A review of research on smoking cessation interventions for adults with schizophrenia spectrum disorders
Ferron JC, Alterman AI, McHugo GJ, Brunette MF, Drake RE

CRD summary
The authors concluded that preliminary data showed modest efficacy of nicotine replacement therapy, psychosocial interventions and bupropion in patients with schizoaffective disorders or severe mental illness. The authors’ conclusion represents the evidence presented, but the small number of included studies, limited study quality assessment and lack of reporting of review processes mean the conclusion should be interpreted with caution.

Authors' objectives
To evaluate the effectiveness of smoking cessation interventions in adults with schizophrenia spectrum disorders.

Searching
PubMed and PsycINFO were searched from 1990 to 2007 for peer-reviewed articles. Search terms were reported. Reference lists of identified articles were searched.

Study selection
Eligible for inclusion in the review were prospective studies of smoking cessation in individuals with schizophrenia spectrum disorder or severe mental illness (defined as individuals eligible for disability benefits due to mental illness). Studies that used a single subject design were excluded from the review.

Interventions in the review included: nicotine replacement therapy (gum or transdermal patch) either alone or combined with a psychosocial intervention; psychosocial interventions, such as Freedom From Smoking (positive behaviour change approach) and contingency management (reinforcing abstinence of smoking with a monetary reward); and bupropion. Comparators varied: nicotine replacement therapy compared with treatment as usual or a psychosocial intervention and bupropion compared with placebo only. Most studies included patients with schizophrenia or schizoaffective disorder who were recruited from outpatient or community mental health centres. Age, gender, ethnicity and average number of cigarettes smoked daily varied between studies. The outcome of interest was abstinence rates based on self report, carbon monoxide exhalation and/or salivary cotinine levels. There was no common measure of abstinence rates across the studies.

The authors did not state how many reviewers performed study selection.

Assessment of study quality
Validity was apparently assessed using adherence and attrition rates, intention-to-treat analysis and blinding.

The authors did not state how many reviewers assessed these criteria.

Data extraction
Data were extracted to enable calculation of abstinence rates and effect sizes post intervention and at follow-up.

The authors did not state how many reviewers performed data extraction.

Methods of synthesis
Effect sizes were computed for studies with a comparator arm. Effect sizes were computed as the difference in post-treatment (or follow-up) proportions of abstinence between intervention and comparator using the arcsine transformation of proportions. Abstinence rates were reported for studies with a single-group design.

The studies were grouped by type of intervention and combined in a narrative synthesis.
Results of the review

Thirteen studies were included in the review: eight randomised controlled trials (RCTs, n=505 participants), one non-randomised controlled trial (n=79) and four single-group studies (n=105). Five of the RCTs were double-blind. Sample sizes ranged from eight to 180. Follow-up ranged from one to four months.

Nicotine replacement therapy (NRT): There were five studies: three single-group (pre-post test) studies and two controlled trials. All three single-group studies used NRT in conjunction with a psychosocial intervention. Abstinence rates post treatment were small (range 12% to 22%). One study that compared NRT with treatment as usual (stated in two tables as treatment as usual and in text as placebo) found a large effect size (ES) at one month follow-up (ES=1.0). A second study that compared NRT combined with contingency management versus contingency management alone found a small effect size of 0.08 post treatment and 0.12 at three months follow-up (confidence intervals not reported).

Psychosocial interventions: There were three controlled trials. One study found no difference post treatment between Freedom From Smoking and motivational enhancement treatment (ES=0). However, at four months follow-up Freedom From Smoking had a large effect compared with motivational enhancement therapy (ES=0.59). In a second study, eight weeks of Freedom From Smoking was found to have a small effect post intervention (ES=0.21) and a large effect at four months follow-up (ES=0.56) when compared with four weeks of Freedom From Smoking. A third study found a large effect with contingency management versus treatment as usual post intervention (ES=0.73) and at three months follow-up (ES=0.73) when abstinence was measured with carbon monoxide exhalation. Effect sizes were reported to be much lower when cotinine results were used to calculate effect sizes (effect sizes not reported).

Bupropion: There was one single-group pre-post test study and five placebo controlled studies. In all six studies, bupropion was co-administered with a psychosocial intervention. In the single group study (n=8), only one participant was abstinent at 21 weeks post baseline. The effect size for bupropion compared with placebo post intervention was large (ES range 0.62 to 0.83). At three months follow-up the effect size for bupropion compared with placebo varied from no effect to large effect (ES=0 to 0.77).

Authors' conclusions

Preliminary data showed modest efficacy of nicotine replacement therapy, psychosocial interventions and bupropion for smoking cessation in patients with schizoaffective disorders or severe mental illness.

CRD commentary

The review addressed a clear research question. Inclusion criteria were adequate, but broad in terms of study design. The search was limited to published studies and it was unclear whether language restrictions were applied, so relevant studies may have been missed. A limited validity assessment was performed but neither study design nor validity was taken into account when reporting the study findings. Individual study details were reported. There were some inconsistencies in study details between tables and text. Given the heterogeneity of the included studies in terms of interventions, comparators and outcome measures, it was appropriate that the studies were not combined in a meta-analysis. The authors did not state how the review processes were carried out, so it was unclear whether these were subject to reviewer error and bias.

The small number of included studies, limited study quality assessment and lack of reporting of review processes mean the author's conclusion should be interpreted with caution.

Implications of the review for practice and research

Practice: The authors did not state any implications for practice.

Research: The authors stated that future studies should improve participation rates, measure treatment fidelity, improve in the abstinence rates in treatment studies, test promising intervention (such as varenicline, hypnosis, acupuncture, contingency management), test longer-term interventions, improve measurement validity and test effectiveness in routine mental health settings.
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This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.