which is an astonishing number and yeah, I think nicotine vaping had increased in prevalence faster than any other drug since. I believe it was the Monitoring the Future study had been conducted. So, you know, smoking amongst youth had become almost rare in in many areas. And so we'd had such such success. And here we saw nicotine dependence to a different, different form of flavored form. So at the time there were no, it was so new there were really no treatments studies at all. And while we thought that treatments for smoking cessation, you know, should or could work for vaping cessation in youth, we wanted to conduct a trial and we wanted to conduct a trial of pharmacotherapy, largely because we thought that pediatricians and student health organizations would be unlikely to go to a medication. So we wanted to see if that was needed,

Speaker 3

Yeah. Absolutely. Why? Why did you choose I suppose this specific interventions you set up study here. This is coming a little bit from, I was involved in the Cochrane Review looking at interventions to help adolescents quit smoking, and it felt like such a more challenging area than in looking at adults.

Speaker 4

Right, so we chose varenicline as one arm of the study because we thought this would be the most effective treatment for smoking cessation. It's certainly by far the most effective of several effective treatments for smoking cessation in adults. The trials in adolescents had been difficult that I thought that while the trials failed to show an effect, for the primary outcome of smoking cessation in adolescent that there were signs that varenicline worked, and even in these trials right were many time points at which those who were on varenicline had a greater prevalence of abstinence. They seem to quit earlier, but they I think the studies were tampered by sort of low adherence to medication and high drop out. So we really focused on novel ways of keeping the kids engaged and keeping them involved in the study, which we can talk about.

Speaker 3

Yeah, I'd love to hear about that.

Speaker 4

But also. There was huge demand. We recruited and enrolled 300 kids in 15 months just at mass general.

Speaker 3

Oh my God.

Speaker 4

Now we were able to recruit Statewide and we did a fully remote intervention, so that made it easier for people to come on board. But the interest was very high. Kids wanted to quit.

Speaker 3

That's great. Were there any particular like challenges or considerations related to either varenicline and adolescents or, you know, I'd love to hear more about what you did to try and overcome some of the barriers in previous trials around dropout? Adherence when it comes to these medications.

Speaker 4

Well, I'll take the latter part of that first. It's a great question and fun to talk about. So we had really high interest, right, we we literally had to pause recruitment several times so that we could keep up. I've never had that. Kids I think we're indignant, they they didn't expect to become addicted and when they couldn't sit through a study session in the library, or couldn't stay at their desk at work without needing to vape. They felt they were surprised. Yeah. And. And a little bit felt taken advantage of by by marketers and these flavored products that they thought were just sort of for fun. So one thing we did to keep people you know, it's hard to remember to take medicine. Yeah. For anybody. Anybody who's tried to take a a three-week course of antibiotics twice a day knows it's really hard once you feel better. It's hard to remember to take the medicine. So we took advantage of the fact that everybody has a phone and people, young people are taking selfies all the time. We decided to pay people. A dollar every time they videoed themselves taking their study medications so people could make $2.00 a day for taking the varenicline or placebo. So and we had fantastic follow up, almost everybody completed the trial. They may not have gone. To all their. You know their visits for for the behavioral treatment. They certainly didn't take all their medication, but I think we've we've vastly increased adherence and that's what allowed us to see the true effective treatment in these in these kids.

Speaker 3

That's so cool. What a neat idea. Have other people done that you were aware of?

Speaker 4

Not that I know of. I hope that's another benefit of this study that this will help people do treatment trials in adolescence with good adherence to the intervention.

Speaker 3

Absolutely. And were there any challenges in kind of getting it through ethics or anything like that around giving adolescents varenicline? Were there any concerns? About it or? Did that go fairly smoothly?

Speaker 4

Well, varenicline has been shown in study after study to be well tolerated. So no.

Speaker 3

Yeah. Good. I'm really glad to hear that, because sometimes despite that being the fact that we hear stories of it being challenged. That's wonderful. My next question was about recruitment, but it sounds like it went really well. How did you recruit participants?

Speaker 4

We just put out ads on social media and on the T and and we did were able to recruit statewide people could zoom for their assessment visits and for their therapy, and we could mail them, study medication. So recruitment was pretty standard.

Speaker 3

Yeah, that's amazing. Cause typically we hear about not meeting recruitment targets. Whereass you all were exceeding them, so well done to you and your team. And can you tell us what you found?

Speaker 4

Found we found that varenicline, when added to remote behavioral treatment, vastly increased vaping abstinence rates over behavioral treatment with placebo and over referral to the TIQ texting app for vaping cessation support for young people.

Speaker 3

Fantastic. And what did you find in terms of things like I'm interested. Do you look at mental health outcomes or participant experience?

Speaker 4

Sure. Of course we did. So what we found was that mood and anxiety or depression and anxiety scores stayed remarkably stable, although those on varenicline did have lower level than those on placebo. Or TIQ. So it was remarkably stable with a a small benefit of for being on varenicline. What was striking was the reduction in craving on varenicline right craving went down a little bit for, for, for all three arms, as you'd see with people working on their vaping. But it went down earlier and to a greater extent. And those assigned to varenicline and I have to think that's that's a a good candidate for being the sort of the active ingredient essentially for for how people were able to quit.

Speaker 3

Absolutely. And so this is, you know, in my mind quite a landmark study actually, right. We don't have that much out there on vaping cessation. It's really brilliant to have a large study in adolescence using varenicline. What would you most like to see done next on the back of this, either in terms of research, in terms of practice, what are your thoughts about next steps?

Speaker 4

Well, you know, I would love to see medication used for tobacco use disorder in general and for for youth vaping cessation. I think it's eminently treatable. This is a very effective treatment. I'd love to see it used for youth, for vaping cessation on the backs of this study, but also for people for smoking cessation. And in in general this is such a treatable disorder with with with high morbidity, you know, I think that we can reduce uptake of smoking amongst people who are vaping. We can also potentially reduce uptake of other drug addictions down the road for people if we reduce their exposure to nicotine. And one of the striking findings in in this trial, we looked very carefully at uptake of combusted tobacco use amongst folks and we had not a single young person who had quit vaping take up regular combusted tobacco use at at the six month mark not any.

Speaker 3

Good.

Speaker 4

Any so you know, it's only a six month follow up but. Good. Six month isn't.

Speaker 3

Yeah, yeah, absolutely. And I like, I'm also just very grateful that you all looked at it and recorded it. It's it's something we absolutely want to track on our end too,

Yeah.

Speaker 4

Right. And that's why we really wanted to focus on enrolling kids who had never regularly smoked tobacco.

And it's tough to figure out what was the right definition of this, but. But they'd never used on most days for,  for any period of time, and most had used some.

Speaker 3

Yeah.

Speaker 4

And what's interesting to me also is that, you know, there is a lot of other drug use and you know,  vaping really is common amongst people with psychiatric symptoms and and other substance use. So and we didn't see a big impact of those comorbid problems on ability to quit, so.

Speaker 3

Ohh that's good. To know, yeah.

Speaker 4

So it's not like we should say, oh, we'll quit, you know, using alcohol first. We didn't we we didn't require that more than half of people reported in some kind of psychiatric diagnosis and 1/3 reported some psychiatric medication use, so mostly ADHD or or depression. So this was really a, I think, a representative sample of what's out there.

Speaker 3

And just out of curiosity, did you look at if people were vaping things other than nicotine as well? Was that one of? The things you investigated.

Speaker 4

Many were and I've got a postdoc who's looking at that now specifically, but many people smoked a little bit of tobacco in their cannabis, and many people vape cannabis with their devices, although.

Speaker 3

Awesome.

Yeah.

Speaker 4

More and more, it's the disposable vaping cartridges are are common which would come pre filled with the nicotine juice so they would may not use the same device, but many people did vape substances other than than nicotine.

Speaker 3

Yeah. I'm yeah, very glad to hear you have a postdoc looking at that and looking forward to seeing those findings as well. I think that's it for me. Is there anything else you'd like to add?

Speaker 4

No, I think we'd just love to see an impact on treatment that this, that this opened the door to sort of taking this this addiction seriously by pediatricians and primary care doctors and student health organizations and sort of treating it adequately and early.

Speaker 3

Yeah. Yeah. And just knowing there are things that can help which is so important.

Speaker 4

Right. And knowing that an app that you can do better than an app alone, I think a lot of us would like to see these apps work and be the solution, because we've all got these phones in our hands. You know, or our pockets all the time. But I think this was an important reminder that medication treatment is often needed to treat addictions.

Speaker 3

Just like we've learned from smoking. Awesome. Well, thank you so much. I really appreciate it.

Speaker 4

Thanks for reaching out, Jamie. Take care. You too.

Speaker 2

It's really exciting to hear from Professor Evins. Jamie, I actually got to chat to her a bit at the SRNT conference last month and I was really excited to hear about this study and know that it was going to be published soon and be eligible for our review. And this is really hot off the press because we're recording this on the 24th of April and this study was only published in JAMA yesterday. So I think we both feel very privileged that she's able to take part in the podcast so soon afterwards. And this will then be picked up in our searches next month. There's a few things that kind of listening to. Professor Evins talk kind of, you know, got me thinking. One of them is, I think, a really important point that actually they paid their participants to take varenicline. And that's probably one of the reasons where where actually the the rates of people taking the medication were quite high and it's not something that we usually see in studies. And it's not something that happens. In the real world, so obviously that's going to affect, you know, how many people took the medication in the study versus what might happen in the real world. But I think something that could be considered is that maybe particularly in this population, it might be a good idea to actually incorporate incentive payments to take the medication in a real world setting. And maybe that's something that could be looked into in the future.

Speaker 3

Yeah, I thought that was super interesting to hear about. I also was struck, you know, my sense having been in England for a while is that it would be maybe slightly difficult to get young people randomized to a varenicline intervention. It was interesting to hear how it went pretty smoothly here in the US so. But I like talking to her about that as well.

Speaker 2

Yeah. And another thing that I think was really nice about this study is obviously that they looked at that tobacco use outcome, which I think we've spoken about on the podcast before, that that feels really important to us and it's an outcome in our review because you know it's important to look at whether these vaping cessation interventions, even if they do help people to quit vaping or then people either taking up smoking. Or relapsing to smoking. And obviously because in Professor Evins study that these were people who hadn't smoked before they can't say anything about relapse to smoking, but they obviously saw that no one actually took up smoking. But the fact that, you know, we can't say anything about relapse, I think just highlights how important it is that studies in the future continue to look at this as an outcome so that we can say more with confidence about the effect of these interventions on people smoking as well as on their vaping.

Speaker 3

Absolutely. Right. Well, I think that's it from us this month.

Please subscribe on iTunes or Spotify and stay tuned for our next episode.

Thank you to Jonathan Livingstone-Banks for running searches to Ailsa Butler for producing this podcast and to all of you for tuning in. The music is written with Jonny Berliner and I and performed by Johnny. Our living systematic reviews are supported by funding from Cancer Research UK. The views expressed in this podcast are those of Nicola and I and do not represent those of the funders.

Musical outro

Vaping is safer than smoking may help you quit in the end. But remember to mention the findings we have can't tell us what will happen long term, even though we know vaping is safer than smoking, we may still find cause for concern, if you're thinking about switching to vaping do it. That's what the experts agree. Smoking so bad for you they all concur that vaping beats burning there's much to learn of effect long term yet to be seen.