

## Chapter 7

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### **General discussion**

## GENERAL DISCUSSION

This thesis examined the effect, optimal method of recruitment and reasons for attendance of smoking cessation interventions in disadvantaged areas of the Netherlands, and explored whether the prevailing economic factors and injunctive norm influenced inequalities in smoking cessation in the Netherlands. In this chapter, the main findings will be summarized, limitations of the research will be considered, reflections will be considered and implications for practice will be discussed.

## MAIN FINDINGS

The following two sections summarize the main findings for each of the research questions.

*Research question 1: What is the effect, optimal method of recruitment, and reasons for attendance of smoking cessation interventions in disadvantaged areas?*

In chapter 2, we explored the effects of four different types of smoking cessation behavioural therapy (SCBT) (individual face-to-face or telephone counselling, and fixed or rolling group therapy) offered to smokers in disadvantaged urban areas of the Netherlands. We found that rolling group therapy and individual counselling were the most effective therapies with a self-reported quit rate of 14% and 37.4% respectively at 12 months, compared with fixed group and telephone counselling (15.4% and 7.9%, respectively). CO-validated quit rates at 12 months were slightly lower than those of self-report, but the relationship found in the self-reported data was preserved for telephone counselling and fixed group therapy. Group therapy in a hospital setting was significantly more effective than group therapy held in other settings, and there was no significant difference in the effect of different types of group therapy (fixed and rolling group) in the hospital setting.

In chapter 3, we explored how smokers heard about and were referred to SCBT in two disadvantaged areas of the Netherlands. Both sites had used multiple channels within the local community to recruit potential participants, including one site which used a social network method. In the context of disadvantaged areas, we found that the most common channel to both hear about and be referred to SCBT was through the GP. This was true for all participants and, also for those of low socioeconomic status (SES). Participants who heard through this channel differed little from participants who heard and were referred through the other channels. Attendance of more than three sessions was also not predicted by any of the heard about or referral channels.

In chapter 4, we collected and analysed qualitative data to explore the reasons why participants did or did not attend sessions of SCBT. We analysed the data with reference to the Self-Determination Theory, which is a theory of human motivation in which motivation is divided into intrinsic and extrinsic motivation and amotivation. We found that attendees fell into two separate groups: 'Frequent attenders' who missed  $\leq 2$  sessions and 'Infrequent attenders' who missed  $> 2$  sessions. We found that many frequent attenders were intrinsically motivated to

attend while infrequent attenders were not. Frequent attenders also displayed higher level extrinsic motivations to attend than did infrequent attenders. We also found that frequent attenders experienced more social support and no organisational barriers to attendance, by comparison with infrequent attenders.

*Research question 2: What is the influence of the prevailing economic conditions and social norms on inequalities in smoking cessation?*

In chapter 5, we explored the effect of the Global Financial Crisis (GFC) on inequalities in current smoking and smoking cessation. We find inequalities in current smoking and smoking cessation present in all SES indicators (income, educational level, neighbourhood deprivation). Overall inequalities did not change significantly for most SES indicators, however, income- and education-related inequalities increased in some age groups. Among respondents aged 18-30 years, income-related inequalities in smoking cessation were borderline significantly larger during the GFC than pre-GFC. Among respondents aged 45-64, the decrease in current smoking was smaller in those of low income compared to those of high income during the GFC compared with pre-GFC.

In chapter 6, we explored the effect of a national reimbursement of smoking-cessation pharmacotherapy on inequalities in pharmacotherapy use during quit attempts and, within this context, the influence of injunctive norms. We found that there was no effect of the reimbursement on inequalities in use of smoking cessation pharmacotherapy during quit attempts. We also found that smokers of low income level with a more accepting injunctive norm toward smoking were significantly less likely to try to quit with pharmacotherapy than their peers with a less accepting injunctive norm toward smoking. This trend was also present in those of low education, however this was not statistically significant.

## LIMITATIONS OF THE RESEARCH

In this thesis, limitations of each study have been considered in the discussion section of each article (chapters 2-6). In this section, I will consider several general points which transcend the individual articles.

### Change in legislation

This study was originally devised to take advantage of the reimbursement of smoking cessation pharmacotherapy which was introduced by the Dutch government in 2011. This reimbursement removed financial barriers to using evidence-based smoking cessation pharmacotherapeutic aids for low SES smokers. Due to changes in the government, this reimbursement was stopped in 2012 and then reintroduced in 2013. Thus the necessary condition of removing financial barriers for those of low SES wishing to quit using evidence-based effective measures was only present during part of the data collection period. This has implications for the results because it slowed down data collection, leading to few participants being enrolled in 2012.

### **Missing data**

Participants in low SES groups are challenging to both engage and maintain in smoking cessation research programmes [1,2]. That was certainly the case with this study, where the original study site had to be supplemented by further sites in order to reach recruitment targets. With regard to chapter 2, the drop-out rate at 12 months was 29% in all sites, but 66% in those doing telephone counselling. The internal validity may have been compromised because of this, however, when other factors were controlled for in the statistical analysis, the conclusion as to the performance of the therapy types remained similar.

With regard to chapter 3, we can say nothing about smokers who did not enrol in the research, thus it is possible that our target group was not reflective of all participants, thus possibly affecting the internal validity. To ensure that this does not happen in future research, we would recommend the use of register data (data from medical records, as was obtained from two of our sites) for future studies on these groups, with the caveat that researchers must first ensure that all data which they require is present in the register data.

### **Generalisability**

Section 1 considers smoking cessation services available to individuals in disadvantaged urban areas of the Netherlands. The studies in this section may be considered generalisable to other urban areas in the Netherlands, because they offer evidence from areas differing considerably with regard to ethnic make-up, and further to other disadvantaged urban areas in other European countries. However, Section 2 considers two macro-level factors from the Dutch perspective. Both studies in this section were based on extensive national level data, and are believed to be generalisable to the population of the Netherlands. Further generalisability may be limited by specific national factors. For example, with regard to the GFC, Dutch social protection policy is one of the strongest in Europe [3] and the Dutch population only began to experience severe effects of the crisis in 2012 [4]. Thus while this study may not be directly generalisable to other European countries, it helps, along with other single country studies, to build a picture of the effect of the GFC in Europe. The second study addresses the effects of a nationally implemented policy measure which was to take effect under the specific condition of injunctive norms found in the Netherlands. Studies show that most Dutch smokers do not often think of the harms of smoking and have a poor understanding of the harms their smoking can do to others [5], which compares poorly with other countries surveyed [5]. Thus it is possible, again, that this study adds to the understanding of the effect of national reimbursement of pharmaceuticals, but is probably only directly generalisable to other countries with a high tolerance of smoking, such as Germany [6] or Austria [7].

## **REFLECTIONS**

### **Effect**

The effect of the different intervention types examined in chapter 2 differed greatly, however, all types were more successful than the background smoking cessation rate of 1-4% [8,9] and

were comparable to or better than results found in similar groups in other studies [10-13]. Some were more successful than others, with individual face-to-face counselling and rolling group therapy having the highest 12 month self-reported continuous quit rates. Given the difficulties faced by disadvantaged smokers attempting to quit [14], this success should be viewed as very encouraging for interventionists working in this area.

In our exploration of the differences between counselling types, we found that individual face-to-face and rolling group therapy gained similar results. When we explored differences in setting, we found that group therapy given in a hospital setting was most effective. Group therapy in a hospital setting was equally effective when provided as rolling or fixed group therapy. Despite uptake of group counselling being a factor limiting its success [15], there is evidence from physical activity interventions in low SES groups that group format contributes to the success of intervention in these groups [16]. It is important to weigh up potential reach and success when considering which treatment types should be offered [15], and this is especially the case in disadvantaged areas where the smoking prevalence is greater than in other areas. Thus the implementation of group interventions in disadvantaged areas must be accompanied by measures to increase uptake amongst disadvantaged groups, if the full benefit of such an intervention is to be received by these groups.

### **Reach and recruitment**

It is known that individuals in low SES groups, which in the Netherlands often encompass ethnic minority groups, can be challenging to reach and recruit into interventions [17-19]. It is, therefore, noteworthy that in this research, participants of low SES were successfully recruited (chapter 3). This was mainly as a result of the use of the GP as a reach and referral source (chapter 3). Again, we can be optimistic about reaching this group, given this result. However, it must be noted that the number of participants recruited over a considerable time period remained low in absolute numbers (chapter 3). Dutch GPs raise the issue of smoking cessation less often with their patients than GPs in many other high income countries [20], so it is possible that only a proportion of the potential participants were approached by the GPs referring to the SCBT, and that better utilisation of this channel might lead to more participants. However, it is also possible that this was due to low motivation to quit in this group, which may be related to unsupportive social norms toward smoking cessation or taking part in SCBT in disadvantaged groups (chapter 4).

### **Reimbursement**

A point to consider with regard to reimbursement is the notion of the 'removal' of financial barriers. Removal of the financial barrier is an important measure as it is likely to encourage low SES smokers to quit [14]. However, when something is reimbursed, it is something which, by its very nature, has already been paid for. In this research, the reimbursement happened in several ways, but usually after, and often some time after, paying up-front for the pharmacotherapy. In some cases, participants with health insurance from a particular provider could get the pharmacotherapy without paying up-front, however, they had to go to a specific pharmacy to do

so, which required traveling out of the local area. Thus, in reality, the immediate financial barrier with regard to pharmacotherapy remained in place for many participants. While ultimately reimbursement left some patients with no costs, it was not 'free' at the point of sale, and it was only fully reimbursed if smokers had used up their policy excess ('eigen risico'). This has implications for this research because the immediate financial barrier was still in place for those who were most disadvantaged. Reimbursement may, therefore, have had less effect than would be possible if it was truly made free of any charge at the point of sale. This is generalisable to other countries where up-front payment is required.

### **Target group**

The aim of this project was to recruit low SES participants by geographical targeting of disadvantaged areas. However, the SCBT programmes were open to all residents of these disadvantaged areas, without regard to their income or educational status. We see from our data that what happens in this case is that the population which is recruited may reflect the disadvantaged area [21] or be of a higher general SES level [22] than the disadvantaged area. Thus, we do not feel that geographical targeting alone will deliver participants with at least two indicators of low SES (i.e. low income or educational level in addition to area disadvantage). If the aim is to recruit such smokers, it may be better to provide geographically targeted SCBT programmes, and then to use the GP to further target recruiting within these areas.

### **Social norms**

The role of social norms should be considered very carefully when implementing national measures to aid smoking cessation. As a WHO report stated:

*'At the heart of these [tobacco-control] efforts has been the important long-term goal of de-normalizing tobacco use. Promoting change in social norms is essential to successful smoking cessation, since the social environment provides the context for smoking cessation and encourages smokers in their attempts to quit.(p1)' [23].*

Few Dutch smokers (22%) have a negative attitude toward smoking [24]. Compared with many other countries, Dutch smokers have poor understanding of the harms of smoking to themselves or others, and think less often of the consequences of their cigarette use [5]. Adding to this picture, chapter 6 has shown that the norm in low SES smokers in the Netherlands is less unaccepting of smoking than in smokers of other SES levels or in non-smokers of all SES levels (chapter 3). This research has also shown that those of low SES with a mostly acceptable injunctive norm toward smoking are significantly less likely to make use of evidence-based smoking cessation pharmacotherapy (chapter 3) than those with a mostly unacceptable injunctive norm toward smoking. While this may not be a causal association, it is possible that implementation of measures to specifically influence this norm in those of low SES, prior to the implementation of measures such as reimbursement, may influence the use of pharmacotherapy in quit attempts in low SES groups. One possible way to achieve this would be the use of

national media campaigns, which despite a hiatus during this research, have now recommenced. However, no campaign has currently directly targeted social norms in disadvantaged groups in the Netherlands [25]. The Californian and Australian models can be looked to as examples of taking effective and cost-effective action on social norms [26-29], though not injunctive norm. Specific measures targeted at smokers of low SES would be required in the case of injunctive norm, because of the significantly different injunctive norm found in smokers in these groups. It is also important, within the Dutch context, to specifically culturally target measures at certain ethnic minority groups, such as first generation Turkish, Surinamese and Moroccan men, where smoking prevalence is much higher than in ethnic Dutch groups [30,31]. For example, consideration of the Islamic view of smoking and the positioning of tobacco company marketing in this context in Islamic countries [32] could perhaps be included when groups contain participants with Islamic backgrounds.

### **National strategy**

Though this research focussed on individual interventions, the aim was to pilot test a system, which, if successful could be implemented nationally, to assist quitting in the most deprived and to reduce inequalities [33]. However, in considering the question of national implementation, we must first consider the population context of smoking cessation. If the aim is to reduce inequalities in smoking behaviour in the Netherlands by increasing the number of successful quit attempts made by low SES smokers, then we must first acknowledge that most successful quit attempts are made unaided [34], in both the high and low SES groups [35]. Thus measures which increase the number and success of such quit attempts particularly in the low SES, such as tobacco tax/price rises [36,37] and measures which support those who are trying to quit, such as social norm changing measures [26], provide the impetus for more smokers to try to quit. A proportion of these smokers will then use evidence-based cessation measures, as long as there is adequate knowledge and availability of these measures. This has implications for our results because, it is possible that with more national strategies encouraging smokers to quit, especially in low SES groups, more participants may have enrolled for SCBT, and consequently, in our study. Though the therapy types which we evaluated had a greater effect at 12 months than the background quit rate in the general population [8], our research on recruitment and attendance suggest that without measures in place to encourage smokers to use this therapy, and to support them sufficiently during this use, it will be difficult to recruit and retain low SES smokers in SCBT programmes in the Netherlands.

Regarding this project, it was perhaps ambitious to think that it would be possible to place a smoking cessation intervention in a low SES area in the Netherlands and, without addressing the prevailing social norms and immediate affordability of pharmacotherapy, expect success with this particular target group, which is affected more by economic downturns [38] and unsupportive social norms [39], (and other factors e.g. stressful life events [40]) than other socio-economic groups. These macro-level issues cannot be changed on a local community intervention level; they require well-implemented and government supported national strategies, such

as significant tax/price increases [41,42], broad awareness [42,43] or social norm changing mass media campaigns [44], and more extensive health warnings on cigarette packs than are currently in place [45], to support individual level interventions offered in disadvantaged communities. Free assisted cessation, in whatever form it is offered (e.g. face-to-face, quitlines etc.), would complement the aforementioned national measures (by providing evidence-based assisted quitting opportunities for smokers intending to quit, many as a result of the aforementioned policies). There is thus a role for government at both national and district level to implement complementary policies, such that national smoking cessation promoting strategies could be implemented, while more districts could choose to focus resources on smoking cessation than is currently the case [46]. There might also be a role for Dutch private health insurance providers to support and encourage the provision of evidence-based smoking cessation services in disadvantaged areas, possibly through forming contracts with such providers. The Netherlands does not currently have a comprehensive national tobacco control policy, with national prevalence targets, sufficient budget and full government support, despite its ratification of the legally binding FCTC [47]. There are signs that the Dutch government's approach to tobacco control is changing [25]. However, based on the current evidence, unless smoking cessation measures are implemented at a national level and complimented at the local level, and strongly financially supported by the government as is the case in the England [48], it is unlikely to specifically reduce smoking in low SES groups in the Netherlands.

#### **Achievement of the general aim: a summary**

This thesis had a general aim to pilot test whether the English system of geographically targeting smoking cessation clinics to disadvantaged areas and also providing free treatment could be replicated with good effect in the Netherlands. This aim could not be fully realised due to the lack of reimbursement of pharmacotherapy in 2012, which meant that there was a partial financial barrier to treatment during that year. It was possible, however, to establish an evidence-based smoking cessation programme in one disadvantaged area, and to use data from other existing smoking cessation services in other disadvantaged areas, where, during two of the three years of data collection free treatment was provided. The effects of the programmes were greater than the background quit rate in the general population and participants of low SES were recruited. However, the wider context in which smoking cessation clinics operate in the England, with regard to clear government prioritisation of tobacco control, with funding of measures to address population knowledge and social norms, such as mass media campaigns [49], was not able to be replicated.

## **IMPLICATIONS**

### **For practice**

As already mentioned, the interventions studied were effective in comparison to both other studies on similar target groups and the background rate of smoking cessation in the general population (which is possibly higher than that in low SES groups alone). Thus, it is possible that if



recruitment can be greatly increased, these programmes, specifically targeted to disadvantaged areas and nationally implemented, might lead to decreased inequalities in smoking cessation in the Netherlands, in the same way that this has occurred in England [50].

Results of this thesis indicate that, even when multiple strategies are used in a small geographical area, low SES participants are mainly reached and referred to smoking cessation services through existing infrastructure, i.e. the GP. Since 2007, Dutch GPs have been recommended to give smoking cessation advice [51], however, this is not done comprehensively [52,53]. It is recommended that GP organisations ensure that GPs, and especially those working with low SES populations, are aware of all smoking cessation services in their areas and that smoking cessation services make the referral process as easy as possible for GPs and give regular feedback to the GPs on the effects of their referrals. Despite the fact that several of the interventions (rolling group and individual face-to-face) gave good 12 month self-reported quit rates, small numbers were still recruited. Thus, as previously discussed, national level measures are still required to increase the numbers of people in disadvantaged areas seeking or willing to grasp the opportunity to use evidence-based smoking cessation measures.

Findings from this thesis show that low SES smokers who attend SCBT regularly, are intrinsically motivated to do so. It is recommended that interventionists make participants' enjoyment of their interventions a priority in disadvantaged areas. Or, in other words, make the interventions fun to attend. Results from this thesis also indicate that flexibility in offering may compensate for lack of fun. It is possible that a flexible and fun offering may have the greatest effect on the attendance of participants.

Based on the results of this thesis, I would not recommend that smoking cessation services based in disadvantaged areas be rolled out throughout the Netherlands. Despite promising results indicating that participants can be reached and recruited through the GP and referred to certain interventions which have been shown to have good effect on participants in disadvantaged areas, some areas (below) require further research prior to such a move. Also, conditions supportive of success must be fostered on a national level, as previously discussed.

#### **For future research**

Results of this thesis indicate that group therapy, regardless of type, provided in a hospital setting and individual face-to-face counselling can be effective therapies for smokers attending services in or near disadvantaged areas. Group therapy, if it is being accessed by adequate numbers of smokers, is probably the most cost-effective of these therapy types [15]. It is therefore recommended that rolling group therapy, with additional measures to increase motivation to quit and to provide a supportive social norm, be researched further with regard to its cost-effectiveness in disadvantaged areas, where adequate numbers of participants are a particular challenge. Further research is also required on the effect of individual face-to-face therapy offered in a primary care or community setting in disadvantaged areas of the Netherlands. Whilst it might be tempting to consider the use of a randomised controlled trial, we would not recommend

such a study, as the aim of such research is not to assess the exact difference in effect between counselling types. The current methodology seems to be appropriate, however, we would recommend the inclusion of a larger number of disadvantaged areas and service settings, such that the effect of counselling type can be considered in various settings and in disadvantaged areas with differing characteristics (e.g. ethnic diversity),

Part 1 of this thesis provides valuable evidence from a usual community setting or “real life” on the effect, optimal method of recruitment and attendance of smoking cessation therapy in disadvantaged areas in the Netherlands. This is as opposed to the often selective conditions of randomised controlled trials which can affect external validity [54]. However, the feasibility of obtaining such evidence must be considered by researchers wishing to undertake such projects in the future. Given that the difficulty of obtaining sufficient participants has implications on the power of studies in low SES smokers, efforts to obtain sufficient data are important for the ultimate generalisability of the results. High drop-out rates also affect generalisability and can affect internal validity if the drop-out is selective. Use of medical record data from existing services in disadvantaged areas is therefore recommended. Experience from this research teaches that not all services routinely record basic data, such as SES indicators or formal nicotine dependence scores, and that follow-up after the intervention often makes use of self-reported data (chapter 3). The development of quality assurance standards including guidelines for minimum data collection and follow up of at least a sample of participants for CO-validation, as exists in the UK [55], is recommended in the Netherlands to enable services to better monitor the quality of their services and to allow researchers to research the most effective therapy types in different populations of smokers. Such research and monitoring guidelines also exist for national quitlines [56].

Part 2 of this thesis showed that the GFC disproportionately affected certain low SES groups. The effect of the GFC on smoking behaviour in the Netherlands during the study period was perhaps buffered by strong social protection policies at this time. However, it was noted that these policies were cut back and that these cuts were felt by Dutch society after the study period. There is a need for further research encompassing further years to ensure that the effects of these cuts brought to light and vulnerable groups are brought to attention, where necessary.

## **OVERALL CONCLUSIONS**

Two main conclusions arise from this thesis. Firstly, smoking cessation services in disadvantaged areas of the Netherlands are able to reach the target group, smokers of low SES, mainly through existing infrastructure (GP), with interventions which increase quit success at 1 year. However, not all methods of support are equally effective and the challenges of recruitment and attendance must be effectively addressed prior to large scale implementation. Secondly, economic recession and a less unaccepting social norm both disproportionately disadvantage some low SES smokers trying to quit. Local level interventions in disadvantaged communities may succeed in increasing smoking cessation rates in disadvantaged smokers, but only under

certain conditions. It is unlikely that large numbers of smokers from low SES groups will be assisted by the current interventions due to recruitment and retention challenges in disadvantaged areas, despite effective interventions existing. This should not be an excuse for not implementing such interventions, but rather an impetus for a different approach. These recruitment and retention issues may be addressed by policies at a national level to address macro-level factors, such as more accepting social norms toward smoking in low SES groups, which may encourage use of smoking cessation behavioural therapy in those of low SES, and also by encouraging GPs to refer patients in the target group to evidence-based smoking cessation programmes.

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