



Reach and uptake of Internet- and phone-based smoking cessation interventions: Results from a randomized controlled trial



L.S. Skov-Ettrup^a, P. Dalum^b, O. Ekholm^c, J.S. Tolstrup^{a,*}

^a Centre for Intervention Research, National Institute of Public Health, University of Southern Denmark, Oester Farimagsgade 5A, 2., 1353 Copenhagen, Denmark

^b Department of Cancer Prevention and Documentation, Danish Cancer Society, Strandboulevarden 49, 2100 Copenhagen, Denmark

^c National Institute of Public Health, University of Southern Denmark, Oester Farimagsgade 5A, 2., 1353 Copenhagen, Denmark

ARTICLE INFO

Available online 5 February 2014

Keywords:

Smoking cessation

Internet

Telephone

Randomized controlled trial

ABSTRACT

Objective. To study whether demographic and smoking-related characteristics are associated with participation (reach) in a smoking cessation trial and subsequent use (uptake) of two specific smoking interventions (Internet-based program and proactive telephone counseling).

Methods. We used data from a four-arm randomized smoking cessation trial (2011). Participants ($n = 1,809$) were recruited among 9,924 smokers who previously participated in two health surveys in Denmark (2007–2008 and 2010). Interventions were as follows: (1) an Internet-based smoking cessation program, (2) proactive telephone counseling, (3) reactive telephone counseling and (4) a self-help booklet.

Results. Reach (defined as the proportion accepting to participate in the trial of those invited) was highest among persons aged 40–59 years, women, heavy smokers and persons with long education. Among trial participants, uptake (defined as any use of the specific intervention at 1-month follow-up) was 69% for the Internet-based program, 74% and 9% for proactive and reactive telephone counseling, respectively, and 84% for the self-help booklet. Young age was associated with the uptake of the Internet-based program, and short education was associated with using proactive telephone counseling.

Conclusions. Internet-based interventions and proactive telephone counseling appeal to different age and educational groups. Further, offering similar intervention content by a proactive and a reactive approach can be associated with different intervention uptake.

© 2014 Elsevier Inc. All rights reserved.

Introduction

The public health impact of smoking cessation interventions is highly dependent on their reach. Smoking cessation programs with no face-to-face contact such as programs based on Internet and mobile phones have potential to get in touch with a large number of smokers, but the patterns of utilization may be diverse and characterized by low adherence (Eysenbach, 2005).

Reach measures the proportion of invited individuals who accepts to participate in a program (Glasgow et al., 1999). Predictors of the reach of smoking cessation programs are poorly investigated as often information about those who are not reached is unavailable. Few studies have compared participants and non-participants in smoking cessation programs using data from population-based samples. These have indicated that both socio-demographic factors smoking-related characteristics influence program reach (Mak et al., 2006; Tzelepis et al., 2013; Velicer et al., 2005).

Once smokers are aware of a program, they choose whether they will use it, and if so, how much. This process of uptake can be understood using diffusion of innovations theory. This theory suggests that the complexity and perceived advantage of a program, the program's compatibility with the audience and the required commitment of the user are essential determinants of the speed and extent of diffusion (Green et al., 2009). Accordingly, the uptake process may differ for different formats of smoking cessation support. In Internet-based programs, it is a frequent observation that many will stop using it after trying it a few times, sometimes referred to as the law of attrition (Eysenbach, 2005). Dropout is also common in telephone-based interventions involving multiple sessions of counseling (Burns et al., 2012). Understanding these patterns of uptake of interventions is important when considering the effectiveness of a program and ways to facilitate more engagement.

The objective of this study was to investigate the reach of smoking cessation programs with no face-to-face contact in a large population of smokers in Denmark. Reach was studied as participation in a smoking cessation trial. Among participants in the trial, we further aimed to study demographic and smoking-related determinants of intervention uptake for an Internet-based smoking cessation program and proactive telephone counseling.

* Corresponding author at: Centre for Intervention Research, National Institute of Public Health, University of Southern Denmark, Oester Farimagsgade 5A, 2nd floor, 1353 Copenhagen, Denmark.

E-mail address: jst@niph.dk (J.S. Tolstrup).

Methods

Design and participants

The study is based on data from a smoking cessation trial conducted in Denmark in 2011. We invited 9,924 persons who had reported they were daily smokers in the Danish Health Examination Survey (DANHES) (2007–2008) or in the Danish Health and Morbidity Survey (DHMS) (2010) (the national subsample in the Danish National Health Survey) to participate in the trial (Fig. 1). The surveys are described in detail elsewhere (Christensen et al., 2012; Eriksen et al., 2011). Invitees from DANHES were first invited by e-mail. If we got an autoreply indicating that the e-mail was inactive, we sent the invitation by letter. All invitees from the DHMS were invited by letter. We obtained updated information on addresses from the civil registration system. In total, 1,809 agreed to participate and were eligible for the trial. Trial participants were randomly allocated to four interventions. In order to assure equal sizes of groups, participants were sorted by exact date and time of enrolment and numbers 1, 2, 3 or 4 were allocated intermittently to each participant.

Interventions

Internet-based intervention

The Internet-based smoking cessation program was developed by the Danish Cancer Society. The program development was inspired by Self-Regulation Theory (Clark and Zimmerman, 1990), the Trans Theoretical Model (Prochaska et al., 1992), Social Cognitive Theory (Bandura, 1986) and Appreciative Inquiry (Moore and Charvat, 2007). The modes of delivery include a website, e-mails and mobile phone text messages. The content of the website was tailored according to quit date, meaning that different website components became available gradually (Bock et al., 2004).

Proactive telephone counseling

The proactive telephone counseling was delivered by the Danish national quit line service. The participants in this group were contacted by the quit line and were offered five proactive counseling sessions. The structure of the sessions was inspired by the Trans Theoretical Model of behavior change (Prochaska et al., 1997), and the counselors were trained in motivational interviewing techniques (Miller and Rose, 2009).

Reactive telephone counseling

The reactive counseling was also delivered by the Danish national quit line service. The participants were encouraged to contact the quit line themselves, and the intervention content is thus, in principle, similar to the standard quit line service.

Self-help booklet

This group received a self-help booklet developed by the Danish National Board of Health. It gives practical advice on how to identify difficult situations and to develop coping strategies at specific stages in the smoking cessation process.

Measurement

Information about the smokers invited for the trial

From the Civil Registration System, we obtained information about age and gender. From the DANHES Survey (2007–2008) and the National Health and Morbidity Survey (2010), we included information about education and amount of smoking.

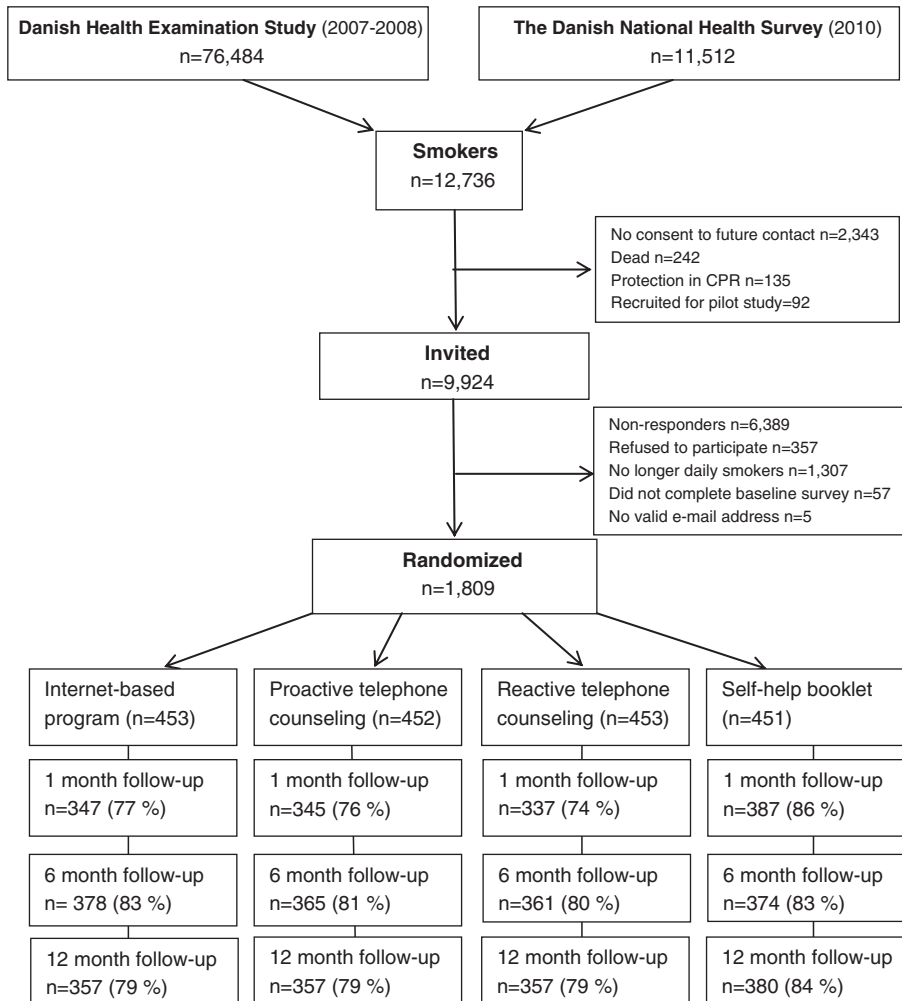


Fig. 1. Flow chart for the smoking cessation trial (Denmark 2011).

Download English Version:

<https://daneshyari.com/en/article/6047248>

Download Persian Version:

<https://daneshyari.com/article/6047248>

[Daneshyari.com](https://daneshyari.com)