Addictive Behaviors 38 (2013) 2787–2796

Contents lists available at ScienceDirect

Addictive Behaviors

Behavioural therapy for smoking cessation: The effectiveness of different intervention types for disadvantaged and affluent smokers ☆

Rosemary Hiscock [a,*], Susan Murray [b], Leonie S. Brose [c], Andy McEwen [c,d], Jo Leonardi Bee [e], Fiona Dobbie [b], Linda Bauld [b]

[a] Department for Health, University of Bath, BA2 7AY, UK
[b] School of Management and UK Centre for Tobacco Control Studies, University of Stirling, Stirling FK9 4LA, UK
[c] National Centre for Smoking Cessation and Training (NCSCT), University College London, 1-19 Torrington Place, London WC1E 7HB, UK
[d] Cancer Research UK, Health Behaviour Research Centre, University College London, Gower Street, London WC1E 6BT, UK
[e] Faculty of Medicine & Health Sciences, University of Nottingham, Nottingham City Hospital, Hucknall Road, Nottingham NG5 1PB, UK

HIGHLIGHTS

- Higher socio-economic status was associated with quitting smoking
- Open groups were usually the most effective intervention type
- Open groups were not more effective for prisoners and the unemployed
- After controls, closed groups were not more effective than one to one support
- Generally nurse advisors were less successful than other advisor types

ARTICLE INFO

Keywords:
Smoking cessation
Socio-economic status
Health disparities
Open groups
Closed groups
Specialist

ABSTRACT

Background: Disadvantaged smokers are less likely to be successful when trying to stop smoking than more affluent smokers. In the UK, NHS Stop Smoking Services (SSS) provide a range of pharmacotherapy and behavioural support, delivered by advisors with a range of backgrounds. Whether the types of support provided and who provides it influence differences in quit rates amongst low SES smokers compared with high SES smokers has not previously been examined.

Methods: 202,084 records of smokers in England who attended a NHS Stop Smoking Service between July 2010 and June 2011 were acquired. Smokers were followed-up by services at four weeks post quit date. Multilevel logistic regression models of CO validated quits were employed. Disadvantage was explored through the National Statistics Socio-Economic Classification (NS-SEC) and by eligibility for free prescriptions, an indicator of low income amongst adults aged between 19 and 59 in England.

Results: Affluent smokers were more likely to quit than disadvantaged smokers (OR 1.38 (1.35 to 1.42) for clients who paid for prescriptions compared to those eligible for free prescriptions). 80% of service clients received one-to-one counselling but open group forms of behavioural therapy were more successful (main effect OR 1.26 (1.12 to 1.41)) except amongst some of the most disadvantaged clients (long-term unemployed and prisoners). Closed groups were little deployed and they were not significantly more successful than one-to-one behavioural therapy after controls. Who delivered treatment did make a difference for some clients, with all but the most affluent less likely to be successful if they had been treated by a nurse compared with other types of advisers, including smoking cessation specialists (main effect OR 0.73 (0.65 to 0.83)).

Conclusion: This study provides further evidence that disadvantaged smokers find quitting more difficult even when they have attended a smoking cessation programme. The findings suggest that open groups should be promoted, although they may not be as effective as other forms of behavioural therapy for the long-term unemployed or

Abbreviations: GP, General Practitioner (family doctor); HCA, Health Care Assistant: undertakes routine care tasks such as: temperature and pulse rate, maintaining standards of hygiene, helping with patient mobility and emotional support, under the supervision of qualified nurses (NHS Scotland, 2010); IMD, Index of Multiple Deprivation (England); NCSCT, National Centre for Smoking Cessation & Training; NHS, National Health Service (UK); NRT, Nicotine Replacement Therapy; NS-SEC, National Statistics Socio-Economic Classification (UK) (in this analysis 'retired' were merged with 'caring for home' and 'full time students' were merged with 'unclassified' to differentiate socio-economic status from age); PCT, Primary Care Trust (English health administration areas — there are ~150 PCTs serving a population of 56 million people); SES, Socio-economic status; SSS, Stop Smoking Services.

* Corresponding author. Tel.: +44 1823 423291.
E-mail address: r.hiscock@bath.ac.uk (R. Hiscock).

0306-4603/$ – see front matter.
http://dx.doi.org/10.1016/j.addbeh.2013.07.010

prisoners. Further research is required to explore why most groups of smokers who attended services staffed by nurses were less likely to quit than those who received treatment from other types of advisors.

1. Introduction

The disease and mortality burden from smoking falls heaviest on low socio-economic status (SES) smokers (Kunst, Giskes, & Mackenbach, 2004; Mackenbach et al., 2008). While smoking rates have declined in the developed world, the decline has been slower or non-existent amongst low SES groups in these countries. This means that inequalities in smoking rates and inequalities in smoking-related conditions have increased (Barnett, 2000; Dube, Asman, Malarcher, & Caraballo, 2009; Federico, Kunst, Vannoni, Damiani, & Costa, 2004; Fernandez et al., 2001; Jarvis, 1994; Jefferis, Power, Graham, & Manor, 2004; La Vecchia, Decarli, & Pagano, 1986; Peretti-Watel, Seror, Constance, & Beck, 2009). The desire to quit smoking is equal across SES groups but success is not (Kotz, Fidler, & West, 2009; Reid, Hammond, Boudreau, Fong, & Siahpush, 2010). Disadvantaged smokers are less likely to quit than other smokers for a variety of reasons such as: reduced social support for quitting; lower motivation to quit; stronger addiction to tobacco; increased likelihood of not completing courses of pharmacotherapy or behavioural support sessions; psychological differences such as lack of self-efficacy and tobacco industry marketing (Hiscock, Bauld, Amos, Fidler, & Munafo, 2011). This pattern is true for those attempting to quit alone and those quitting with help from a smoking cessation programmes such as the UK's national network of services, known as NHS Stop Smoking Services (SSS) (Hiscock, Judge, & Bauld, 2011; Kotz et al., 2009; NICE, 2008).

NHS Stop Smoking Services were set up in 1999 to reduce smoking-related deaths particularly from cancer and coronary heart disease (NHS Executive, 1999) which predominantly occur amongst disadvantaged groups (Jha et al., 2006). SSS routinely collect self-reported outcomes at 4 weeks post quit date and biochemically validate this by conducting a breath test for levels of carbon monoxide (CO) (Murray et al., 2012). Previous studies have shown that the services are effective and cost effective (Bauld et al., 2012; Flack, Taylor, & Trueman, 2006; Godfrey, Parrott, Coleman, & Pound, 2005). The SSS provide a range of pharmacotherapy and behavioural support, delivered by advisors with a range of backgrounds. Whether the types of support provided and who provides treatment influences differences in quit rates between low SES and high SES smokers has not been examined and is explored in this paper.

1.1. Interventions delivered

NHS SSS provide support in the form of behavioural therapy either through one-to-one sessions, drop-ins or in groups typically involving weekly support over a period of at least 4 weeks after a quit date is set (NICE, 2008). Behavioural therapy and cognitive behavioural therapy are evidence-based treatments which aim to help people achieve specific aims or goals, such as smoking cessation, through focussing on the current situation rather than the past (Association for Behavioural and Cognitive Therapies, 2008; Guichenez et al., 2007). Compared to one-to-one treatment, group therapy offers the potential advantages of: receiving feedback from peers; modelling behaviour discussed by other group members; learning from the shared perspectives of group members; potentially increasing members' supportive social networks and reduced cost (Herkov, 2010; Paddock, Hunter, Watkins, & McCaffrey, 2011). However, whether better outcomes do occur in groups compared to one-to-one interventions requires more research (Cuijpers, van Straten, & Warmerdam, 2008; Tucker & Oei, 2007). There are two primary forms of group behavioural therapy: closed groups and open groups (Psychiatric Nursing, 2011).

Closed groups in the SSS involve structured, multi-session group courses with pre-arranged start and finish dates (Department of Health, 2007) starting with a minimum of eight clients (Department of Health, 2011) and are based on the scientifically validated 'Maudsley model' (Hajek, 1989; NHS Executive, 1999). Open groups deliver support in a flexible format where participants can choose when to attend; they have been used in a number of countries to provide support and treatment for a range of health problems or to facilitate behaviour change (Paddock et al., 2011; White, Bradley, Ferriter, & Hatzipetrou, 1998). Advantages of these open or rolling groups over closed groups, include: immediate starts (Morgan-Lopez, Saavedra, Hien, & Fals-Stewart, 2011; Ware & Bright, 2008); no fixed programme so clients can progress at their own pace and group leaders can be more responsive to individual client needs (Ware & Bright, 2008) and new clients learning from the experiences of those who have attended for longer (Ware & Bright, 2008). Thus, open groups have potential to be an effective form of behavioural therapy. There is however very little literature on the effectiveness of open groups compared with other forms of behavioural support (Bauld et al., 2012; Ware & Bright, 2008).

In 2010–2011, routine monitoring data from SSS in England suggested that from a total of 787, 527 clients, the majority (81%) received one-to-one structured support, 11% attended drop-in clinics, 3% attended drop-in rolling groups and 2% attended closed groups (NHS Information Centre, 2011). Telephone support, family or couple counselling and unclassified support were each received by 1% clients. However, outcomes at four weeks (post quit date) suggest that closed groups, despite being the least popular, are the most successful with an average quit rate of 60% for closed groups and 55% for rolling groups but only 49% for drop-ins and 48% for one-to-one support (NHS Information Centre, 2011). These patterns have also been found in longer term evaluations of the services (Bauld, Chesterman, Ferguson, & Judge, 2009; Bell et al., 2006; Brose et al., 2011) but there has been little attention paid to intervention type and disadvantage.

NHS SSS therapists (known as 'advisors') can be either specialists, who are employed only to work as smoking cessation advisors or can be people working in other health and social care roles such as: pharmacy employees; General Practitioners (GPs); nurses; Health Care Assistants (HCA); and midwives, who deliver stop smoking support as one part of their post. The type of therapist may influence uptake and effectiveness of treatment. Some potential clients are reluctant to access specialist services due to stigma or travel issues (Carter & Fairburn, 1995) and specialist staff may be more expensive to employ (Katon, Von Korff, Lin, & Simon, 2001). Furthermore, other health professionals, such as GPs, often encounter patients in routine practice with problems that could benefit from behavioural therapy (Leclerc, 1998). Evidence suggests that nurse conducted behavioural therapy can improve care and outcomes and it has been suggested that specialists should only handle complex cases (Katon et al., 2001).

Data on the type of SSS advisor is not collected routinely (NHS Information Centre, 2011) and there have not been any published recent evaluations (Bell et al., 2006). However there has been some work on the setting where the behavioural intervention takes place. A recent study of 24 English Services (Brose et al., 2011) found that the highest quit rates are in specialist clinics, these rates were significantly higher than primary care settings but not significantly higher than pharmacy or other settings. There is also evidence that inpatient interventions in hospitals are effective in facilitating quitting (Bell et al., 2006). In one study, a pharmacy intervention provided a low but still cost-effective quit rate (Bauld et al., 2012). Furthermore pharmacies have