Using computer-tailored smoking-cessation advice in community pharmacy: a feasibility study

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Abstract

Objective Community pharmacists are in an optimal position to provide smoking-cessation services. Computer-based interventions that generate behavioural feedback materials designed to encourage and help smokers to quit can complement existing services and ensure that smoking-cessation advice is reliably delivered. This study aimed to assess the feasibility of offering a system of computer-generated individually tailored behavioural feedback for smoking cessation in community pharmacy.

Method The setting was community pharmacies in North London. Pharmacists, already offering cessation advice routinely in the pharmacy, were trained to use a computer-based system generating a feedback report containing highly tailored behavioural advice about quitting. Pharmacists’ advice was structured around the report, which was printed for the participant. Pharmacists were interviewed after recruitment ended, and participants were sent a follow-up questionnaire 4 weeks after baseline.

Key findings Pharmacists felt they had benefited from taking part in the study and were more confident in their management of, and advice to, smokers. All agreed that the computer program was an acceptable and valuable tool to aid smoking-cessation advice in pharmacies. Eleven smokers were recruited; five completed the follow-up, four of whom reported 4-week prolonged abstinence. Reaction to the feedback report from participants was positive.

Conclusions The feedback from both pharmacists and participants demonstrates that use of this computer system to structure and standardise delivery of smoking-cessation advice in community pharmacy is feasible and acceptable. The study suggests that the use of this system could increase pharmacists’ confidence and the quality of the advice they give, leading to improved outcomes. However, a randomised controlled trial to fully evaluate the effectiveness of the system is needed.

Keywords community pharmacy; smoking cessation; tailored feedback

Introduction

Community pharmacists are a highly credible source of health information, and ideally placed to provide advice and encouragement to smokers. However, barriers to the service, such as lack of time, insufficient remuneration and a lack of counselling skills, can prevent pharmacists from making full use of their opportunities to communicate with smokers.\cite{1,2,3} Training in smoking-cessation counselling can have a measurable effect on professional performance\cite{4} and organisational factors are also important in ensuring that smoking-cessation advice is reliably delivered.\cite{5} Computer-based systems, generating highly tailored behavioural feedback materials, enable the efficient, standardised collection of relevant information from smokers by health professionals. Such a system, developed for a study of tailored advice given as an adjunct to telephone counselling, significantly increased quit rates over that of telephone advice alone.\cite{6} The aim of the present study was to assess the feasibility of offering this system of computer-tailored behavioural feedback for smoking cessation in community pharmacy.

Method

Selection of pharmacies

Pharmacies identified from the North Central London Pharmacy Network were invited to participate in the study. We aimed to recruit four pharmacies from those willing to take
part. Selection was limited to those pharmacies currently offering cessation advice routinely in the pharmacy and having suitable computer facilities.

Training and materials
The computer system for generating individually tailored feedback reports was adapted for use in community pharmacy from a system originally developed in collaboration with QUIT.[6] The content of the report was informed by specific concepts from different theoretical models of behaviour change shown to be relevant to change, evidence from the smoking-cessation literature (e.g. on predictors of quit attempts and success) and on conventional wisdom (e.g. the importance of setting a quit date). It was developed in consultation with smoking-cessation counsellors and with feedback from smokers via the Quitline. To produce the feedback report, information is gathered from the smoker in response to the Smoking Behaviour Questionnaire (SBQ),[7] and entered directly into the computer. The data were stored in a Microsoft Excel file, and a computer program combined these data with a message file written using Microsoft Word, stored on the pharmacy computer. Pharmacists were trained in a half-day session to use the software and to structure their advice around the SBQ.

Procedure
Smokers wanting to quit smoking and willing to attend consultations in the pharmacy were eligible for inclusion in the study; each pharmacy was asked to recruit 10 participants over a period of 3 months. The participants were given an information leaflet about the research, and invited by the pharmacist to participate when signing up to the NHS service. After obtaining written consent the pharmacist completed the assessment (SBQ) with the participant, entering the information directly into the computer program. Baseline measures included gender, age, nicotine-dependence, motivation and determination to quit, reasons for quitting, self-image, advantages and disadvantages of quitting, difficult situations, and social environment and support, and expired-air carbon monoxide (CO) level. The feedback report, containing highly tailored behavioural advice based on the responses to the SBQ, was printed for the participant to keep, and the pharmacist’s advice structured around the report. Participants were issued with pharmacotherapy according to the guidelines issued by the UK National Institute for Health and Clinical Excellence (NICE),[8] and invited to attend follow-up consultations in the pharmacy in line with the usual NHS protocol.[9]

All participants were sent a follow-up questionnaire by post 4 weeks after baseline, and invited to attend the pharmacy for measurement of expired-air CO concentration for verification of their smoking status. Non-respondents were contacted by telephone to attempt to obtain the follow-up data in a telephone interview.

Outcome measures
The primary outcome was self-reported smoking status (4-week prolonged abstinence) verified by expired-air CO level in line with current primary care trust (PCT) practice. Perception, understanding, retention of the feedback report and perceived personal relevance of the advice were also assessed.

Structured interviews were conducted with pharmacists to assess process and feasibility measures, and views on the acceptability of the program as a tool to aid smoking-cessation advice in pharmacies.

Results
Pharmacists
Of the 19 pharmacies approached, 10 expressed interest in taking part. Five of these were eligible in terms of suitable computer facilities: three in Islington PCT, one in Camden PCT, and one in Enfield PCT. Seven members of staff from these five pharmacies were recruited and trained; however, the pharmacy in Enfield PCT recruited no participants and took no further part in the study. The four participating pharmacies were all in areas of high deprivation, their Townsend Deprivation Index scores[10] falling in the fifth quintile. Five members of staff from the four pharmacies completed the face-to-face structured interview after recruitment ended.

Smoking-cessation activity before participating in the study
Three pharmacies had a reactive policy for targeting smokers, waiting for smokers to approach them; only one pharmacist reported proactively targeting those purchasing nicotine-replacement therapy (NRT). While many referrals were from general practitioners, all pharmacies advertised their smoking-cessation service in the window of the pharmacy; one also had a website and carried out local mail drops. All pharmacists and assistants felt confident in their smoking-cessation counselling skills.

Program and procedures
Problems with the computer program, ranging from not having the correct software to not installing the program correctly, were encountered in all pharmacies. There were some concerns regarding the length of the questionnaire, and all pharmacists considered that a web-based questionnaire would be more efficient.

Participant recruitment
Recruitment did not meet the target of 10 per pharmacy; 11 smokers in total were recruited into the study. A poor standard of English in many smokers visiting the pharmacies precluded them from taking part. However, in all cases pharmacists waited for smokers to approach them for help; none were recruited proactively.

The consultation
Pharmacists reported that using the program did not change the content of their counselling, but did allow them to give the session more structure. Some thought that it made the consultation more interesting for the participant, and one reported that the consultation was made shorter. The content of the report was discussed in later sessions, and participants were encouraged to read the report over and above any other
material they were given. The intervention was found to encourage attendance at later sessions in one pharmacy.

The impact of participating in the study
All pharmacists thought that the feedback report was a very useful tool, giving the consultation a more objective focus, reflecting participant’s answers and offering an aide memoire to the information presented to them. All felt that the program was an efficient way of delivering a smoking-cessation intervention, improving the normal consultation by giving the sessions more structure. They believed that they had benefited from taking part in the study and felt more confident in their management of advice given to smokers. Three of the four pharmacies said they would continue to use the program if available.

Participants
Characteristics and outcome
Eleven cigarette smokers, aged between 20 and 60 years, were recruited. Five participants completed the follow-up questionnaire (three by post and two by telephone). Four reported 4-week prolonged abstinence, representing an abstinence rate of 36%, based on intention-to-treat analysis (treating non-respondents as smokers; see Table 1).

Process measures
All participants were very positive about the pharmacist advice, reporting that it was professional, friendly, helpful, supportive and informative. All remembered being given the report, found it easy to read, interesting and useful, liked the simple design, and felt reassured that their personal needs had been taken into account. They confirmed that the information reinforced that given to them by the pharmacists, or was more detailed, and that it increased their motivation to quit.

Discussion
This pilot work explored the feasibility of offering a computer-system to generate individually tailored behavioural feedback for smoking cessation within a community pharmacy setting. Views and reactions suggest that the system is a useful tool and a potentially valuable aid to delivering smoking-cessation advice in community pharmacy, acceptable to both pharmacists and clients. However, problems were encountered which must be resolved, and a randomised controlled trial conducted to fully evaluate the effectiveness of the program.

While the response from pharmacists when approached to participate was encouraging and enthusiastic, technical problems with computers and software reduced the number able to participate, and we also fell short of the target of 40 participants. There are several possible reasons for this. The technical problems caused a long delay between training and use of the program, contributing to a loss of confidence and motivation. Delay in commencing the study also meant that recruitment had to be cut off before reaching the target, and the time of the year (August to October) meant fewer customers and fewer opportunities to recruit. However, a major obstacle is in encouraging pharmacists to be proactive in approaching smokers and offering the service. Research has shown that pharmacists are not comfortable with this approach, and opportunities that arise when selling or dispensing NRT and other medicines to smokers are not utilised. Steps should be taken to overcome this barrier.

It is vital that recruitment rates are increased. Training on site, to include role-play activities, would increase confidence in the method, leading to better motivation to recruit participants. Timing recruitment to coincide with more active times of the year, together with more prominent advertising, are also necessary for future research studies. With progress towards wider computing facilities in pharmacies, more use can be made of internet facilities, and we believe that a web-based questionnaire would be a logical and feasible change to the method, simplifying the registration procedure.

Conclusions
Lancaster et al. point to the need for a new approach, and the development of novel approaches to smoking cessation for there to be significant change in knowledge. This study suggests that computer-tailored smoking-cessation advice in community pharmacy can be integrated with NHS services to aid assessment, provide support and give more structure to advice.

Declarations
Conflict of interest
The Author(s) declare(s) that they have no conflicts of interest to disclose.
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The protocol was approved by the Camden and Islington Community Health Services Local Research Ethics Committee, and the co-operation of the Smoking Cessation Services in the NHS Primary Care Trusts of Barnet, Camden, Islington and Enfield, and Haringey was secured.

References