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Randomized controlled trial of a social support ('buddy') intervention for smoking cessation

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Abstract

Objective: To assess the effectiveness of including a social support intervention ('buddy system') in a group treatment programme to aid smoking cessation.
Methods: Five hundred and sixty-three smokers attended groups at a smokers' clinic. These groups were randomized either to be (a) groups in which smokers were paired with another person to provide mutual support (buddy condition: $N = 237$ in 14 groups) or (b) to receive the same treatment without the buddy component (control: $N = 326$ in 20 groups). Participants were seen weekly for the first 4 weeks after stopping then followed up again after 26 weeks.
Results: Smokers in the buddy condition were no more likely than smokers in the control condition to stay abstinent at 1, 4 or 26 weeks. The effect was in the right direction at week one post-quit but after controlling for potential confounders the difference was not significant (odds ratio = 1.45 (95% CI; 0.92–2.29), $p = 0.06$).
Conclusions: We were unable to show that a buddy system improved abstinence rates of group treatment programmes. This might be due to the high level of social support already achieved through the groups.
Practice implications: The buddy system is a simple and very low cost addition to a group treatment programme; but the results from this study suggest that the kind of buddy system tested may not add substantially to the success rates. However there may be merits in a more intensive or protracted form of buddying.

Keywords: Smoking; Social support; Controlled trial

1. Introduction

Social support has been identified as important in the maintenance of several health behaviours [1]. This study examined whether adding a specific type of social support intervention (a 'buddy system') can improve the effectiveness of a group support programme helping smokers to stop.

An individual's social environment is important in their smoking behaviour. Hence for example population surveys find that people who are married have higher rates of smoking cessation than people who are divorced, separated or widowed [2–4]. Recent evidence suggests that being married may not predict cessation among smokers approaching services for help however [5,6]. Researchers in Sweden using large samples of the population found that a high level of social participation was associated with smoking cessation and maintenance [7]. It is also apparent that having smokers in one's social environment increases the chances of becoming a smoker and reduces the chances of stopping [4,8–10]. These findings may be attributed to cues or other social factors such as social support. Chandola et al. [4] found that general measures of social support were predictive of non-smoking status at follow-up in a general population survey. Other

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researchers have found that the existence of a partner [11–13] or a friend [14] who is specifically supportive of an attempt to stop smoking predicts success. However this is not consistently the case [15,16].

Harnessing the benefits of support into a successful intervention has proved difficult (see May and West [17] for a more complete discussion). These interventions have typically focussed on the support of an individual or 'buddy' given special responsibility to help a smoker stop. In the field of smoking cessation the majority of studies have focused on attempts to improve the quality of pre-existing supportive relationships with, for example, a friend or partner [18,19]. These studies have typically involved only small samples and results have been largely negative [17,20]. Other studies have looked at smokers trying to stop being paired with another smoker previously unknown to them who is also trying to stop [21–23]. Again there are methodological problems, e.g. small sample sizes and no biochemical validation [21,22]. More recently West et al. [23] used a similar intervention in a randomized controlled trial involving 172 smokers in a nurse-led smokers clinic in general practice. In this study smokers trying to stop were paired up 1 week before their quit dates. The two quitters were seen together at all subsequent appointments and were encouraged to phone each other up every day for at least the first week. They were also encouraged to deposit a sum of money (the amount to be decided by the smokers) to be returned the following week contingent on both smokers remaining abstinent. This was compared with a control group of smokers quitting with only the nurse's support. The percentage of smokers abstinent after 4 weeks was higher in the buddy than in the control condition (27% versus 12%; $p < 0.01$).

May and West [17] in their review of the literature included studies with any length of follow-up and concluded that there may be some benefit of 'buddy' support interventions in a clinic context. Park et al. [20] in their Cochrane review concluded that partner support interventions did not increase quit rates in the longer term (6 months or more), although they commented that the interventions might have a short-term benefit. Both reviewers point out that the scarcity of positive findings may be due to methodological problems, e.g. inadequate power or the diversity between studies making comparisons difficult. These findings led both reviewers to conclude that there is a need for good quality, large-scale research examining support interventions for smoking cessation.

Many smokers in the UK and elsewhere are treated in groups using an approach that aims to foster group communication and mutual support [24]. This approach is highly cost effective because groups of 20 or more smokers can be treated together and success rates are at least as high as those found in individual treatment [25]. This group approach routinely involves the use of a buddy system similar to that evaluated by West et al. [23]. Anecdotal reports suggest that many quitters find the buddy procedure beneficial, but as groups can generate high levels of group support in any case, the question arises whether this particular intervention makes an independent contribution over and above the other more traditional group support mechanisms. This paper reports the results of a large randomized controlled trial testing the hypothesis that the use of a buddy system in a group treatment setting increases abstinence rates.

2. Method

2.1. Design

Smokers attending a group-based treatment programme to help them stop were randomly assigned to receive additional social support from another member of the group (the buddy condition) or an additional educational intervention (the control). Assignment was by group rather than individual to avoid contamination across conditions. The participants were a subset of those also taking part in a randomized controlled trial of glucose as an aid to cessation. This meant that all participants received glucose or sorbitol tablets at the start of every session from visit 2, but otherwise had no impact on the running of the groups. Allocation of smokers to buddy and glucose conditions were independent of each other. The results from the larger glucose study are being written up separately.

It is not possible to conduct research of this type as a double blind trial. However researchers were not aware of the group allocation until recruitment for that group was complete and all respondents were allocated to the next available group so selection would not occur. Participants were made aware of the social support element of the research at their first visit by the following sentence in the information sheet: 'Some participants will be asked to pair up with another smoker trying to stop'. The intervention itself occurred at visit 2.

Smokers attended an initial session 1 week before the quit date and then re-attended on the quit date and weekly for 4 weeks afterwards. All the participants in a group stopped smoking on the same day. They were also followed up 26 weeks after the quit date. Although a smoker was allocated to their condition at visit 1, the first visits were identical in both conditions, with the intervention occurring at visit 2 (their quit date). Therefore only those who attended visit 2 are included in the analyses.

Data was analysed on an intent to treat basis with non-attenders after the quit date considered to be smokers, in accordance with usual practice. The primary outcome measure was abstinence up to 26 weeks after the quit date; secondary outcome measures were abstinence for the first week and for 4 weeks after the quit date.

2.2. Sample

The study was conducted at three sites: St. George's Hospital Medical School (SGHMS), The Royal London

Hospital (RLH) and Staines Health Centre (SHC). These are all areas of high population density and have smoking prevalence at or above the national average. The three researchers were experienced smoking cessation advisors who had attended the same training programme. These researchers screened and enrolled participants to the groups, ran the treatment programme and conducted the follow-ups at each time point.

Smokers were recruited through advertisements in local papers, word of mouth and GP referrals. Smokers who were under 18, diabetic, currently smoking less than 10 cigarettes a day, unable to read and write English, or who responded affirmatively to a question that asked whether they had a current psychiatric condition were excluded. Smokers were also excluded if they reported prior to the quit date that they would be unable to attend all six treatment sessions, or if they expected to leave the area within 12 months.

A total of 630 smokers were recruited to 34 groups. All provided written informed consent at the first session. Five hundred and sixty-four attended visit 2 (their quit date), which is when the intervention was implemented. There were no differences between those who made a quit attempt and those who did not in terms of age, gender, occupation, Fagerstrom score, cigarettes smoked per day, CO readings, their perceived chances of stopping, or how determined they were. However participants who attended visit 2 rated stopping smoking as more important to them than those who did not ($\chi^2 = 7.23$; df = 2; $p < 0.05$). One individual did not re-attend after visit 2 and withdrew consent; hence outcome data were available for 563 participants. A total of 237 smokers (14 groups) were allocated to the buddy condition and 326 smokers (20 groups) to the control condition (Fig. 1).

There were 350 (62%) women, 395 (70%) participants were married or living with a partner; 475 (84%) were in paid employment; the mean age was 43.6 years (S.D. = 12.4). Mean daily cigarette consumption was 23 (S.D. = 8.6) and mean expired carbon monoxide (CO) concentration on their quit date was 28.8 ppm (S.D. = 12.5); the mean Fagerstrom Test for Nicotine Dependence (FTND) score was 5.6 (S.D. = 2.3). The average number of previous serious quit attempts was 3.4 (S.D. = 5.3).

2.3. Measures

Information on demographic characteristics and smoking patterns, including the Fagerstrom Test for Nicotine Dependence (FTND; [26]) was gathered by means of a

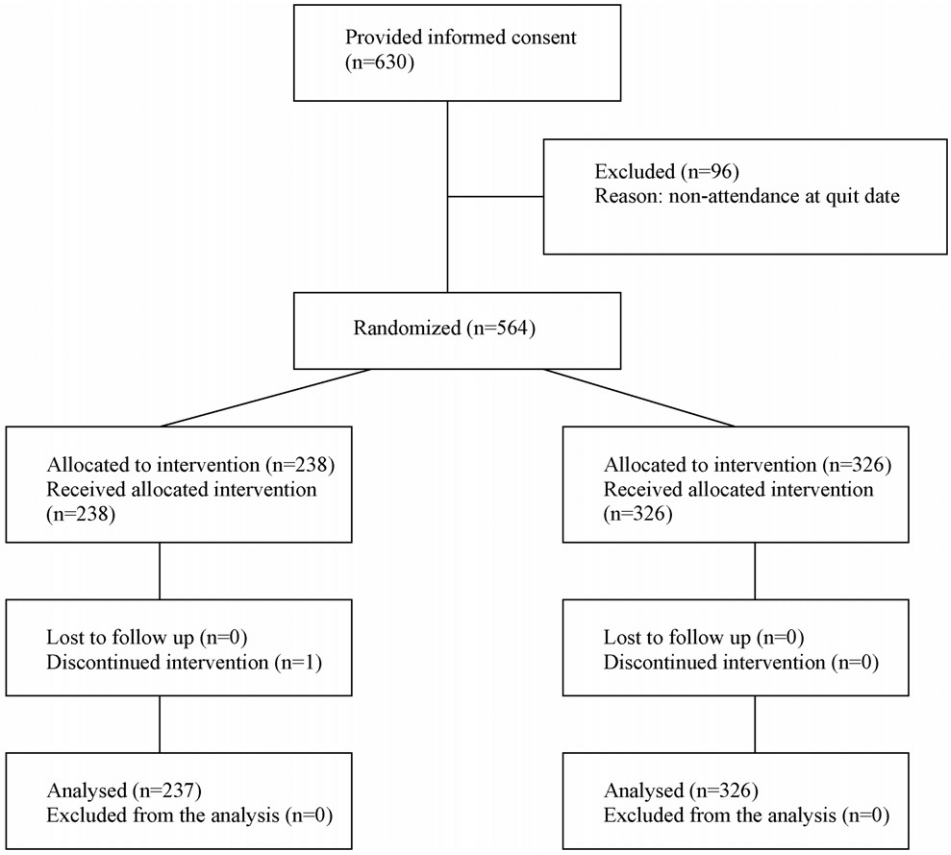

Fig. 1. Flow of subject progress through the phases of the trial. Note: in this study, the first point of data collection is the first clinic session at which the smokers are invited to provide informed consent. Therefore this is used at the starting point for the flowchart. The figures for lost to follow-up are set to 0 because in smoking cessation trials with continuous abstinence as the outcome measure, participants leave the study if they resume smoking or fail to attend, so all randomized subjects are included in the analysis unless they actively withdraw consent.

postal questionnaire prior to session one. Participants were asked about their motivation, determination and perceived chances of stopping. Motivation was assessed by the question: 'How important is it to you to give up smoking altogether at this attempt?'. This had response options from 1 'not all that important' to 4 'desperately important'. Determination was assessed with the item: 'How determined are you to give up smoking at this attempt' with the response options from 1 'not all that determined' to 5 'extremely determined'. Perceived likelihood of stopping was assessed with the item: 'How high would you rate your chances of giving up smoking for good at this attempt' with the response options from 1 'very low' to 6 'extremely high'.

Abstinence was measured in accordance with the Russell Standard [27], as follows: 'Have you smoked at all since the last visit?' Response options were: 'No not even a puff', 'Yes just a few puffs', 'Yes between one and five cigarettes', 'Yes more than five cigarettes'. Subjects were considered to have abstained only if they gave the first response. At all follow-up points an expired-air carbon monoxide (CO) concentration of less than 10 ppm or less than 7 ppm above ambient was required to confirm non-smoking status.

Buddy participants were asked each week how much money they committed to the contingency contract (see below), how many times they had phoned their buddy and: 'Do you feel your buddy has been of any additional benefit in your attempt to stop smoking this time? Yes/No'.

At the end of session two (their quit dates, when the buddy intervention occurred) all participants were asked the following two questions: 'To what extent do you feel that someone is relying on you/you have someone to turn to in your attempt to stop smoking this time?'. With the response options 1 'not at all' to 5 'extremely'.

2.4. Procedure

At the beginning of the study, groups that were to be run over the 2 year recruitment period (1999–2000) were assigned consecutive numbers and each number was randomized by computer random number generation to the 'buddy' or 'solo' condition. This was done by the chief investigator (RW). After initial telephone contact smokers were invited to attend the next available group. They were then sent confirmation and a postal questionnaire to complete prior to their first visit. Smoking cessation groups were run weekly for a period of 6 weeks and participants were expected to attend every visit. The first two sessions were of approximately 90 min duration, and the remainder were 60 min each. Session one followed exactly the same procedure for all groups, the study intervention occurred at session two (the quit date). At the start of each session participants were briefly seen individually to take CO readings and distribute sweet tablets. During this time the group completed their questionnaires, which were then collected.

The treatment followed the 'withdrawal-oriented' model of smoking cessation. This model is recommended as a practical system for smoking cessation in the national guidelines for England [28]. It is widely used in smoking cessation services in the UK and is described in more detail elsewhere [24].

At the first session participants introduced themselves to the group. The researcher then explained the treatment approach. Group discussion was encouraged and participants were offered general advice about the coming week during which they were to continue smoking normally. Methods of avoiding and combating urges to smoke were discussed. The importance of complete abstinence after the quit date was stressed and the prior experience of withdrawal symptoms was discussed.

The second session was on the quit date; the participants were to stop smoking from that session onwards. The session was divided into three parts. First queries about the research were addressed. Second there was a period of group discussion (as above) in which participants were encouraged to discuss concerns and swap ideas and tips for cessation. The social support ('buddy') intervention occurred during the final 20 minutes of the session. The buddy system used was the same as that in the West et al. study [23]. This system was chosen as it is the standard procedure in group clinics using the withdrawal-oriented model, it had shown efficacy in previous research and it is easy to implement in a group setting (compared to spouse/partner training or recruiting ex-smoker volunteer buddies). In the buddy condition the researcher first explained the rationale of the system. Participants were invited to introduce themselves again and say something about themselves that did not involve their smoking, e.g. their hobbies or interests, etc. They were then asked to choose someone to be their buddy and sit down next to that person. They then swapped names and phone numbers with their buddy and arranged a time to make their first call, with subsequent calls alternating between them every day for the first week. No particular training or advice was given to smokers about the content of these calls they were simply described as a way of buddies offering mutual support between visits. Participants were also encouraged to place a sum of money in an envelope to be retained by the researcher. Money in the envelope would be returned the following week, contingent on both smokers remaining abstinent. Groups allocated to the control condition used the same period of time to complete a 'quiz' about smoking and its effects.

In the sessions that followed, participants discussed their experiences during the preceding week and their concerns about the week to come. At each session buddy participants were asked if they would like the researcher to keep their money for another week. They were also encouraged to continue offering each other phone support. No specific advice was given as to how to deal with a lapse by their buddy, although the issue of dealing with lapses generally was addressed in the group sessions. Where a participant's buddy had dropped out, the participant was encouraged to pair up with someone else. Analyses involving buddy pairs were based only on the first buddy selection.

If a participant did not attend an appointment, an attempt was made to contact him or her by telephone the next day. The participant would be seen as soon as possible. If a person could not be contacted or did not attend the new appointment he or she was assumed to have relapsed to smoking.

When the study began, medications to help with stopping smoking – nicotine replacement therapies (NRT) and bupropion – were not reimbursed in the UK and did not form part of the treatment protocol. However, towards the end of the study they were made available on National Health Service prescription (free or nearly free of charge) and it was judged that it would have been unreasonable to withhold them. Therefore, 28 groups (450 participants) did not use NRT or Zyban and 6 groups (113 participants) were offered these medications. By chance, four of the six groups after the addition of NRT and Zyban were buddy groups and two were solo groups. As a result there was a difference between groups in the concurrent use of medication ($\chi^2 = 32.1$; df = 1; $p < 0.01$). This was controlled for with other potential confounders in the analysis (see below).

2.5. Data analysis

The study was powered to detect a difference in the effect of the buddy system after 4 weeks of continuous abstinence. Assuming 40% abstinence in the controls and 50% in the buddy condition the power to detect this size of difference was 80%. Logistic regression analyses for the key outcome measures were undertaken using a random effects model taking account of the fact that participants were randomized by group. Additionally, if by chance baseline differences between buddy and solo participants were found, these would be taken into account in the regressions.

3. Results

Table 1 gives the baseline characteristics of the two study groups. A series of *t*-tests and chi-squared analyses were performed to compare them on a number of variables. By chance the buddy sample rated their chances of stopping more highly at visit one (i.e. prior to exposure to the intervention). All other differences were not significant. A chi-squared analysis of intervention by site also showed that the number of participants in each condition was not equally distributed between sites ($\chi^2 = 10.21$; df = 2; $p < 0.01$).

Random effects logistic regression analyses were used to assess the effect of treatment on abstinence, controlling for medication, venue and confidence in quitting.

Considering the primary outcome measure, 78 participants (14%) reported continuous abstinence at 26 weeks: 15% ($n = 48$) of those in the solo condition and 13% ($n = 30$) of those in the buddy condition. This difference was not significant (Table 2).

Considering the secondary outcome measures, 35% of the sample ($n = 194$) were continuously abstinent to the 4-week follow-up: a higher proportion of those in the buddy condition than the solo condition (39%, $N = 92$ versus 31%, $n = 102$). Two hundred and seventy-five (49%) participants were abstinent for the first week of treatment: 56% ($n = 133$) of buddy participants and 44% ($n = 142$) of solo participants. With potential confounders

Table 1
Sample baseline characteristics

Characteristic	*n* (%)		
	Buddy	Solo	Overall
Female	152 (64.1)	198 (60.7)	350 (62.2)
Occupation			
Unskilled/semi	32 (14)	61 (20)	93 (17)
Skilled/craft	28 (13)	46 (15)	74 (14)
Clerical/secretarial	42 (19)	62 (20)	104 (20)
Professional/manag.	88 (39)	88 (29)	176 (33)
Other	34 (15)	49 (16)	83 (16)
'Desperately' important to stop this time	108 (46)	141 (43)	249 (44)
'Greatly' or 'extremely' determined to stop this time	230 (70.5)	178 (75)	408(73)
Rating chances of success as 'very' or 'extremely' high	103 (44)	97 (30)	200 (36)*

Characteristic	Mean score (S.D.)		
	Buddy	Solo	Overall
Age mean	43.4 (12.1)	43.7(12.6)	43.6 (12.4)
Fagerstrom score	5.5 (2.4)	5.6 (2.1)	5.6 (2.3)
Cigs/day	22.9 (9.3)	23.1 (8.1)	23 (8.6)
Age started smoking (years)	16.3 (3.6)	16.1 (4.3)	16.2 (4)
Number of previous quit attempts	3.1 (3.2)	3.5 (6.5)	3.4 (5.3)
Longest time stopped (days)	196.6 (530)	253.4 (685.5)	229.3 (624.4)
CO on quit date	28.0 (12.9)	29.3 (12.2)	28.8 (12.5)

* $\chi^2 = 14.2$; df = 2; $p < 0.01$.

Table 2
Results of random effects logistic regression analyses of abstinence on to 'buddy' vs. control conditions

Outcome point	Unadjusted odds ratio (95% CI)	Adjusted odds ratio[a] (95% CI)
1 week	1.66 (0.97–2.83)	1.45 (0.92–2.29)
4 weeks	1.39 (0.76–2.55)	1.16 (0.76–1.78)
26 weeks[b]	0.84 (0.48–1.48)	0.79 (0.48–1.29)

[a] Adjusted for group, medication usage, venue and baseline confidence in success.
[b] Primary outcome measure.

controlled for there were also no significant effects on abstinence rates at 1 or 4 weeks (Table 2).

Participants in the buddy group made an average of 2.7 phone calls in the first week after the quit date. This dropped to 1.2, 1.1 and 0.7 in the following weeks. One hundred and fifty-seven (71%) buddy participants deposited money to be returned contingent on both members being abstinence. The amounts ranged from 50 pence to £50 with a mean of £4.48. There was no significant difference in the amount committed between those who did and those who did not go on to abstain in the first week. Of participants in the buddy groups who attended the 1 week post-quit session, 60% said they found having a buddy beneficial.

There were 103 buddy pairs. Of these 21 (20%) were both continuously abstinent to the end of treatment. In 41 cases (40%) one of the pair was abstinent while the other had smoked. Among participants who were abstinent for the first week, there was no difference in 4-week abstinence rates in those whose partner smoked or did not smoke (77% versus 79%, respectively).

On their quit dates (after the buddy intervention had occurred) there was no difference between groups in the extent to which they felt someone was relying on them. However, members of the buddy group reported a greater sense of having someone to turn to in their attempt to stop smoking at this point; $F(1,550) = 3.2$; $p = 0.038$ (one-tailed).

4. Discussion and conclusion

4.1. Discussion

There was no significant benefit of the buddy system to smokers trying to stop at 1, 4 and 26 weeks following their quit date. This suggests that the buddy system did not represent a significant addition to group smoking cessation treatment; although these results cannot be generalised to include smokers in other situations such as individual treatment or self-help programmes. It is possible that the level of social support already provided by the groups may have limited the scope for any additional effect provided by the buddy system to be observed.

Despite the lack of effect on abstinence rates the buddy intervention was effective in increasing the individual's perception of social support, with members of the buddy group reporting a greater sense of having someone to turn to on their quit dates. However, it is not known if this effect was sustained.

May and West [17] identified only one other study which used a buddy system of this type for smoking cessation. This study found an effect up to 4 weeks, the final follow-up point [23]. That finding was not replicated here. The previous study, however, did not involve group treatment. Moreover, in that study the pairing was done at the initial visit, 1 week prior to the quit date, so that by the time the smokers were trying to stop they had already established a relationship with their partner.

The fact that the intervention was not able to demonstrate even a short-term effect indicates that any 'active ingredient' of the buddy intervention is likely to be small when used in group treatment programmes. However, it would be worth examining whether the intervention would be of greater benefit in other contexts. There are also a number of possibilities for increasing the strength of the buddying intervention. First, more detailed and firmer guidance could be given on the frequency and content of telephone calls and this could be reinforced at all sessions to sustain this activity. Second, it may be worth adopting a more rigorous protocol for establishing a new relationship between members of buddy pairs who have lost a partner. Third, it may be worthwhile pairing up smokers at the initial visit rather than on the quit day.

4.2. Conclusion

The present study failed to find that a buddy system improved short-term or long-term abstinence rates of group treatment programmes. Given the level of social support provided by group treatment it is possible that there remained limited scope for detecting any additional benefit that a buddy system may offer; although this need not be the case within individual treatment or self help programmes. Examination of the effects of the buddy system in these other contexts is warranted, as is methods that may increase the intensity or duration of the buddy support.

4.3. Practice implications

The buddy system is a simple and very low cost addition to a group treatment programme; but the results from this study suggest that the kind of buddy system tested may not add substantially to the success rates. However there may be merits in a more intensive or protracted form of buddying.

References

[1] Carmody TP. Health related behaviours: common factors. In: Baum A, Newman S, Weinman J, et al., editors. Cambridge handbook of psychology health and medicine. Cambridge University Press; 1997 p. 117–21.
[2] Waldron I, Lye D. Family roles and smoking. Am J Prev Med 1989;5:136–41.

[3] Ferri E. Life at 33: the fifth follow-up of the National Child Development Study London: National Children's Bureau; 1993.
[4] Chandola T, Head J, Bartley M. Socio-demographic predictors of quitting smoking: how important are household factors? Addiction 2004;99:770–7.
[5] Judge K, Bauld L, Chesterman J, Ferguson J. The English smoking treatment services: short term outcomes. Addiction 2005;100:46–58.
[6] Ferguson J, Bauld l, Chesterman J, Judge K. The English smoking treatment services: one year outcomes. Addiction 2005;100:59–69.
[7] Lindstrom M, Isacsson SO, Elmstahl S. Impact of different aspects of social participation and social capital on smoking cessation among daily smokers: a longitudinal study. Tob Control 2003;12:274–81.
[8] Barton J. Young teenagers and smoking in 1997 London: Health Education Authority; 1998.
[9] Hanson BS, Isacsson SO, Janzon L, Lindell SE. Social support and quitting smoking for good. Is there an association? Results from the population study, 'men born in 1914', Malma, Sweden. Addict Behav 1990;15:221–33.
[10] Vink JM, Willemsen G, Boomsma DI. The association of current smoking behaviour with the smoking behaviour of parents, siblings, friends and spouses. Addiction 2003;98:923–31.
[11] Lichenstein E, Andrews J, Barckley M, Akers L, Severson H. Women helping chewers: partner support and smokeless tobacco cessation. Health Psychol 2002;21:273–8.
[12] Ginsberg D, Hall SM, Rosinski M. Partner support, psychological treatment and nicotine gum in smoking treatment: an incremental study. Int J Addict 1992;27:503–14.
[13] Coppotelli HC, Orleans CT. Partner support and other determinants of smoking cessation maintenance among women. J Consult Clin Psychol 1985;53:455–60.
[14] Morgan GD, Ashenberg ZS, Fisher EB. Abstinence from smoking and the social environment. J Consult Clin Psychol 1988;56:298–301.
[15] Digiusto E, Bird KD. Matching smokers to treatment: self control versus social support. J Consult Clin Psychol 1995;63:290–5.
[16] Venters MH, Kottke TE, Solberg LI. Dependency, social factors and the smoking cessation process: the doctors helping smokers study. Am J Prev Med 1990;6:185–93.
[17] May S, West R. Do social support interventions ('buddy systems') aid smoking cessation? A review. Tob Control 2000;9:415–22.
[18] Glasgow RE, Klesges RC, O'Neill HK. Programming social support for smoking modification: an extension and replication. Addict Behav 1986;11:453–7.
[19] Gruder CL, Mermelstein RJ, Kirkendol S. Effects of social support and relapse prevention training as adjuncts to a televized smoking cessation intervention. J Consult Clin Psychol 1993;61: 113–20.
[20] Park EW, Schultz JK, Tudiver F, Campbell T, Becker L. Enhancing partner support to improve smoking cessation (Cochrane Review). In: The Cochrane library. Oxford: Updated Software; 2002.
[21] Powel DR, McCann BS. The effects of a multiple treatment programme and maintenance procedures on smoking cessation. Prev Med 1981;10:94–104.
[22] Janis IL, Hoffman D. Facilitating effects of daily contact between partners who make a decision to cut down on smoking. J Pers Soc Psychol 1971;17:25–35.
[23] West R, Edwards M, Hajek P. A randomized controlled trial of a 'buddy' system to improve success at giving up smoking in general practice. Addiction 1998;93:1007–11.
[24] Hajek P. Helping smokers to overcome tobacco withdrawal: background and practice of withdrawal orientated therapy. In: Richmond R, editor. Interventions for smokers an international perspective. Baltimore: Williams and Wilkins; 1994. p. 29–46.
[25] Bauld L, Chesterman J, Judge K, Pound E, Coleman T. English Evaluation of Smoking Cessation Services (EESCS). Impact of UK National Health Service smoking cessation services: variation in outcomes in England. Tob Control 2003;12:296–301.
[26] Heatherton T, Kozlowski L, Frecker T, Fagerstrom K. The Fagerstrom Test for Nicotine Dependence: a revision of the Fagerstrom Tolerance Questionnaire. Br J Addict 1991;86:1119–27.
[27] West R, Hajek P, Stead L, Stapleton J. Outcome criteria in smoking cessation trials: proposal for a common standard. Addiction 2005;100:299–303.
[28] West R, McNeill A, Raw M. Smoking Cessation Guidelines for health professionals: an update. Thorax 2000;55:987–99.