Smoking cessation in groups—who benefits in the long term?

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Abstract

The ‘Rauchfrei Programm’ is the most widespread cognitive behavioral group program for smoking cessation in Germany. The aim of this study was to evaluate smoking cessation in the routine care setting and to investigate whether certain characteristics predict long-term abstinence. The study is a longitudinal field study with a one group pre-post-follow-up design. Participants were 1319 smokers, who were asked to complete questionnaires before and after the program. Twelve months later, participants were followed-up by phone. 48.1% of participants attended every session. At the end of the program, 60.9% of the participants were smoke-free. After one year, the abstinence rate accounted for 31.8% (Intention-to-treat). A logistic regression analysis showed that male gender, higher age, being married, lower level of nicotine dependence as well as adherence to the program significantly increased the likelihood of abstinence, whereas education and employment did not. No significant influence of self-payment on the rates of abstinence was observed. It is concluded that the modern smoking cessation program is highly recommendable as it achieves sufficient abstinence rates in a real-life setting. However, it still remains a challenge to increase adherence rates and to achieve comparable success rates in smokers with different characteristics.

Introduction

It has been depicted that smoking cessation is not only an effective strategy to prevent the occurrence of health problems but also to avoid complications and relapses of already existing tobacco related diseases [1–4]. Furthermore, it contributes to a notable increase of life expectancy and health-related quality of life [5]. With a direct and indirect cost burden of around 21 billion euros, due to tobacco smoking in Germany [6], smoking cessation is additionally of high importance from an economic standpoint [7].

For many smokers, however, it is very difficult to change their smoking behavior and relapse rates are very high. Only 3–5% of self-quitters achieve prolonged abstinence of 6–12 months after a given quit attempt [8]. There are diverse methods of smoking cessation including self-help, single and group counseling and pharmacological interventions. The US Department of Health’s clinical practice guidelines [9] provide a review of different methods of smoking cessation and meta-analyses of their efficacy to researchers. However, these methods are not equally effective for all subgroups of smokers, as there are diverse factors that influence smoking cessation success [10].

Some of these predictors are preexisting factors that cannot be modified by psychosocial interventions such as gender, age, physical dependence, marital status, education and employment. There
are several studies demonstrating that men stop smoking more often and have a better long-term outcome than women [11–13]. Physiological and psychological factors are considered to be responsible for this [14–17]. Furthermore, age seems to be associated with success as findings indicate greater success in older smokers than in younger smokers [12, 13, 18]. Lower levels of physical dependence increase success rates of smoking cessation interventions [19, 20]. Heavily dependent smokers are very unlikely to stop smoking at all [21] which causes them to seek professional help more often [22]. External factors that have been shown to predict success in smoking cessation are marital status, education and employment. Married participants show higher abstinence rates [18, 23], which is explained by the fact that social support has been shown to be very important [24]. Smokers with less education have been shown to be less likely to quit smoking successfully [18, 25]. One study showed a positive effect of employment among men, but not among women [26].

One factor that can be influenced by external sources like political decisions are the costs a smoker has to pay for an intervention. According to the dissonance theory [27], it could be argued that self-payment of an intervention raises its success. A relapse is in conflict with the costs paid for the intervention and would therefore result in stronger negative feelings toward the failure. Thus, it could be assumed that full or partial payment by the patient could raise the patient’s motivation to change his behavior and thereby increase the treatment’s effectiveness [28]. Curry et al. [29] investigated the outcome of different models of coverage and found that full coverage results in slightly lower abstinence rates than other coverage models. Despite this, the utilization is the highest for the full coverage model, so that it has the highest cessation rates among all smokers. A Cochrane review of different financing models did not reveal any significant effects on rates of abstinence, but concludes that more studies are needed [30].

Besides these factors, smoking cessation success may depend on adherence to an intervention. Previous studies showed that steady attendance of counseling sessions as well as higher nicotine replacement use increase the likelihood of successful cessation [31–33].

Redesigning smoking cessation programs should aim to improve effectiveness and try to help especially those subgroups of smokers that perform worst in the established programs. The risk factors for unsuccessful smoking cessation are known and modern smoking cessation programs should address them. Cognitive behavioral group programs for smoking cessation provide intensive support to smokers willing to quit. While older programs focused mainly on self-control, the multicomponent treatment programs commonly used in the last decade include motivational enhancement, social support, a fixed quit date, coping with risk situations, lifestyle change and relapse prevention [34]. The German ‘Rauchfrei Programm’ was newly developed in 2009 as a modern program that does not only contain all the elements of multicomponent treatment but also elements of modern psychotherapy like change and acceptance oriented methods (Dialectical Behavior Therapy [35]; Acceptance and Commitment Therapy [36]) and psycho-education by using biochemical explanatory models. These modern methods include emotion regulation, skills training, stress tolerance, acceptance strategies and clarification of goals and imagination rehearsals. Gradl et al. [37] investigated the effectiveness of this new program compared to an old group program that promotes stepwise reduction of smoking and is based mainly on the principle of self-control in a quasi-experimental design. At 6 months follow-up, the abstinence rate in the intervention group was twice as high as in the group with the old program (40.2% versus 19.7%). Based on these positive results, the program has been disseminated throughout Germany and is recommended by insurance companies. At the moment, it is the smoking cessation program most frequently listed in the benefit catalogues of German statutory health insurance companies [38].

This study aimed to reevaluate the abstinence rate of the program at a 12 months follow-up in a large sample of smokers in the routine care setting. Further it aims to assess the impact of program
adherence as well as the influence of gender age, nicotine dependence, marital status, education and employment on the outcome in individuals, who followed this group program. These predictors have mainly been investigated in clinical trials with medication or with older behavioral interventions, so far. We aim to show whether certain characteristics make smokers benefit more from the ‘Rauchfrei Programm’ than others or whether a modern multicomponent program achieves comparable success rates in smokers with different characteristics. In addition it was investigated, whether self-payment of participation fees affects the program’s sustainability as an external predictor.

Methods

Design and procedure

The study is a longitudinal field study in the routine care setting with a one group pre–post-follow-up design, including three measurement points: at the beginning of the program (T0), at the end of the program (T1) and 12 months after the quit-smoking date (T2). For certified trainers of the ‘Rauchfrei Programm’, it is obligatory to take part in quality management. Therefore, participants receive standardized paper-and-pencil questionnaires at the beginning (T0) and at the end of the program (T1). In the first session, after they have been informed about anonymity and confidential data-handling participants are asked to give their consent to the telephone follow-up 1 year after the intervention (T2). Questionnaires are anonymized by a specific participant code. Filling in questionnaires and signing the consent form was voluntary for participants. Twelve months after their quit-smoking date, participants who had given their consent were contacted by phone for a follow-up. Originating from the quit date the follow-up date was calculated by adding 12 months plus a grace period of 4 weeks, during which the call was made (Russel-standard [39]). They were called up to five times at different days of the week and different times of the day.

Sample

In total, 1319 people who proactively attended the program during the time periods of 12 January to 15 March and 18 May to 22 November were selected from the participants of the ‘Rauchfrei Programm’ in 2009. There was no standard referral by doctors or others to the program. However, participants were asked, how they had found out about the program. The flow of study participants is depicted in Fig. 1. Participants who did not complete the questionnaire at T1, who could not be contacted at T2 (with five attempts), who refused to take part or who did not take part for any other reasons were included in the data analysis and were counted as smokers (intention-to-treat analysis) at T1 and/or T2, according to the Russel-standard [39]. This approach is based on the fact that non-abstinent participants usually show less compliance to a follow-up.

![Fig. 1. Flow of study participants.](image-url)
Intervention

The ‘Rauchfrei Programm’ is an intensive cognitive-behavioral group counseling intervention. The total contact time accounts for 650 min (seven sessions of 90 min) within 7 weeks or 560 min (three sessions of 180 min) within 3 weeks and two telephone sessions of 10 min. For organizational reasons some participants attended a compact version (3 weeks) of the program, which only differed in terms of the number and duration of the sessions but not in terms of the content. There was an average of six participants per course. The program was conducted by 212 trainers (professional background: medical doctors, psychologists, social workers) from all over Germany, who had been certified as trainers of the ‘Rauchfrei Programm’ after attending an extensive training seminar. The procedure of the program is fixed in a highly structured written manual. The program includes a fixed quit smoking date, which is set in the middle of the program. The structure and the contents of the program are presented in Table AI. Various methods of behavior modification are applied: cognitive strategies, motivational interviewing, psycho-education and strategies of goal orientation, imagination rehearsals, development of coping skills, like to deal with craving and relapses and to regulate and accept emotions. The program does not include any standard treatment by medication. However, participants are informed about the different options and are free to choose whether they want to take any additional medication. Some companies offer participation in the program free of charge to their employees and some German health insurances reimburse the fees or parts of them irrespective of quitting. Except this, there neither are any incentives for joining the program nor for quitting during the program.

Measures

Socio-demographic data and current smoking behavior was assessed through items of the German Epidemiological Survey of Substance Abuse [40]. Tobacco dependence was measured with the German version of the Fagerström-Test for Nicotine Dependence (FTND) [41]. The scale ranges from 0 to 10 with higher scores indicating stronger physical nicotine dependence. In addition, single item-ratings were used. According to the Russel-standard, participants were classified as continuously abstinent at T1 and T2 if they had not smoked more than five cigarettes since the quit-date [39]. The follow-up interview also included questions concerning the amount of intervention costs and whether they had to be paid by the participant. No biochemical measures for validation of smoking abstinence were applied.

Data analysis

Statistical analyses were conducted by using SPSS v. 15. The significance level was set at P < 0.05 for all analyses. Descriptive statistics were used to describe the sample. T-tests were performed to compare outcome differences between groups. Categorical data were analyzed by chi-square tests. A binary logistic regression analysis with continuous 1-year-abstinence as dependent variable (0 = smoker; 1 = non-smoker) was calculated to analyze the influence of single predictors on treatment success. Baseline characteristics such as gender, age, education, employment, marital status, level of nicotine dependence and payment were included in the logistic regression model (method: enter). The influence of full attendance and adding medication to the group program was controlled for by adding these variables as covariates to the model. Because of the high number of participants with previous quit attempts, this characteristic was not included in the model. Due to the small number of participants who attended the 3-weeks-version the factor version was only accounted for in univariate analyses but not included in the regression model.

Results

Sample

The baseline characteristics of the study participants are displayed in Table I. The percentage of women and men was almost the same among participants. 10.1% were younger than 30 years, and 72.5% of
participants were older than 40. The mean FTND score of 4.9 indicates moderate to high physical dependence among participating smokers.

When asked, how participants had found out about the program, most frequent answers were: newspaper advertisement (21.6%), my employer (18.3%), my health insurance (15.9%), friends (15.9%) and my doctor (14.1%). 86.1% of participants reported, that they had made at least one quit attempt in the past.

**General outcome**

Regarding participants who answered the post-test questionnaire (n = 881), 91.9% stopped smoking during the program. 60.9% of all participants (ITT) were smoke-free at the end of the program (T1). At the follow-up after 1 year (T2), 31.8% of all participants (ITT) stated that they had not smoked during the preceding year.

Participants of the 7-week-intervention (n = 1167) and those of the 3 week intervention (n = 64) did not differ in terms of the long-term abstinence rate [31.9% versus 31.3%; $\chi^2 (1) = 0.01$, $P > 0.05$]. A total of 48.1% stated that they attended every session of the program, 51.9% missed at least one session. Participants, who had attended all sessions, were significantly more likely to be long-term abstinent than those, who did not [38.7% versus 25.5%, $\chi^2 (1) = 24.57$, $P = 0.00$].

**Factors influencing abstinence**

No significant gender difference could be found for short-term abstinence (T1) in this study ($P > 0.05$). There were 59.3% non-smokers among the females and 62.6% among male participants at the end of the program. One year later (T2), there was a significant difference with 29.0% of the women and 34.8% of the men being abstinent [$\chi^2 (1) = 4.73$, $P = 0.03$].

There was a statistically significant difference with respect to long-term abstinence between the different age groups [20 and younger, 21–30, 31–40, 41–50, 51–60, 61 and older; $\chi^2 (1, 1.221) = 16.86$, $P = 0.01$], with higher abstinence rates for older participants. Moreover, married participants succeeded significantly more often than non-married participants [36.6% versus 26.4%; $\chi^2 (1) = 14.40$, $P = 0.00$]. Participants who were abstinent at T2 had significantly lower FTND scores at T0 [4.40 versus 5.07; $T(221) = 5.12$, $P = 0.00$].

Out of all participants who could be contacted at T2 (n = 1052), 48.5% stated that they had paid for the program. The amount of the costs ranged from 10 to 300 euros. Less than half of participants (46.6%) did not pay any fees. The remaining 4.9% did not answer the question concerning program fees. Abstinence rates did not differ significantly between participants who had paid for the program and those who had not [37.8% versus 38.4%; $\chi^2 (1) = 0.03$, $P > 0.05$]. A total of 308 participants gave details about the amount, they had paid. To estimate the effect of the amount of costs five categories (‘€10–50’, ‘€51–100’, ‘€101–150’, ‘€151–200’ and ‘€201–300’) were compared. There were no significant differences in abstinence rates between groups [$\chi^2 (4) = 1.55$, $P > 0.05$].

Binary logistic regression analyses controlling for baseline characteristics showed that male gender, higher age, being married, lower FTND scores and full attendance significantly predict long-term abstinence (Table II). For the characteristics of education, employment, self-payment and medication, no significant influence was observed ($P > 0.05$).
This study aimed to investigate the long-term abstinence rate of a modern group program for smoking cessation in a large number of smokers under routine care conditions in Germany. Further it was investigated whether smokers with certain characteristics benefit more than others from this program. One year after the participation in the group intervention, about one-third of the participants were still smoke-free. This result is substantially higher than the rate achieved in self-initiated quit attempts (5%) [8] and it also exceeds the average abstinence rates that are reported in the Clinical Practice Guidelines for medication (23.2%), high intensive counseling (22.1%), medication plus quitline counseling (28.1%) and that of other group interventions (13.9%) [9]. Another meta-analysis that reviewed 18 behavioral group counseling studies reported abstinence rates of 30% or higher only for three of them [42].

Consistent with previous studies, adherence that was strictly defined as attending every session of the program significantly increased the likelihood of abstinence [32, 33]. Regarding other predictors, our results show that both women and men benefit from the program directly after attendance. However, men are more likely to be abstinent in the long term. Thus, relapse rates are higher among women. There might be other characteristics that are responsible for this difference, however, our analyses show that this influence is stable, even when controlling for confounding variables. This is in accordance with results of other smoking cessation interventions [11, 13]. Hence, the disadvantage of women in smoking cessation also does exist for a modern group intervention. Higher prevalence of depression among women might contribute to their lower success rates [16]. Furthermore, one study found, that perceived risks (i.e. weight gain, negative affect, attention/concentration, social ostracism, loss of enjoyment and craving) are higher in women and associated with negative outcomes [17]. Although there is a part of the ‘Rauchfrei Programm’ in which participants are informed about weight gain after smoking cessation and how to counteract it, weight and mood as women-specific causes of relapses may have to be addressed more explicitly. More research is needed to finally develop a program which achieves higher long-term abstinence rates among women. In line with other studies [12, 18], we found that age is an important factor of prolonged smoking cessation with this program. Our data support findings that older participants are more successful. Health consequences of consuming tobacco for years prove to be drastic and threatening or at least noticeable for most of the older smokers [43]. As a consequence, psychological strain increases and might make them stop or at least reduce their tobacco consumption more.

### Table II. Binary logistic regression analysis for long-term abstinence (12 months)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Reference</th>
<th>B</th>
<th>Wald</th>
<th>P</th>
<th>OR</th>
<th>95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female gender*</td>
<td>Male gender</td>
<td>−0.34</td>
<td>5.85</td>
<td>0.016</td>
<td>0.71</td>
<td>0.54–0.94</td>
</tr>
<tr>
<td>Age**</td>
<td></td>
<td>0.02</td>
<td>8.06</td>
<td>0.005</td>
<td>1.02</td>
<td>1.01–1.03</td>
</tr>
<tr>
<td>Education</td>
<td>Low</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medium</td>
<td></td>
<td>0.17</td>
<td>0.01</td>
<td>0.906</td>
<td>1.02</td>
<td>0.73–1.42</td>
</tr>
<tr>
<td>High</td>
<td></td>
<td>0.23</td>
<td>1.58</td>
<td>0.209</td>
<td>1.23</td>
<td>0.88–1.80</td>
</tr>
<tr>
<td>Married*</td>
<td>Single/divorced/widowed</td>
<td>0.30</td>
<td>4.29</td>
<td>0.038</td>
<td>1.35</td>
<td>1.02–1.79</td>
</tr>
<tr>
<td>Employment</td>
<td>Unemployed</td>
<td>−0.07</td>
<td>0.16</td>
<td>0.687</td>
<td>0.93</td>
<td>0.66–1.31</td>
</tr>
<tr>
<td>Nicotine dependence FTND**</td>
<td></td>
<td>−0.15</td>
<td>18.17</td>
<td>0.000</td>
<td>0.87</td>
<td>0.81–0.93</td>
</tr>
<tr>
<td>Self-payment</td>
<td>No self-payment</td>
<td>−0.13</td>
<td>0.83</td>
<td>0.364</td>
<td>0.88</td>
<td>0.67–1.16</td>
</tr>
<tr>
<td>Medication</td>
<td>No medication</td>
<td>−0.03</td>
<td>0.04</td>
<td>0.835</td>
<td>0.97</td>
<td>0.72–1.31</td>
</tr>
<tr>
<td>Full attendance**</td>
<td>Missed sessions</td>
<td>0.51</td>
<td>12.88</td>
<td>0.000</td>
<td>1.66</td>
<td>1.26–2.19</td>
</tr>
</tbody>
</table>

n = 953; \( R^2 = 0.090 \) (Nagelkerke \( R^2 \)). * \( P < 0.05 \); ** \( P < 0.01 \). OR, odds ratio; CI, confidence interval.
easily [44]. Along these lines, general awareness of health and its importance rises at higher age. On the other hand, for younger people, smoking is more likely to be associated with positive effects and stopping smoking is less attractive because adverse consequences will not appear in years. To address younger adult smokers, more emphasis should be put on negative aspects of smoking other than health consequences (social consequences, odor, etc.) that are present for younger smokers, as well. Moreover, married participants were more likely to remain abstinent for 1 year than unmarried ones. This has also been found as a result of other studies and could be interpreted as confirmation of the theory of social support as important factor of successful smoking cessation [24, 45]. Nonetheless, as marriage is only one aspect of social support, other measures would be needed to investigate the role of social support by friends or colleagues. We found nicotine dependence as another predictor of smoking cessation, which has often been shown before [19, 20]. Smokers with stronger dependence have more difficulties to successfully stop smoking.

While differences between these subgroups could not be overcome by the program, the gap between different socio-economic levels could. Education and employment do not seem to influence the success rate of this program. Neither self-payment of program fees by the participant did affect long-term abstinence in any way. Participants who had paid for the program were as successful as those who had not. Neither the amount of costs did have an impact on the outcome.

A strength of this study is that it reflects real-life conditions of smoking cessation in Germany in a large sample. This implies that we could not control conditions to the same extent as it is done in clinical trials. In this field study, emphasis was put on the generalizability of results. It is almost impossible to meet the requirements for internal and external validity at the same time. As participants were neither randomly assigned nor stratified into groups, confounding variables could not easily be controlled for. Nevertheless, they were included as covariates in regression analyses in order to avoid biases. The intervention is standardized, following a written manual and using a book for participants. Trainers are certified after attending a train-the-trainer seminar. As general effectiveness of cognitive behavioral smoking cessation and adverse health effects of smoking both are approved, the study was conducted without any control group for ethical reasons. A waiting control group at a 12 months follow-up was considered as not reasonable for smokers definitely willing to quit. Despite, the classification and evaluation of quit rates of the ‘Rauchfrei-Programm’ is still possible since abstinence rates of self-quit attempts and of other interventions have been thoroughly examined in numerous studies [8, 9, 42].

According to common standards, the study followed the conservative approach of treating non-respondents as smokers. This might lead to an overestimation of smokers and an underestimation of the quit rates at T1 and T2. However, as the dropout at T2 was very small this bias is probably not grave. Due to the large number of participants all over Germany, the validation of abstinence by carbon monoxide measurement devices or through saliva, blood or urine samples was not feasible for economic and technical reasons. Missing chemical validation is problematic, because self-reports by participants might be biased due to effects of social desirability [39]. In contrast, Velicer et al. [46] argue that biochemical validation is not imperative, because self-reports of grown-up participants can be considered as sufficiently valid. Moreover, the analysis of predictors in smoking cessation is not influenced because there is no reason to assume that effects of social desirability differ between certain subgroups of participants. To make participants answer as truthfully as possible, and thereby minimize effects of social desirability, the performance and the evaluation of the program were conducted by different persons. Besides this, participants were assured of confidential and anonymized data-handling as it is known that these arrangements lead to a greater reliability [47].

This study concentrated on preexisting external and socio-demographic characteristics. However, there are also psychological predictors of smoking cessation (e.g. motivation, fear of weight gain,
depression and self-efficacy [10]) that were not recorded in the present study as they afford larger rating scales and cannot validly be self-assessed by single items. To reach this large number of study participants the questionnaires had to be kept as short as possible. Besides, these psychological variables are not stable because they also represent the target of the intervention itself. Thus, investigating their influence on the outcome is very complex and requires other study designs and methods of analysis (e.g. path analyses).

Future research should also address the specific mechanisms of behavior change in smokers with different characteristics and investigate which specific elements of the program help smokers to change their behavior. This could help to shorten the total contact time of successful group programs in general as well as to adapt successful programs for different subgroups of smokers.

**Conclusion**

A modern cognitive behavioral smoking cessation program like the German ‘Rauchfrei Programm’ achieves 1 year abstinence rates of about one-third under real-life conditions. By developing means to improve program adherence even higher rates might be achieved. Although overall abstinence rates are higher than those of other interventions, this modern program cannot overcome all barriers of successful cessation as it also shows lower rates in smokers with certain characteristics (women, younger smokers, heavy dependent smokers and not-married smokers). The success rates are independent of the costs for participation. To encourage participation in smoking cessation programs and enable more smokers to attend these interventions, it should be considered to offer them free of charge or to reimburse fees.

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**Conflict of interest statement**

The authors J.R.W. and C.B.K. are employed at the IFT-Gesundheitsförderung that offers training in smoking cessation programs on a commercial basis. There are no other involvements.

**References**

15. Weinberger AH, Pilver CE, Desai RA et al. The relationship of major depressive disorder and gender to changes...
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## Appendix

<table>
<thead>
<tr>
<th>Phase</th>
<th>Session no.</th>
<th>Methods</th>
<th>Focus content</th>
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<tr>
<td>Preparation</td>
<td>1</td>
<td>Cognitive preparation</td>
<td>Quiz about smoking and non-smoking.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Motivation</td>
<td>Lecture on smoking, non-smoking and passive smoking.</td>
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<td></td>
<td></td>
<td>Psycho-education</td>
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<tr>
<td></td>
<td>2</td>
<td>Motivation</td>
<td>Collecting arguments pro-smoking and pro-smoke-free-living.</td>
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<tr>
<td></td>
<td></td>
<td>Reinforcing ambivalence</td>
<td>Personal gain of smoke-free-living.</td>
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<tr>
<td></td>
<td></td>
<td>Self-control</td>
<td>Self-monitoring with registration cards.</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Motivation</td>
<td>Lecture on the functioning of smoking in dependent smokers.</td>
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<tr>
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<td></td>
<td>Psycho-education</td>
<td>Identification of smoking situations.</td>
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<td></td>
<td></td>
<td>Coping skills</td>
<td>Alternatives to smoking.</td>
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<td></td>
<td>Information on nicotine replacement.</td>
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<tr>
<td></td>
<td>4</td>
<td>Coping skills</td>
<td>Preparation for quit day.</td>
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<td>Self-management</td>
<td>Lecture on strategies to cope with craving.</td>
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<td>Quit day</td>
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<tr>
<td>Maintenance</td>
<td>5</td>
<td>Relapse prevention</td>
<td>Exchange of experiences.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Positive reinforcement</td>
<td>Lecture on lapse and relapse.</td>
</tr>
<tr>
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<td></td>
<td>Psycho-education</td>
<td>Relapse prevention.</td>
</tr>
<tr>
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<td>Lecture on withdrawal symptoms.</td>
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<td>Rewards for smoke-free living.</td>
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<td>Exchange of experiences.</td>
</tr>
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<td>Positive reinforcement</td>
<td>Developing a non-smoker’s identity.</td>
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<td>Imagination</td>
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<td>7</td>
<td>Proactive telephone counseling</td>
<td>Talking about individual situations.</td>
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<tr>
<td></td>
<td>8</td>
<td>Proactive telephone counseling</td>
<td>Talking about individual situations.</td>
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<td>Exchange of experiences.</td>
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<td>Retrospection.</td>
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<td>Planning the smoke-free future.</td>
</tr>
</tbody>
</table>

*As only a very small proportion of participants attended the 3-weeks-intervention only the standard version (7 weeks) is presented.*