Smoking cessation interventions for young adults – a scoping review.

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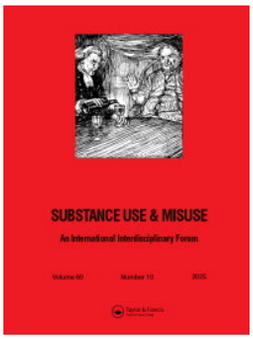

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ORIGINAL ARTICLE

Smoking Cessation Interventions for Young Adults – A Scoping Review

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ABSTRACT

Background: In the UK, the highest proportion of current smokers is in the 25–34 age group. Whilst there are effective smoking cessation interventions, they are not always accessed by young adults. An up-to-date review of smoking cessation strategies for young people has been conducted to understand the current state of the literature with a view to the implications for people with severe mental ill health (SMI).

Methods: A scoping review was conducted to explore individual-level interventions aimed at helping young adults to stop smoking. The protocol was registered on Open Science Framework (https://osf.io/8u24h/). We searched MEDLINE, CINAHL, PsycINFO, ASSIA and Web of Science databases. Randomized controlled trials published in English, conducted in any country in any setting with an aim of smoking cessation or reduction at an individual level, were included. We extracted data on study design, participant characteristics, intervention and control conditions, and key findings. A descriptive analytical approach was used, and the results are presented in tables.

Results: Thirty-one unique studies were identified for inclusion. Twenty were non-pharmacological, two were pharmacological, and nine contained both non-pharmacological and pharmacological elements. Fifteen of the studies included a digitally delivered component.

Conclusions: There is a growing body of research on individual-level smoking cessation interventions for young people. An increasing number of interventions are being delivered digitally. Further research should focus on ensuring that RCTs of digitally delivered interventions include diverse populations of young adults to ensure that existing inequalities are not exacerbated.

KEYWORDS
Smoking cessation; young adults; interventions; digital technology

Introduction

Many smokers initiate smoking in adolescence or as a young adult, however, young people are less likely to engage in smoking cessation interventions (Lyu et al., 2024). This is of concern because, according to ONS data in 2022, 12.9% of people aged 18+ in the UK smoke. Furthermore, the highest proportion of current smokers are in the 25–34 age group, where 16.3% are current smokers. This means that smoking cessation interventions are required which address the barriers that have hindered previous behavior change interventions in young people. Young people with mental health conditions, particularly those with severe mental illness (SMI) are more likely to smoke than those without a mental illness. Smoking is one of the main contributory factors to preventable health conditions in people with SMI. Whilst there are interventions that are effective in supporting people with SMI to stop smoking (Gilbody et al., 2019) these are not always accessed by young adults. For example, almost all people with SMI who have recently accessed smoking cessation interventions in the community, in one NHS mental health trust were aged over 35 years, suggesting that younger adults are not accessing smoking cessation services.

Previous reviews have found that the same interventions that work for the general population are effective in people with SMI. However, people with SMI might need additional support (Peckham et al., 2017), such as offering a cut down to quit as an option, offering home visits, continuing to provide support after an unsuccessful quit attempt or relapse. Therefore, in considering what may help younger adults with SMI to stop smoking, it is important to understand what works in terms of engaging younger people in the general population in smoking cessation interventions before exploring what adaptations may be needed to support young adults with SMI to stop smoking. Systematic reviews have often focused on what works in terms of preventing young people from initiating smoking rather than on focusing on what works once people have begun smoking (Carson et al., 2011, 2017; Hefler et al., 2017). Furthermore, individual studies have explored population level interventions such as campus wide smoking bans (Dilliott et al., 2020), plain tobacco packaging (Stead et al., 2013) and advertisement of tobacco products (Hébert et al., 2017). When considering

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interventions that could be adapted for young people with SMI, population level interventions, unless targeting mental health services, would be difficult to implement. Therefore, reviews focusing on individual level interventions would be more applicable. In this respect there is a Cochrane review that was conducted in 2017 that included any interventions for smoking cessation, such as pharmacotherapy, psycho-social interventions and complex programmes targeting families, schools or communities. However, as this review was conducted in 2017 (Fanshawe et al., 2017) it is likely that there are a number of relevant studies that have been conducted recently that are not included in this review. Another review published in 2023 also explored smoking cessation interventions for young people, however despite being published in 2023 the search was conducted to 2019 (Park et al., 2023). A more recent review looked at smoking cessation studies for US young adults (Villanti et al., 2020), however, as this only focuses on the US, it may leave out important findings that could be relevant to a UK setting.

An up-to-date review of smoking cessation strategies for young people that considers individual-level interventions would be helpful to i) understand the current state of the literature and ii) explore what, if any, interventions or intervention components could be adapted to meet the needs of young people with SMI. A scoping review is a suitable way of achieving this (Munn et al., 2018). The overall aim of this scoping review was therefore to understand the extent and type of interventions aimed at supporting young people to stop smoking. The research question is:

What are the characteristics and findings of studies of smoking cessation interventions for young adults?

Methods

This scoping review was conducted in accordance with the Joanna Briggs Institute (JBI) methodology for scoping reviews (Munn et al., 2018) and reported in accordance with the PRISMA Extension for Scoping Reviews (PRISMAScR) (Tricco et al., 2018). A protocol was prepared in advance and published in the Open Science Framework (https://osf.io/8u24h/).

Participants/context

We included studies of young adults (aged 18–35 years) who smoke. There is no one standard definition of what defines a young adult therefore our selection of age range was guided by the American Psychological Association's definition of a young adult (American Psychological Association, 2025). We included both studies where young adult users are the participants and studies where other stakeholders are involved (e.g. healthcare professionals giving their views regarding smoking cessation services). Studies that stated the involvement of young adults, young people, adolescents etc. were not included if the eligible age range for participation in the study was not stated. Where studies included people outside of our specified age range, the study was included if the results for the target age range (18–35) could be separated or if the percentage of people within the eligible age range was 70% or more. Studies that included both people who smoke and people who do not currently smoke were not included unless it was possible to separate the results of those who smoke from those who did not smoke. For the purpose of this review, we defined people who currently smoke as people who smoked at least one cigarette per day. We chose this figure because even smoking one cigarette per day increases the risk of developing coronary heart disease and stroke (Hackshaw et al., 2018). Studies that included a specific population of young adults, such as college students or people with specific health conditions, were eligible for inclusion. There were no limits on the country of origin.

Concept

The phenomenon of interest is smoking cessation, where smoking cessation refers to activities that aim to support people who smoke to stop smoking (National Institute for Health & Care Excellence, 2025). We included studies that explore interventions for smoking cessation or smoking reduction. As the focus of this review is on combustible cigarettes, we excluded studies that focused on vaping unless vaping was used as a method of smoking reduction or cessation.

Types of sources

In this scoping review we initially planned on considering both experimental and quasi-experimental study designs including randomized controlled trials, non-randomized controlled trials, cohort studies, case-control studies, before-and-after studies and interrupted time-series studies. However, as we identified a large number of randomized controlled trials, which allowed us to identify effective interventions, we limited our sources to randomized controlled trials and associated qualitative studies. Conference abstracts and opinion papers were excluded.

Search strategy

The search strategy aimed to identify peer-reviewed published studies only. An initial limited search of MEDLINE was undertaken to identify articles on the topic. The text words contained in the titles and abstracts of relevant articles, and the index terms used to describe the articles, were used to develop a full search strategy for MEDLINE, CINAHL, PsycINFO, ASSIA and Web of Science databases (Supplementary Material 1). The search strategy was adapted for each included database. The reference list of all included studies, as well as that of any review articles or meta-analyses, was screened for additional studies. We only included studies that were published in the English language from 2005 to the date the search was conducted (September 2023). The 2005 cutoff date relates to the adoption of the WHO Framework Convention on Tobacco Control in February 2005 (World Health Organisation, 2005).

Study selection

After carrying out the database searches, all identified citations were uploaded into Covidence (Veritas Health Innovation, 2022), and duplicates were removed. Titles and abstracts were screened by two independent reviewers for assessment against the inclusion criteria. Following title and abstract screening, full texts of studies identified as being potentially eligible for inclusion were retrieved and assessed against the inclusion criteria by two independent reviewers. Reasons for exclusion at the full-text stage were recorded and are reported in the PRISMA-ScR flow diagram. Disagreements between the two reviewers at each stage of the screening process were resolved through discussion, or if agreement couldn't be reached following discussion with a third reviewer. The results of the search and screening process are presented in a Preferred Reporting Items for Systematic Reviews and Meta-analyses extension for scoping review (PRISMA-ScR) flow diagram.

Data extraction

Data were extracted from papers included in the scoping review by two or more independent reviewers using a data extraction tool in Covidence, developed by the reviewers. The data extraction tool was piloted with two papers to ensure it was fit for purpose. The data extracted included details on participants, context, intervention, study methods, and key findings relevant to the review question. Any disagreements between the reviewers were resolved through discussion or with an additional reviewer where needed.

Data analysis and presentation

Data were analyzed descriptively to summarize the context, intervention, and outcome-related data from the included studies. The aim is to map the available evidence and summarize existing research findings. The analysis has been reported in accordance with the Synthesis without meta-analysis (SWiM) guideline (Campbell et al., 2020), with data presented in tables and figures where appropriate. For smoking cessation outcomes, we extracted data on the number of people who had stopped smoking and the total sample size. Where data was missing, we assumed that the person was still smoking. We recorded whether the data was self-reported or biochemically verified. From the data extracted, we then calculated odds ratios and 95% confidence intervals using the Campbell Collaboration Tool (Wilson, 2023).

Results

The database searches yielded 18,809 records. After removing duplicates, we screened 10,010 records, from which we reviewed 145 full-text articles; of these, 31 were included in the final review. Figure 1 shows the PRISMA-ScR flow diagram.

Table 1 describes the characteristics of the included studies; additional information on the included studies can be found in Table S1. Fourteen of the studies were pilot RCTs. One pilot study (Ames et al., 2005) was followed up by a full-scale trial (Ames et al., 2008), and two pilot studies were based on the same intervention (Ames et al., 2010, 2014).

The majority of the studies were conducted in the United States ($n = 21$), with one study conducted in each of the following countries: Canada, Cyprus, Finland, Peru, South Africa, Spain, Turkey, and the United Kingdom. The characteristics of the included studies are given in Table 1.

The sample size ranged from 15 (Blitchtein-Winicki et al., 2017) to 1854 (Orsal & Ergun, 2021). In terms of populations studied, twelve of the studies were limited to college or university students (Abroms et al., 2008; An et al., 2006; Bowen & Marlatt, 2009; Camenga et al., 2021; Hofmeyr et al., 2020; Karekla et al., 2020; Orsal & Ergun, 2021; Pardavila-Belio et al., 2019; Prokhorov et al., 2008; Schleicher et al., 2012; Simmons et al., 2013; Tevyaw et al., 2009). Eight studies were limited to people who were interested in stopping smoking (Ames et al., 2005, 2007; Baskerville et al., 2018; Blitchtein-Winicki et al., 2017; Hofmeyr et al., 2020; Orsal & Ergun, 2021), four studies were limited to people who had an episode or episodes of binge drinking (Ames et al., 2010, 2014; Davis et al., 2013; Meacham et al., 2021) two to people with mental health conditions (Brunette et al., 2018; Schleicher et al., 2012) two to people who were homeless (Linnemayr et al., 2021; Tucker et al., 2020), and one study focused on women only (Grogan et al., 2011).

Interventions

A range of interventions and styles of delivery were explored (Table 2); twenty were non-pharmacological, two were pharmacological e-cigarette containing nicotine (Tseng et al., 2016) and smoking cessation medication, varenicline or nicotine replacement therapy (Tuisku et al., 2016), and nine contained both non-pharmacological and pharmacological elements.

In all of the studies that were non-pharmacological an element of the intervention was delivered by a person either in person, remotely or AI generated individualized support (Ames et al., 2005; An et al., 2006; Baskerville et al., 2018; Blitchtein-Winicki et al., 2017; Bowen & Marlatt, 2009; Brunette et al., 2018; Buller et al., 2014; Davis et al., 2013; Grogan et al., 2011; Hofmeyr et al., 2020; Karekla et al., 2020; Orsal & Ergun, 2021; Pardavila-Belio et al., 2019; Prokhorov et al., 2018; Schleicher et al., 2012; Simmons et al., 2013; Tevyaw et al., 2009; Vogel et al., 2020; Ybarra et al., 2013; Zanis et al., 2011), none of the studies involved self-help alone.

Eleven of the non-pharmacological studies were delivered by a person (Ames et al., 2005; An et al., 2006; Bowen & Marlatt, 2009; Davis et al., 2013; Grogan et al., 2011; Hofmeyr et al., 2020; Orsal & Ergun, 2021; Prokhorov et al., 2018; Schleicher et al., 2012; Tevyaw et al., 2009; Zanis et al., 2011), four were delivered online *via* a website or Facebook (Brunette et al., 2018; Pardavila-Belio et al., 2019; Simmons et al., 2013; Vogel et al., 2020), two were delivered *via* text messaging (Blitchtein-Winicki et al., 2017; Ybarra et al., 2013),

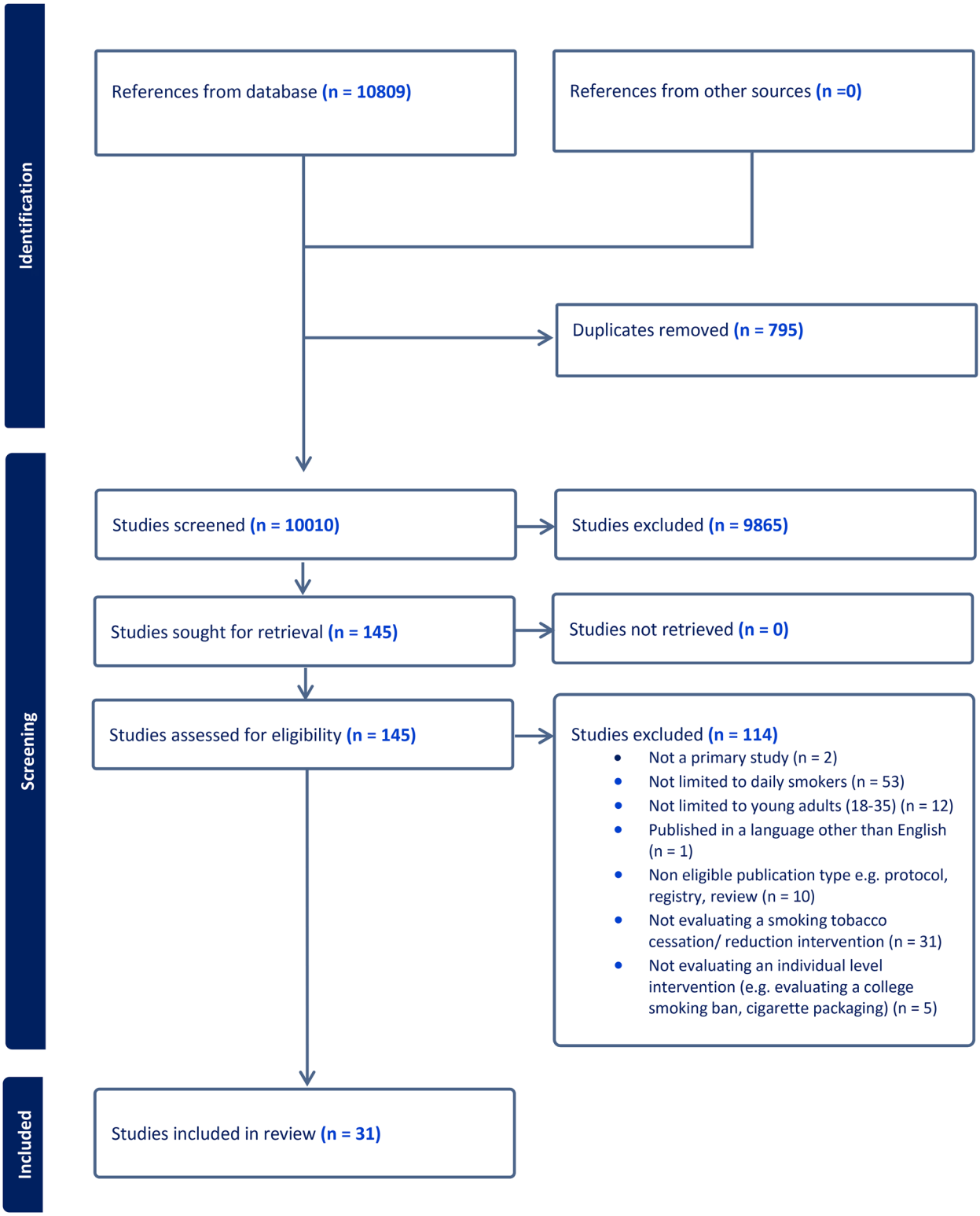

Figure 1. PRISMA diagram.

two were delivered *via* an App both of which included text messaging (Baskerville et al., 2018; Buller et al., 2014), one was led by an avatar (Karekla et al., 2020).

In the studies that contained both pharmacological and non-pharmacological elements part of the intervention was delivered by a person, either in person, remotely or AI generated individualized support (Abroms et al., 2008; Ames et al., 2007, 2010, 2014; Camenga et al., 2021; McClure et al., 2018; Meacham et al., 2021; Tucker et al., 2021), of these four were delivered by a person (Ames et al., 2007, 2010, 2014), two were delivered online *via* a website or Facebook (An et al., 2006; Meacham et al., 2021), three were delivered *via* an App which included text messaging (Camenga et al., 2021; Linnemayr et al., 2021; Tucker et al., 2021).

Table 1. Characteristics of included studies.

Author and Date	Country	Population	Sample size
Abroms et al. 2008	United States	College students who smoke, aged 18-23 years	83
Ames et al., 2005	United States	Smokers aged 18-21 who were interested in stopping cigarette smoking	60
Ames et al., 2007	United States	Adult cigarette smokers aged 18-24 years who were interested in stopping smoking	196
Ames et al., 2010	United States	Adults who smoke and who binge drink, aged 18-30.	41
Ames et al., 2014	United States	Adults who smoke and who binge drink, aged 18-30.	95
An et al., 2006	United States	College students who smoke, aged 18-24	304
Baskerville et al., 2018	Canada	Adults who smoke aged 19-29 years who intend to quit smoking in the next 30 days	1599
Blitchtein-Winicki et al., 2017	Peru	Adults who smoke aged 18-25 who are interested in quitting smoking	15
Bowen and Marlatt 2009	United States	College students who smoke	123
Brunette et al. 2018	United States	Adults who smoke aged 18-30 with mental health conditions	81
Buller et al., 2014	United States	Adults who smoke aged 18-30	102
Camenga et al., 2021	United States	College students who smoke, aged 18-24	40
Davis et al., 2013	United States	Adults who smoke aged 18-29 years with regular episodes of binge drinking	55
Grogan et al., 2011	UK	Women who smoke aged 18-34	70
Hofmeyr et al. 2020	South Africa	University students who smoke and are seeking treatment	105
Karekla et al. 2020	Cyprus	University students who smoke aged 18-28	84
Linnemayr et al., 2021	United States	Homeless adults who smoke aged 18-25 years who are interested in stopping smoking	77
McClure et al. 2018	United States	Adults who smoke aged 18-25	39
Meacham et al., 2021	United States	Adults who smoke aged 18-25 and have had an episode of heavy drinking within the last month	179
Orsal and Ergun 2021	Turkey	University students who smoke who want to stop smoking	1854
Pardavila-Belio et al. 2019	Spain	University students who smoke aged 18-24	255
Prokhorov et al., 2008	United States	College students who smoke aged 18-35	426
Schleicher et al. 2012	United States	College students who smoke with depressive symptomatology	58
Simmons et al., 2013	United States	College students who smoke aged 18-24	341
Tevyaw et al., 2009	United States	College students who smoke aged 18-24	110
Tseng et al., 2016	United States	Adults who smoke aged 21-35	99
Tucker et al., 2021	United States	Adults who smoke 18-25 experiencing homelessness	77
Tuisku et al. 2016	Finland	Adult who smoke aged 18-26	291
Vogel et al., 2020	United States	Adults who smoke aged 18-25	165
Ybarra et al., 2013	United States	Adults who smoke aged 18-25 who were seriously thinking about quitting in the next 30 days	164
Zanis et al., 2011	United States	Adults who smoke aged 18-24	192

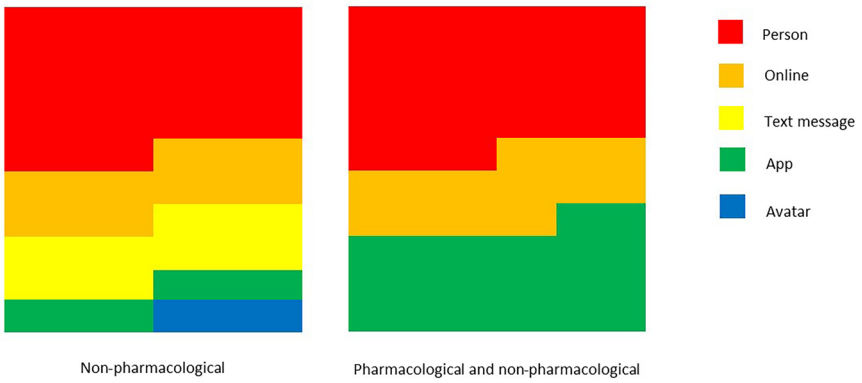

Figure 2. Intervention types.

Figure 2 provides a summary of the different intervention types for the studies that were non-pharmacological or contained pharmacological and non-pharmacological elements.

Outcomes

Of the included studies 15 included biochemically verified smoking cessation as an outcome, 11 included self-reported smoking cessation as an outcome, one had an outcome of urge to smoke, one had a reduction in smoking, one had carbon monoxide levels, one measured efficacy and intention to stop smoking and one was assessing the feasibility of the smoking cessation intervention.

Six studies reported statistically significant results (Ames et al., 2007, 2014; An et al., 2006; Brunette et al., 2018; Hofmeyr et al., 2020; Orsal & Ergun, 2021) of these, three involved college students (An et al., 2006; Hoffmeyer et al., 2022; Orsal & Ergun, 2021). Ames (Ames et al., 2007) was a trial of expressive writing, Ames (Ames et al., 2014) was a behavioral intervention with a particular focus on how alcohol use relates to smoking behavior, An (An et al., 2006) was an interactive online college magazine, Brunette (Brunette et al., 2018) was a web based motivational decision support system and was a pilot, Hofmeyr (Hoffmeyer et al., 2022) involved contingency management but was only effective whilst the cash rewards were in place and Orsal (Orsal & Ergun, 2021) involved peer education and training. Whilst some interventions increased the intention to quit smoking in participants, this did not translate to a statistically significant increase in the number of participants who had biochemically verified quit.

Odds ratios for the included studies are shown in Table S2. However, as this is a scoping review, and we did not plan to conduct a meta-analysis, we have not attempted to combine the results. Furthermore, due to this being a scoping review, the quality of the evidence has not been assessed. However, it should be noted that of the included studies, 14 (45%) were pilot studies and were therefore not powered to detect a difference between the intervention and control arms. In 8 out of the 17 (47%) full-scale RCTs, smoking abstinence was self-reported and not biochemically verified. Overall, of the included studies, 29% were full-scale RCTs that included a biochemically verified measure of smoking cessation.

Discussion

Summary of evidence

A large number of studies have been conducted that explored smoking cessation and reduction in young people. Many of these studies focus on population level interventions such as plain cigarette packaging or campus wide smoking bans. This review differs from previous reviews in that we aimed to gain an understanding of the scope of individual-level interventions specifically designed for young people who smoke. It examines randomized controlled trials and qualitative studies associated with these trials. In the review, we identified studies that explored a wide range of interventions published since 2005. Regarding size and scale, we found 31 randomized controlled trials, of which 14 stated that they were pilot studies and 17 were studies that included 100 or more participants. However, we found no qualitative studies linked to these randomized controlled trials.

Twelve of the 31 included studies were limited to university or college students. A considerable amount of research has been conducted to explore ways to support this population to stop smoking. However, it is important to note that young people who smoke are more likely to come from lower socio-economic groups, which in turn means that they are less likely to attend university or college than their peers from higher socio-economic groups. Therefore, concentrating solely on individual level interventions aimed at university and college students has the potential to exclude those who are more likely to smoke. It is essential that future studies continue to address smoking in people who do not attend college or university.

In addition, fourteen of the 31 included studies were pilot studies. This suggests that whilst pilot studies are being conducted in this population, there are fewer full scale RCTs being conducted. There are several reasons why this may be the case; firstly it may be that pilot studies found that it was not feasible to deliver the intervention. This does not appear to be the case in the studies identified in this review as the findings from the included pilot studies indicate that the

Table 2. Summary of interventions.

	Intervention
Abroms et al. 2008	X-pack program; brief in person counseling session, counseling e-mails, guide-book, quitting cards, motivation slide rule, gum, putty
Ames et al., 2005	Expressive writing; thoughts & feelings related to smoking, stopping smoking, ways smoking relates to problems/conflicts in life
Ames et al., 2007	Expressive writing; thoughts & feelings related to smoking, stopping smoking, ways smoking relates to problems/conflicts in life + NRT
Ames et al., 2010	Individual based behavioral intervention with a particular focus on how alcohol use relates to smoking behavior plus NRT
Ames et al., 2014	Individual based behavioral intervention with a particular focus on how alcohol use relates to smoking behavior plus NRT
An et al., 2006	RealU; interactive online college life magazine with topics relevant to college smokers, personal email support from peer coaches
Baskerville et al., 2018	Smart phone App with a customized quit plan and support including a Facebook community and text messages
Blitchtein-Winicki et al., 2017	SMS text messaging with tailored messages and pathways based on the individuals age, gender and quit status
Bowen and Marlatt 2009	Mindfulness with instructions to accept feelings, sensations, or thoughts in a mindful, nonjudgmental fashion
Brunet 2018	Let's talk about smoking; web based motivational support system, personalized feedback, smoking cessation information, exercises
Buller et al., 2014	Smartphone App with audio testimonials, support documents and strategies accompanied by text messages
Camenga et al., 2021	SMS text messages containing motivational fact based information tailored to the participant plus NRT
Davis et al., 2013	Mindfulness training in a class with instruction, discussion and mediation along with daily meditation with a guided meditation CD
Grogan et al., 2011	Facial age-progression
Hofmeyr 2020	Contingency management with a cash reward for tuning up to the smoking cessation session and a further reward for abstinence
Karekla 2020	Avatar led intervention; including interactive discussion, exercises, videos, games, mindfulness and cognitive diffusion
Linnemayr et al., 2021	Text messaging (motivation, getting support, strategies) alongside group-based cessation counseling and nicotine patches
McClure 2023	Remote daily carbon monoxide monitoring plus NRT
Meacham et al., 2021	Smoking Tobacco and Drinking; Facebook posts incorporating motivational interviewing, CBT, weekly live counseling sessions + NRT
Orsal 2021	Peer education and peer training in closed groups to increase the use of health services and health-promoting behaviors
Pardavila-Belio 2015	Motivational interview and online self-help material on college Moodle platform
Prokhorov et al., 2008	Computer-assisted, counsellor-delivered smoking cessation program
Schleicher 2012	Cognitive behavioral counseling and cognitive-behavioral mood management
Simmons et al., 2013	Web-smoke; website with content about smoking, smoking cessation, quizzes, video messages
Tevyaw et al., 2009	Contingency management, individual motivational enhancement
Tseng et al., 2016	Nicotine Electronic cigarette
Tucker et al., 2021	Text messaging with tailored content (motivation, getting support, strategies), group counseling session, nicotine patches
Tuisku 2016	1. Nicotine patch 2. Varenicline
Vogel et al., 2020	Put It Out Project; Facebook smoking cessation tailored to Sexual and gender minority young adults
Ybarra et al., 2013	Text messaging with content tailored to where in the quitting process the participant was and their reported smoking status
Zanis et al., 2011	Brief smoking cessation counseling to encourage and motivate the tobacco users to quit smoking

interventions were feasible and acceptable to young people who smoke. Secondly, a pilot study may have been conducted with a main trial planned but the main trial has not yet been published. Thirdly pilot studies have not progressed to full scale trials due to funding or other restrictions.

Fifteen of the studies examined the use of digital technology including; Apps, Facebook, SMS messaging, Avatar, websites. Utilizing digital technology to deliver smoking cessation interventions may maximize the reach of the intervention particularly with young adults (Meacham et al., 2021). Furthermore text messaging or other forms of digital communication are the preferred method of communication among young adults (Camenga et al., 2021).

Other interventions included brief smoking cessation counseling; nicotine patches and medication (Varenicline); contingency management and individual motivational enhancement therapy; contingency management with a cash reward; cognitive behavioral counseling and cognitive behavioral management; expressive writing; facial age-progression; individual-based behavioral intervention with a particular focus on how alcohol use relates to smoking behavior plus nicotine replacement therapy; mindfulness; peer education and peer training in groups; and remote daily carbon monoxide monitoring and nicotine replacement therapy.

Whilst the results for smoking cessation outcomes varied across the included studies, digital technology was found to be acceptable to the participants and feasible to deliver. Notably, only one study focused on the use of digital technology for people with mental health conditions. However, a recent review of digital interventions for smoking cessation in people with SMI (Huddlestone et al., 2025), which was not limited to young adults, identified that these intervention were perceived as acceptable. Nevertheless, practical challenges were identified regarding the accessibility and useability of the interventions and a meta-analysis found no overall effectiveness of these interventions. Given that smoking cessation interventions are increasingly being delivered digitally it is important to understand whether the same challenges regarding accessibility and useability exist in young adults with SMI as exist in the SMI population as a whole.

Strengths and limitations

This review was conducted according to JBI guidelines and systematically followed a predefined protocol. It provides an overview of the types of interventions explored to support young people who smoke and identifies important gaps in the literature.

Although a systematic search was conducted it is possible that some eligible articles may have been missed. In addition, the review does not include grey literature and studies had to be published in English to be included. However, a scoping review was appropriate to meet the objectives of this study, with the limitations that are typical of scoping reviews. A quality assessment of the included studies was not conducted and the review is limited in its capacity to reach conclusions on what interventions are effective.

Recommendations for future research

Further research should focus on developing a better understanding of the circumstances and motivations of young people with SMI to stop smoking so interventions can be better tailored to this group. Funders should prioritize full-scale RCTs of promising digital interventions targeting diverse populations of young adults, especially those not in education or with SMI.

Conclusions

There is a growing body of research into individual level interventions to support young people to stop or reduce smoking. An increasing number of these interventions are being digitally delivered or include a digitally delivered element. Further research should focus on ensuring that RCTs of digitally delivered interventions include diverse populations of young adults to ensure that existing inequalities are not exacerbated.

Declaration of interest

The authors declare that they have no conflict of interest. The authors alone are responsible for the content and writing of the article.

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Data availability statement

Data sharing is not applicable to this article as no new data were created or analyzed in this study.

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