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ORIGINAL ARTICLE

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Evaluation of a smoking cessation program for adults with severe mental illness in a public mental health service

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Accessible Summary

What Is Known on the Subject:

- Smoking rates have decreased in the general population but remain high among people with severe mental illness (SMI).

What the Paper Adds to Existing Knowledge:

- An individualized smoking cessation program was tested with 99 adults with SMI.
- The program showed it is possible to help people with SMI smoke fewer cigarettes and reduce nicotine addiction.
- Customized smoking cessation programs are essential for those with high nicotine dependence and mental health challenges.

Implications for Practice:

- Mental health services should offer tailored tobacco cessation programs because these programs can improve the health of people with mental illness who smoke.
- It is important for mental health services to follow government guidelines and provide evidence-based support.

Abstract

Introduction: Despite significant reductions in smoking rates in the general population over recent decades, smoking rates remain relatively unchanged among people with SMI.

Aim: To evaluate the feasibility and preliminary effectiveness of the *Keep Quitting in Mind* pilot program, an individualized smoking cessation program for people experiencing SMI.

Methods: In total, 99 adult participants with SMI and engaged with a community mental health service, participated in the intervention. The intervention included motivational interviewing and goal setting, in addition to provision of pharmaceutical aids (including nicotine replacement therapy).

Results: Analysis determined that the *Keep Quitting in Mind* pilot program was feasible in a public adult mental health service and participation in the program was associated with reductions in the number of cigarettes smoked daily and level of nicotine addiction.

Discussion: This real-world pilot program demonstrated feasibility and potential effectiveness in reducing smoking among adults with mental illness. Aligning with government guidelines, tailored smoking cessation programs are crucial due to high nicotine dependence and mental health complexities.

Implications for Practice: Given the high rates of cigarette smoking by people with mental illness and the cardiometabolic health risks associated with this, mental health services should consider adding evidence-based and bespoke tobacco cessation programs as part of core business.

KEYWORDS
mental disorders, psychosis, smoking, smoking cessation, tobacco

1 | INTRODUCTION

People living with severe mental illness (SMI) experience a reduced life expectancy of up to 15 years compared to the general population which is primarily attributable to premature development of cardiovascular and metabolic and pulmonary disease (Baxter et al., 2016; Correll et al., 2017; Plana-Ripoll et al., 2019). Factors that contribute to this life expectancy gap include antipsychotic medication side-effects (Alvarez-Jimenez et al., 2008); lifestyle choices/behaviours such as high rates of tobacco smoking and substance use, unhealthy diet and low physical activity levels (Schuch et al., 2017; Teasdale et al., 2019; Vancampfort et al., 2017); in addition to a range of psychosocial barriers including unemployment, lack of education and insecure housing (Rüther et al., 2014).

Tobacco smoking is a critical action point for preventing cardiometabolic disease and reducing disability-adjusted life years, given an estimated 60% of people with SMI smoke tobacco (Mitchell et al., 2015). Despite significant reductions in smoking rates in the general population over recent decades, smoking rates remain relatively unchanged among people living with SMI (Cooper et al., 2012), and thus, in Australia, USA and the UK, people living with a mental illness consume approximately half of all cigarettes sold (Prochaska et al., 2017).

Many public health campaigns that target smoking cessation have not been effective in reaching people experiencing SMI (Firth et al., 2019). This may be in part due to the increased barriers faced by people with SMI (McClave et al., 2010), and many in this population group experience higher rates of relapse after quitting smoking (Evins et al., 2007; George et al., 2008). People experiencing SMI consume greater amounts of tobacco and have a disproportionate financial burden compared to the general population (Williams et al., 2013). These factors create barriers in Australia where the Pharmaceutical Benefits Scheme subsidization system does not reflect the established evidence base when it comes to effective prescribing of nicotine replacement therapy (NRT). Specifically, NRT prescription quantities and access to NRT is insufficient to meet the nicotine dependence needs of people experiencing SMI and combination therapy is not currently subsidized. This can put the cost of effective NRT out of reach for many in this population (Buchanan et al., 2021).

Additionally, smoking cessation services are not commonly embedded into health care delivery and clinicians are often poorly educated on evidence-based smoking cessation interventions (White et al., 2020). For instance, standard advice usually involves planning with a health professional and adopting a 'quit strategy' (The Royal Australian College of General Practitioners, 2019), a method that may not be suitable for this group given the high cognitive effort required does not address the additional barriers encountered (e.g. socioeconomic disadvantage, lack of support from family, peers, and health professionals) (Rüther et al., 2014). Further, advice designed for the general population does not take into consideration the impact of smoking cessation on psychotropic medication, which requires specialist observation for dose management (Firth et al., 2019). For example, smoking reduction will result in increasing blood levels of some medications such as olanzapine and clozapine and monitoring is required to ensure toxic side effects don't emerge and therapeutic dose is maintained (Lowe & Ackman, 2010). Medications such as varenicline produce higher rates of quitting compared to NRT (Cahill et al., 2013), and historically there has been controversy on

RELEVANCE STATEMENT

Smoking is a significant health concern for people with mental illness, and mental health nurses play a crucial role in providing holistic care to consumers of their services. The findings highlight the feasibility and effectiveness of tailored smoking cessation programs, emphasizing the importance of integrating such evidence-based interventions into mental health nursing practice and more broadly within public mental health services. This proactive approach not only improves the physical health of individuals with mental illness but also aligns with the evidence-based care principles and government policy guidelines essential to mental health nursing.

the neuropsychiatric safety of this medication resulting in underutilisation in people experiencing SMI. However, there is increasing evidence that varenicline use is not associated with adverse mental health outcomes in this population (Anthenelli et al., 2016; Siskind et al., 2020; Taylor et al., 2020).

Despite low rates of smoking cessation attempts, most people living with SMI who smoke tobacco report a desire to quit and would like support to do so (Aschbrenner et al., 2015; Lappin et al., 2018). Lappin et al. (2018) found that over half of people with SMI who were prescribed clozapine and smoked tobacco reported the importance of quitting as being high (Lappin et al., 2018); however interventions specifically targeted to this population group are lacking.

The landmark 2015 Smoking Cessation Intervention for SMI (SCIMITAR) trial in the UK compared a specialist intervention delivered by a mental health nurse in conjunction with the patient's mental health clinician and family doctor, to usual care (Gilbody et al., 2015). SCIMITAR was delivered in accordance with the Manual of Smoking Cessation (McEwen et al., 2006), modified to cater for this population group. The specialist intervention added a detailed assessment prior to quitting, behaviour change strategies and relapse support, to usual mental health care. Thirty-six percent of people in the specialist intervention ceased smoking compared to 23% in the control condition. Accounting for covariates, people receiving the intervention had nearly three times higher odds of ceasing smoking compared to people receiving usual mental healthcare (Gilbody et al., 2015, 2019). These smoking cessation rates were maintained at 12-month follow-up (Gilbody et al., 2021).

This intervention was adapted and examined for feasibility and preliminary effectiveness in a community early psychosis program in South Eastern Sydney, Australia. The previous 12-week *y-QUIT* pilot intervention, delivered by a tobacco treatment specialist, demonstrated acceptability and was associated with improved tobacco cessation outcomes in youth (15–25 years) experiencing SMI (Curtis et al., 2018).

Following the success of the *y-QUIT* pilot intervention in youth with psychosis, smoking cessation efforts expanded to adults with SMI in South Eastern Sydney and the *Keep Quitting in Mind* program was developed and delivered as part of routine clinical care in a public mental health service. This study aims to evaluate the feasibility and preliminary effectiveness of the *Keep Quitting in Mind* program.

2 | METHODS

2.1 | Study design and setting

The *Keep Quitting in Mind* program was delivered as part of routine clinical care in a public mental health service by a hospital-based clinician. A description of the program is included in this paper. To evaluate the program, a retrospective chart audit was conducted across three mental health service sites within the South Eastern Sydney Local Health District, Sydney, Australia between 1 July 2018 and 31 December 2020. Electronic medical records of people meeting inclusion criteria were reviewed to extract data for analysis in a pre-post design. The study has approval South Eastern Sydney Local Health District Human Research Ethics Committee and is determined to be a quality improvement or quality assurance activity not requiring independent ethics review [17/298(LNR/17/POWH/580)].

2.2 | Participants

Participants were eligible for the *Keep Quitting in Mind* program if they were as follows: (i) aged 18 years or over, (ii) living with a SMI, defined as schizophrenia and related psychoses, and bipolar affective disorder (ICD-10 diagnoses: F20-F31), (iii) enrolled with an adult community mental health service within the South Eastern Sydney Local Health District, and (iv) were a current tobacco smoker, or recently ceased tobacco smoking and at risk of relapse.

People who met the first three inclusion criteria but had either never smoked or had not smoked in the last 12-months were not eligible for the program.

2.3 | Recruitment

Consumers of South Eastern Sydney Local Health District community mental health services were advised of the *Keep Quitting in Mind* program and were referred through their mental health professional key worker. Participants then self-selected to take part in the program. As this program was delivered as part of routine clinical care, no incentives were offered for participation. The program was advertised through emails sent via global email distribution channels within the mental health service, in addition to local promotional flyers and word-of-mouth.

2.4 | Intervention

The *Keep Quitting in Mind* program was delivered as a component of the *Keeping the Body in Mind* lifestyle program (Curtis et al., 2016), a program that includes nutrition and exercise components, and peer support, embedded within the local mental health services and delivered to youth and adults in South Eastern Sydney Local Health District. The program elements were adapted from the yQUIT program (Curtis et al., 2018) and the SCIMITAR trial (Gilbody et al., 2015). The yQUIT program previously adapted the SCIMITAR trial for use in youth mental health populations, determining that components of the trial should be utilized for more real-world suitability. The *Keep Quitting in Mind* program evaluated as part of this paper, expands the yQUIT program for adult mental health consumers.

Keep Quitting in Mind was a participant-focused and individualized smoking cessation program, delivered by a tobacco treatment specialist, a mental health nurse with tobacco cessation training. The initial assessment was conducted face-to-face and focused on the individual's current smoking status, previous quit attempts,

their goals, barriers to quitting and support needed to reduce their smoking. This support may have included pharmacotherapies such as long and short acting NRT (including patches, inhalers, gum, lozenges), depending on suitability or participant preference, which was provided to participants at no cost. Education was provided on the mechanism/mode of action and correct use of quitting products, including the management of any potential side effects. Behavioural interventions were also utilized in the program delivery including motivational interviewing by the tobacco treatment specialist, with the use of carbon monoxide CO monitoring as feedback on progress and psychoeducation to develop alternate coping strategies and address beliefs surrounding the use of tobacco to self-manage mental health symptoms. This included discussions around the relationship of stress and nicotine withdrawal, and the physical and mental health benefits of quitting.

Subsequent appointments were conducted either face-to-face or over the phone at weekly or fortnightly intervals, depending on participant preference and involved reviewing the individual's progress and goals, discussing challenges that arose, and reviewing the effectiveness of behavioural strategies. If a participant was prescribed a medication that could be affected by smoking reduction/cessation, education was given around symptoms that may indicate a rise in medication levels, and advice on what action should be taken if these symptoms occur. Participants were also encouraged to attend the *Keeping the Body in Mind* lifestyle program for holistic management of their physical health. Communication also occurred between the tobacco treatment specialist and the treating psychiatrist to ensure dose adjustments to prescribed antipsychotic treatment as required. Follow-up data were collected and recorded at 3-monthly intervals.

Given the program was conducted in a real-world clinical setting, there was no time limit imposed on the participants, and they were invited to stay in the program for as long as they met the inclusion criteria.

It should be noted that mid-way through the program's delivery, the health service was impacted by the COVID-19 pandemic which affected some components of the delivery. For some months throughout this period, the program was delivered via telehealth, rather than face-to-face, and many outcome measures were not completed as a result.

2.5 | Outcome measures

Feasibility was measured by:

1. Program engagement: number of people who completed an initial appointment.
2. Program retention: number of sessions attended, with 'completers' considered as those who attended three or more appointments.

Preliminary effectiveness was measured by changes in the following assessments:

1. Number of cigarettes smoked daily, by self-report.
2. Exhaled carbon monoxide (CO) measured using a Bedfont Micro Smokerlyzer (Air-met Scientific).
3. Nicotine dependence assessed using the *Heaviness of Smoking Index* (HSI) (Heatherton et al., 1991). The HSI is a 2-item scale to measure level of nicotine dependence in relation to cigarette smoking. Each item is rated 0–3 with a higher score indicating higher levels of addiction. Nicotine dependence is categorized as follows: 'low dependence' (score of 0–1), 'medium dependence' (score of 2–4), and 'high dependence' (score of 5–6).
4. Readiness to quit by self-report (scale ranging 1–10: 1 = low readiness; 10 = high readiness) (Boudreaux et al., 2012).
5. Confidence to quit by self-report (scale ranging 1–10: 1 = low confidence; 10 = high confidence) (Boudreaux et al., 2012).

Additional measures collected at baseline:

1. The *Hospital Anxiety and Depression Scale* (HADS) (Zigmond & Snaith, 1983). The HADS is a reliable instrument for detecting states of depression and anxiety in the setting of an hospital outpatient clinic. The scale includes 14 items: 7 items measure depression symptoms, and 7 items measure symptoms of anxiety. Items are scored 0–3 with an overall score out of 21 for both depression and anxiety. Scores for anxiety and depression subscales are as follows: 0–7 normal, 8–10 borderline abnormal, ≥11 abnormal (clinical case). The HADS was administered by the tobacco treatment specialist at the initial assessment and was not repeated at follow-up.

2.6 | Statistical analysis

Statistical analyses were conducted with IBM SPSS Statistics Version 27 (IBM SPSS Statistics, 2021). The Shapiro–Wilk test was run as a test of normality. Comparison of initial and final measures (taken at participant's first and final recorded measure) were analysed for participants that completed at least three sessions with the tobacco treatment specialist. Paired sample and/or independent samples t-tests were run to test for significance between variables for normally distributed data and reported as mean and standard deviation. The Wilcoxon signed-rank test was used to test for statistical significance for non-normally distributed data. Non-normally distributed data were reported as median and range. Cohen's d test was used to calculate the effect size of the change in variables. Spearman correlation coefficient was used to measure the strength of association between variables.

3 | RESULTS

In total, 99 consumers engaged with the program, having at least one session with the tobacco treatment specialist. Over the intervention

period the tobacco treatment specialist conducted a total of 670 sessions. Participants were equally distributed according to gender ($n = 52$, 52.5%) and mostly between the ages of 35–44 years ($n = 38$, 38.4%). All participants were prescribed at least one type of psychotropic medication and 33 (33.3%) were prescribed clozapine. Demographic and baseline data are summarized in Table 1.

At baseline, the median number of cigarettes smoked daily by participants was 20 (mean = 17.8, range = 0–50). Seventy-six participants (77.6%) reported medium-high dependence on nicotine as measured by the HSI questionnaire. Exhaled CO readings are typically utilized to objectively measure smoking level however a lower number of participants completed baseline readings due to the COVID-19 pandemic restrictions which prohibited use of the Smokerlyzer machine. Of the 33 participants that completed a baseline CO reading, 21 (63.6%) were classified as moderate to heavy smokers. Of all 99 participants, 60 (60.6%) chose to use at least one type of NRT (patches, inhalers, gum, lozenges) to aid in their tobacco reduction efforts.

In relation to mental health outcomes, 43 participants (43.4%) completed the HADS questionnaire. Of these participants, 18 (41.9%) reported borderline abnormal or abnormal depression scores and 19 (44.2%) reported borderline abnormal or abnormal anxiety scores. In total, 65 participants (65.7%) completed initial readiness to quit questionnaires (median = 6, range = 0–10) and 64 (64.6%) completed confidence to quit questionnaires (median = 6, range = 1–10).

The median number of sessions attended with the tobacco treatment specialist was 3.0 (range:1–44), with 62 participants (62.6%) attending at least 3 sessions. The median number of days in program was 41.0 (range:0–649), and the median days between initial and follow-up measures was 72.5 (range: 8–649).

Comparison of initial and final session outcomes measures are detailed in Table 2. Of these participants, 56 had complete data on daily cigarette consumption and reported a significant median decrease of 10 cigarettes smoked daily ($Z = -4.8$, $p < .0001$). Nine of the 62 participants (15%) who completed ≥3 sessions, and two of the 37 participants (5%) who completed <3 sessions, successfully quit smoking (11% of total sample). Of these 11 participants that successfully quit smoking, 8 (72.7%) utilized at least one form of NRT to aid in their quit efforts. Additionally, HSI questionnaire follow-up was recorded for 54 participants with a statistically significant decrease in median score of 1.0 point ($Z = -4.85$, $p < .0001$). There was no statistically significant difference in readiness to quit ($n = 25$, median change score = 1.0 point, $Z = -0.84$, $p = .40$) or confidence to quit ($n = 23$, median change = −1.0 point, $Z = -0.49$, $p = .63$) outcome measures at program completion compared to baseline. There were negative correlations between change in cigarettes smoked daily and total sessions attended ($r = -0.33$, $p = .01$). There was no correlation between the change in HSI and: (i) days spent in the program ($r = -0.14$, $p = .32$), or (ii) total sessions attended ($r = -0.24$, $p < .08$).

TABLE 1 Demographic and baseline data of participants.

Characteristic	Participants *n* (%)
Age (years) ($n = 99$)	
18–24	1 (1.0)
25–34	14 (14.1)
35–44	38 (38.4)
45–54	24 (24.2)
55+	22 (22.3)
Sex ($n = 99$)	
Male	52 (52.5)
Female	47 (47.5)
Prescribed Clozapine ($n = 99$)	
Yes	33 (33.3)
No	66 (66.7)
HADS Depression Scores ($n = 43$)	
Normal	25 (58.1)
Borderline abnormal	10 (23.3)
Abnormal	8 (18.6)
HADS Anxiety Scores ($n = 43$)	
Normal	24 (55.8)
Borderline abnormal	10 (23.3)
Abnormal	9 (20.9)
Nicotine dependence (HSI) ($n = 98$)	
Low dependence	22 (22.4)
Medium dependence	49 (50.0)
High dependence	27 (27.6)

4 | DISCUSSION

This program, delivered within real-world clinical conditions, demonstrated that the delivery of an individualized smoking cessation program is feasible and possibly clinically effective in a community adult mental health service. The program was well-attended by participants and results indicated that the program may have been effective in reducing both the number of cigarettes smoked daily and nicotine addiction levels. Whether the program caused these outcomes cannot be assumed in the absence of an adequate control condition. People with mental illness tend to smoke more heavily than the general population (Dickerson et al., 2018) and this was certainly true of the participants in this study with the median number of consumers smoking the equivalent of one packet of cigarettes a day (20 cigarette packet) and almost 90% of consumers reporting medium-high dependence on nicotine.

Locally, the *Keep Quitting in Mind* smoking cessation program aligns with recommendations from State and Federal Government guidelines and strategy documents. Evidence-based smoking cessation interventions were key areas for action in the *Physical Health Care for People Living with Mental Health Issues Guidelines* published by NSW Ministry of Health (NSW Ministry of Health, 2021). Additionally, the Australian

TABLE 2 Median results of outcome measures baseline to final session.

	Median at baseline	IQR	Median at post	IQR	Wilcoxon signed ranks test	Effect size
Number of cigarettes daily ($n=56$)	20.0	11.25	10.0	13.0	$Z=-4.83$, $p<.0001$	$d=0.7$
Heaviness of Smoking Index ($n=54$)	4.0	2.0	3.0	4.0	$Z=-4.85$, $p<.0001$	$d=0.8$
Readiness to Quit ($n=25$)	6.5	5.0	7.0	4.5	$Z=-0.84$, $p=.40$	$d=0.2$
Confidence to Quit ($n=23$)	6.0	3.0	5.0	5.0	$Z=-0.49$, $p=.63$	$d=0.1$

Government Productivity Commission's Mental Health 2020 report (Productivity Commission, 2020) recommended that mental health services adopt tobacco-related guidelines provided within the *Equally Well National Consensus Statement* (National Mental Health Commission, 2016). Given the direction from governing health bodies and the growing evidence showing feasibility of consumers engaging in smoking cessation programs, public mental health services should prioritize resourcing to incorporate such programs within their core business.

People with mental illness are highly motivated to quit smoking as evidenced in this group, however face barriers to successful quitting due to high level of nicotine dependency and need for bespoke and targeted smoking cessation programs (Ashton et al., 2013; Morris et al., 2009), particularly those that utilize multimodal interventions (Pinho et al., 2021). One of the barriers to engagement in smoking cessation programs for people living with SMI may be experiencing feelings of depression or anxiety in addition to symptoms of their primary mental illness diagnosis. Of the people with recorded HADS data in this study, 18.6% met criteria for clinical depression and 20.6% met criteria for clinical anxiety. This indicates that service providers, when designing smoking cessation programs, should integrate the treating mental health team within the service delivery to identify and assist in improving ease of access for consumers to engage.

4.1 | Limitations and future directions

While primarily assessed for feasibility, the absence of a control group limits the generalisability of the effectiveness findings of this study. A control group, in addition to examination of long-term outcome measures, should be considered for future effectiveness studies (Gilbody et al., 2015, 2021). Additionally, no acceptability measures were utilized in the evaluation of this pilot program, which would have assisted in better understanding participants' perspectives towards barriers and enablers of interventions delivered. The low completion rate of some outcome measures such as the 'HADS' and the 'Readiness and Confidence to Quit Scales' limit the effectiveness findings of the program's impact. Switching throughout the program to COVID-19 safe interventions also affected participant engagement and responses to outcome measures. The time to complete questionnaires and difficulty for participants to concentrate when completing questionnaires were reported by the tobacco treatment specialist as contributing to low completion rates. Such factors should be considered during future intervention design.

Peak international mental health bodies recognize the need to develop bespoke and individually tailored smoking cessation programs embedded as part of core business within mental health services (Firth et al., 2019; Gronholm et al., 2021). Future studies could explore the factors that contribute to better smoking cessation outcomes for people with SMI by analysing additional factors such as family support, physical activity engagement etc. Specific and efficient care pathways need to be established to facilitate people with SMI receiving targeted smoking cessation treatments in both primary and secondary mental health care settings (Firth et al., 2019), and the inclusion of tobacco peer support workers is another priority research area. Increased training and education to mental health workforce, including the peer-workforce using evidence-based resources may assist in improving culture change regarding smoking cessation in mental health services and increase consumer uptake of intervention programs.

5 | CONCLUSIONS

Smoking related health risks are extremely high for people living with SMI. The *Keep Quitting in Mind* pilot program was feasible in a public adult mental health service and participation in the program coincided with reductions in the number of cigarettes smoked daily and level of nicotine addiction. Future programs focused on smoking cessation should consider measuring participant acceptability. Additional focus should be placed on the evaluation of vaping practices within this population. Given the high rates of cigarette smoking by people with mental illness and the subsequent cardiometabolic health risks associated, mental health services have a responsibility to integrate evidence-based and bespoke tobacco cessation programs as part of core business.

AUTHOR CONTRIBUTIONS

All authors have significantly contributed to the conception and design of the study, the acquisition of data, and/or the analysis and interpretation of findings. Additionally, each author has been actively involved in drafting the manuscript and critically revising it to ensure the incorporation of essential content.

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DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

ETHICS STATEMENT

Ethics approval was obtained from the South Eastern Sydney Local Health District Human Research Ethics Committee (LNR/17/POWH/50).

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REFERENCES

Alvarez-Jimenez, M., Gonzalez-Blanch, C., Crespo-Facorro, B., Hetrick, S., Rodriguez-Sanchez, J. M., Perez-Iglesias, R., & Luis, J. (2008). Antipsychotic-induced weight gain in chronic and first-episode psychotic disorders. *CNS Drugs*, *22*(7), 547–562.

Anthenelli, R. M., Benowitz, N. L., West, R., St Aubin, L., McRae, T., Lawrence, D., Ascher, J., Russ, C., Krishen, A., & Evins, A. E. (2016). Neuropsychiatric safety and efficacy of varenicline, bupropion, and nicotine patch in smokers with and without psychiatric disorders (EAGLES): A double-blind, randomised, placebo-controlled clinical trial. *The Lancet*, *387*(10037), 2507–2520.

Aschbrenner, K. A., Brunette, M. F., McElvery, R., Naslund, J. A., Scherer, E. A., Pratt, S. I., & Bartels, S. J. (2015). Cigarette smoking and interest in quitting among overweight and obese adults with serious mental illness enrolled in a fitness intervention. *The Journal of Nervous and Mental Disease*, *203*(6), 473–476. https://doi.org/10.1097/nmd.0000000000000309

Ashton, M., Rigby, A., & Galletly, C. (2013). What do 1000 smokers with mental illness say about their tobacco use? *The Australian and New Zealand Journal of Psychiatry*, *47*(7), 631–636.

Baxter, A. J., Harris, M. G., Khatib, Y., Brugha, T. S., Bien, H., & Bhui, K. (2016). Reducing excess mortality due to chronic disease in people with severe mental illness: Meta-review of health interventions. *The British Journal of Psychiatry*, *208*(4), 322–329.

Boudreaux, E. D., Sullivan, A., Abar, B., Bernstein, S. L., Ginde, A. A., & Camargo, C. A. (2012). Motivation rulers for smoking cessation: A prospective observational examination of construct and predictive validity. *Addiction Science & Clinical Practice*, *7*(1), 1–9.

Buchanan, T., White, S. L., Marshall, H., Carson-Chahhoud, K. V., Magee, C. A., & Kelly, P. J. (2021). Time to rethink tobacco dependence treatment in Australia. *Australian and New Zealand Journal of Public Health*, *45*(6), 538–540.

Cahill, K., Stevens, S., Perera, R., & Lancaster, T. (2013). Pharmacological interventions for smoking cessation: An overview and network meta-analysis Cochrane database of Systematice reviews. In *In*. John Wiley & Sons.

Cooper, J., Mancuso, S. G., Borland, R., Slade, T., Galletly, C., & Castle, D. (2012). Tobacco smoking among people living with a psychotic illness: The second Australian survey of psychosis. *The Australian and New Zealand Journal of Psychiatry*, *46*(9), 851–863.

Correll, C. U., Solmi, M., Veronese, N., Bortolato, B., Rosson, S., Santonastaso, P., Thapa-Chhetri, N., Fornaro, M., Gallicchio, D., Collantoni, E., Pigato, G., Favaro, A., Monaco, F., Kohler, C., Vancampfort, D., Ward, P. B., Gaughran, F., Carvalho, A. F., & Stubbs, B. (2017). Prevalence, incidence and mortality from cardiovascular disease in patients with pooled and specific severe mental illness: A large-scale meta-analysis of 3,211,768 patients and 113,383,368 controls. *World Psychiatry*, *16*(2), 163–180.

Curtis, J., Watkins, A., Rosenbaum, S., Teasdale, S., Kalucy, M., Samaras, K., & Ward, P. B. (2016). Evaluating an individualized lifestyle and life skills intervention to prevent antipsychotic-induced weight gain in first-episode psychosis. *Early Intervention in Psychiatry*, *10*(3), 267–276. https://doi.org/10.1111/eip.12230

Curtis, J., Zhang, C., McGuigan, B., Pavel-Wood, E., Morell, R., Ward, P. B., Watkins, A., & Lappin, J. (2018). y-QUIT: Smoking prevalence, engagement, and effectiveness of an individualized smoking cessation intervention in youth with severe mental illness. *Frontiers in Psychiatry*, *9*, 683.

Dickerson, F., Schroeder, J., Katsafanas, E., Khushalani, S., Origoni, A. E., Savage, C., Schweinfurth, L., Stallings, C. R., Sweeney, K., & Yolken, R. H. (2018). Cigarette smoking by patients with serious mental illness, 1999–2016: An increasing disparity. *Psychiatric Services*, *69*(2), 147–153.

Evins, A. E., Cather, C., Culhane, M. A., Birnbaum, A., Horowitz, J., Hsieh, E., Freudenreich, O., Henderson, D. C., Schoenfeld, D. A., Rigotti, N. A., & Goff, D. C. (2007). A 12-week double-blind, placebo-controlled study of bupropion sr added to high-dose dual nicotine replacement therapy for smoking cessation or reduction in schizophrenia. *Journal of Clinical Psychopharmacology*, *27*(4), 380–386.

Firth, J., Siddiqi, N., Koyanagi, A., Siskind, D., Rosenbaum, S., Galletly, C., Allan, S., Caneo, C., Carney, R., Carvalho, A. F., Chatterton, M. L., Correll, C. U., Curtis, J., Gaughran, F., Heald, A., Hoare, E., Jackson, S. E., Kisely, S., Lovell, K., … Stubbs, B. (2019). The lancet psychiatry commission: A blueprint for protecting physical health in people with mental illness. *The Lancet Psychiatry*, *6*(8), 675–712.

George, T. P., Vessicchio, J. C., Sacco, K. A., Weinberger, A. H., Dudas, M. M., Allen, T. M., Creeden, C. L., Potenza, M. N., Feingold, A., & Jatlow, P. I. (2008). A placebo-controlled trial of bupropion combined with nicotine patch for smoking cessation in schizophrenia. *Biological Psychiatry*, *63*(11), 1092–1096.

Gilbody, S., Peckham, E., Bailey, D., Arundel, C., Heron, P., Crosland, S., Fairhurst, C., Hewitt, C., & Li, J. (2021). Smoking cessation in severe mental illness: Combined long-term quit rates from the UK SCIMITAR trials programme. *The British Journal of Psychiatry*, *218*(2), 95–97. https://doi.org/10.1192/bjp.2019.192

Gilbody, S., Peckham, E., Bailey, D., Arundel, C., Heron, P., Crosland, S., Fairhurst, C., Hewitt, C., Li, J., Parrott, S., Bradshaw, T., Horspool, M., Hughes, E., Hughes, T., Ker, S., Leahy, M., McCloud, T., Osborn, D., Reilly, J., … Vickers, C. (2019). Smoking cessation for people with severe mental illness (SCIMITAR+): A pragmatic randomised controlled trial. *The Lancet Psychiatry*, *6*(5), 379–390. https://doi.org/10.1016/S2215-0366(19)30047-1

Gilbody, S., Peckham, E., Man, M.-S., Mitchell, N., Li, J., Becque, T., Hewitt, C., Knowles, S., Bradshaw, T., Planner, C., Parrott, S., Michie, S., & Planner, C. (2015). Bespoke smoking cessation for people with severe mental ill health (SCIMITAR): A pilot randomised controlled trial. *The Lancet Psychiatry*, *2*(5), 395–402.

Gronholm, P. C., Chowdhary, N., Barbui, C., Das-Munshi, J., Kolappa, K., Thornicroft, G., Semrau, M., & Dua, T. (2021). Prevention and management of physical health conditions in adults with severe mental disorders: WHO recommendations. *International Journal of Mental Health Systems*, *15*(1), 1–10.

Heatherton, T. F., Kozlowski, L. T., Frecker, R. C., & Fagerstrom, K. O. (1991). The Fagerström test for nicotine dependence: A revision of the Fagerstrom tolerance questionnaire. *British Journal of Addiction*, *86*(9), 1119–1127.

IBM SPSS Statistics. (2021). *IBM SPSS statistics for windows, version 28.0*. IBM Corp. *Google Search*.

Lappin, J. M., Wijaya, M., Watkins, A., Morell, R., Teasdale, S., Lederman, O., Rosenbaum, S., Dick, S., Ward, P., & Curtis, J. (2018). Cardiometabolic risk and its management in a cohort of clozapine-treated

outpatients. *Schizophrenia Research*, *199*, 367–373. https://doi.org/10.1016/j.schres.2018.02.035

Lowe, E. J., & Ackman, M. L. (2010). Impact of tobacco smoking cessation on stable clozapine or olanzapine treatment. *Annals of Pharmacotherapy*, *44*(4), 727–732. https://doi.org/10.1345/aph.1M398

McClave, A. K., McKnight-Eily, L. R., Davis, S. P., & Dube, S. R. (2010). Smoking characteristics of adults with selected lifetime mental illnesses: Results from the 2007 National Health Interview Survey. *American Journal of Public Health*, *100*(12), 2464–2472.

McEwen, A., Hajek, P., McRobbie, H., & West, R. (2006). *Manual of smoking cessation (guide for counsellors and practitioners)*. Blackwell Publishing.

Mitchell, A. J., Vancampfort, D., De Hert, M., & Stubbs, B. (2015). Do people with mental illness receive adequate smoking cessation advice? A systematic review and meta-analysis. *General Hospital Psychiatry*, *37*(1), 14–23.

Morris, C. D., Waxmonsky, J. A., May, M. G., & Giese, A. A. (2009). What do persons with mental illnesses need to quit smoking? Mental health consumer and provider perspectives. *Psychiatric Rehabilitation Journal*, *32*(4), 276–284. https://doi.org/10.2975/32.4.2009.276.284

National Mental Health Commission. (2016). *Equally well consensus statement: Improving the physical health and wellbeing of people living with mental illness in Australia*. NMHC.

NSW Ministry of Health. (2021). *Physical health care for people living with mental health issues: A guideline*. Australia.

Pinho, S., Rocha, V., & Vieira-Coelho, M. A. (2021). Effectiveness of multimodal interventions focused on smoking cessation in patients with schizophrenia: A systematic review. *Schizophrenia Research*, *231*, 145–153.

Plana-Ripoll, O., Pedersen, C. B., Agerbo, E., Holtz, Y., Erlangsen, A., Canudas-Romo, V., Andersen, P. K., Charlson, F. J., Christensen, M. K., Erskine, H. E., Ferrari, A. J., Iburg, K. M., Momen, N., Mortensen, P. B., Nordentoft, M., Santomauro, D. F., Scott, J. G., Whiteford, H. A., Weye, N., … Laursen, T. M. (2019). A comprehensive analysis of mortality-related health metrics associated with mental disorders: A nationwide, register-based cohort study. *The Lancet*, *394*(10211), 1827–1835.

Prochaska, J. J., Das, S., & Young-Wolff, K. C. (2017). Smoking, mental illness, and public health. *Annual Review of Public Health*, *38*(1), 165–185. https://doi.org/10.1146/annurev-publhealth-031816-044618

Productivity Commission. (2020). *Mental health, report no. 95*. Canberra.

Rüther, T., Bobes, J., De Hert, M., Svensson, T., Mann, K., Batra, A., Gorwood, P., Möller, H. J., & European Psychiatric Association. (2014). EPA guidance on tobacco dependence and strategies for smoking cessation in people with mental illness. *European Psychiatry*, *29*(2), 65–82.

Schuch, F., Vancampfort, D., Firth, J., Rosenbaum, S., Ward, P., Reichert, T., Bagatini, N. C., Bgeginski, R., & Stubbs, B. (2017). Physical activity and sedentary behavior in people with major depressive disorder: A systematic review and meta-analysis. *Journal of Affective Disorders*, *210*, 139–150.

Siskind, D. J., Wu, B. T., Wong, T. T., Firth, J., & Kisely, S. (2020). Pharmacological interventions for smoking cessation among people with schizophrenia spectrum disorders: A systematic review, meta-analysis, and network meta-analysis. *The Lancet Psychiatry*, *7*(9), 762–774.

Taylor, G. M., Itani, T., Thomas, K. H., Rai, D., Jones, T., Windmeijer, F., Martin, R. M., Munafò, M. R., Davies, N. M., & Taylor, A. E. (2020). Prescribing prevalence, effectiveness, and mental health safety of smoking cessation medicines in patients with mental disorders. *Nicotine and Tobacco Research*, *22*(1), 48–57.

Teasdale, S. B., Ward, P. B., Samaras, K., Firth, J., Stubbs, B., Tripodi, E., & Burrows, T. L. (2019). Dietary intake of people with severe mental illness: Systematic review and meta-analysis. *The British Journal of Psychiatry*, *214*(5), 251–259. https://doi.org/10.1192/bjp.2019.20

The Royal Australian College of General Practitioners. (2019). *Supporting smoking cessation: A guide for health professionals*. *Melbourne: The Royal Australian College of General Practitioners*. RACGP.

Vancampfort, D., Firth, J., Schuch, F. B., Rosenbaum, S., Mugisha, J., Hallgren, M., Probst, M., Ward, P. B., Gaughran, F., De Hert, M., Carvalho, A. F., & Stubbs, B. (2017). Sedentary behavior and physical activity levels in people with schizophrenia, bipolar disorder and major depressive disorder: A global systematic review and meta-analysis. *World Psychiatry*, *16*(3), 308–315. https://doi.org/10.1002/wps.20458

White, S., McCaffrey, N., & Scollo, M. (2020). Tobacco dependence treatment in Australia–an untapped opportunity for reducing the smoking burden. *Public Health Research & Practice*, *30*(3), e3032020.

Williams, J. M., Steinberg, M. L., Griffiths, K. G., & Cooperman, N. (2013). Smokers with behavioral health comorbidity should be designated a tobacco use disparity group. *American Journal of Public Health*, *103*(9), 1549–1555.

Zigmond, A. S., & Snaith, R. P. (1983). The hospital anxiety and depression scale. *Acta Psychiatrica Scandinavica*, *67*(6), 361–370.

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