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Encouraging GPs to undertake screening and a brief intervention in order to reduce problem drinking: a randomized controlled trial

Lars Jørgen Hansen, Niels de Fine Olivarius, Anders Beich and Sverre Barfod

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Background. GPs are in a key position to screen the population for problem drinking. However, so far this has not been extensively undertaken in general practice. Thus, studies relating to encouraging the undertaking in general practice of screening and initiating a brief intervention for problem drinking are needed.

Objectives. We aimed to compare three approaches direct mail, telephone contact and academic detailing to encourage GPs to undertake screening and a brief intervention (SBI) for problem drinking.

Methods. A total of 143 GPs in Copenhagen County were randomly assigned to the three approaches. The outcome measures were the proportion of GPs who requested the SBI package (uptake rate) and the fraction of GPs who started using the package (utilization rate). The costs of each approach were calculated.

Results. Compared with the direct mailing approach, uptake rates were significantly higher among GPs approached by telephone (30 versus 72%; $P = 0.0001$) and in the academic detailing approach (30 versus 67%; $P = 0.0006$). There was no significant difference between telephone contact and academic detailing (72 versus 67%; $P = 0.75$). There was a higher utilization rate in the academic detailing approach than in telephone contact (61 versus 31%; $P = 0.023$). There was no significant difference between direct mail and telephone contact (57 versus 31%; $P = 0.16$) or between direct mail and academic detailing (57 versus 61%; $P = 0.95$). The respective costs of the telephone and academic detailing approaches were 10 and 16 times that of the direct mailing approach.

Conclusion. Telephone contact and academic detailing are more effective than direct mail in encouraging GPs to request an SBI package, but GPs who were approached by academic detailing were more likely to have utilized the package than GPs who were approached by telephone. The relatively high uptake and utilization rates obtained in the academic detailing approach suggest that this approach is to be preferred in encouraging a rapid uptake of SBI among GPs. However, the high costs associated with this approach need to be taken into consideration.

Keywords. Alcohol drinking, family practice, marketing of health services, preventive medicine, randomized controlled trials.

Introduction

GPs hold a key position for identifying problem drinkers at an early stage, before the health and social consequences of drinking become pronounced.[2–4] (The term 'problem drinkers' is used for patients whose drinking is likely to result in harmful consequences should their present drinking habits persist (Hazardous alcohol

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Central Research Unit of General Practice, Panum Institute and Department of General Practice, University of Copenhagen, Panum Institute, Copenhagen, Denmark. Correspondence to Lars J Hansen, Central Research Unit of General Practice, Panum Institute, Blegdamsvej 3, DK-2200 Copenhagen N, Denmark.

consumption[1]), and for those whose drinking is causing some harm to mental health or physical well-being, but who are not alcohol-dependent (Harmful alcohol consumption[1])). In Denmark, most adults (70% of adult men and 90% of adult women) visit their GP at least once a year,[5] and people with alcohol-related problems use health care services even more frequently than the general population.[6] There is a practical screening instrument that can help the GP to identify problem drinkers,[7,8] and brief interventions, delivered by the GP to those who screen positive, have been shown to reduce alcohol consumption and the proportion of problem drinkers.[9,10] The importance of screening for problem drinking is underlined by results from studies indicating that only a few patients with a relatively high alcohol consumption or alcohol-related problems are identified by their GP.[11–13]

In Denmark and other countries, screening for and initiating a brief intervention (SBI) to reduce problem drinking have not so far been extensively undertaken in general practice.[14] Therefore, an important area of research is the study of methods to encourage the undertaking of an SBI package in general practice.

Reviews on changing practice performance suggest different ways of disseminating SBI in general practice.[15,16] Traditional passive methods of dissemination of new knowledge to GPs such as mailing of guidelines[17] have only a limited effect, but dissemination requiring face-to-face contact with the GP, such as academic detailing,[18] has been successful in improving drug-therapy decisions[19] and cancer prevention practices.[20] Only a few studies have examined ways to disseminate lifestyle interventions in general practice and the majority of these have dealt with smoking.[14] Cockburn *et al.* compared three approaches for disseminating a smoking cessation kit to GPs and found that the academic detailor was rated more motivating by physicians than delivery either by post or by a volunteer courier.[21] In two studies from Australia and the UK, ways of encouraging GPs to incorporate SBI for problem drinking into practice have been investigated.[22,23] Both studies found that telephone contact with the GP and academic detailing were more effective than direct mail in encouraging GPs to take up SBI. However, there was no difference between telephone contact and academic detailing.

Based on experience from the above studies, we decided to conduct a randomized controlled trial comparing direct mail, telephone contact and academic detailing as methods to encourage Danish GPs to take up an SBI package for problem drinking. The major comparisons of interest were academic detailing versus telephone approach, telephone approach versus direct mail and telephone contact versus academic detailing.

Methods

Setting

This randomized controlled trial was conducted in the County of Copenhagen, located within a 26-km radius of the Central Research Unit of General Practice in Copenhagen, from 1 May to 1 September 1997.

Randomization

A list with the name, year of birth, address, sex and practice type (number of partners) of the 386 GPs in all of the 285 practices in the county was obtained from the Danish Medical Association. GPs were listed according to the following priorities: (1) practice type, (2) address of the practice and (3) age of the GP. Thus if GPs were in the same group practice, they were listed next to each other and ranked according to decreasing age of the GP as number one, two, three, etc.

From this list a sample of GPs was selected that included one GP per practice from half of the practices in the county. To be sure that the sample of GPs was comparable to the GPs in the whole county with respect to practice type, address of the practice and age of the GP, this was done in the following way: first of all half of the practices in the county were selected by choosing the practices that were listed as the first, the third, the fifth, etc. Among the selected practices, all the GPs in single-handed practices were chosen for the sample. Among the group practices, only one GP per practice was chosen. In practices with two partners this was done by choosing the GP, who was ranked as number one (the oldest GP) in the first selected group practice, and by choosing the GP who was ranked as number two (the youngest) in the next selected group practice. In the third selected group practice, the GP ranked as number one was chosen and so on. In practices with three partners, we did the same as above until the third group practice was selected. Here the GP ranked as number three was chosen, and then in the fourth selected group practice the GP ranked as number one was taken and so on.

A total of 143 GPs were selected for the sample, and, using random numbers,[24] 47 were randomly assigned to contact by direct mail, 50 to telephone contact and 46 to academic detailing. No GPs were excluded. Background characteristics of the GPs are summarized in Table 1. No differences were observed regarding sex, practice type and age across groups of GPs approached by direct mail, telephone or academic detailing.

Questionnaire

If a GP requested the SBI package, the use of the package and major barriers to using it were assessed by a questionnaire mailed to the GP after he had had the opportunity to use the package for 1 month. If necessary, a reminder letter was sent and two follow-up phone calls were made in order to improve the return rate of

TABLE 1 *Background characteristics of the GPs*

	Method through which the GPs were approached		
	Direct mail ($n = 47$) GPs	Telephone ($n = 50$) GPs	Academic detailing ($n = 46$) GPs
Male sex, % of GPs	80	68	63
Single-handed practice, % of GPs	71	79	82
Mean (s.d.) age, years	51 (7)	51 (7)	50 (6)

the questionnaires. Of the 81 GPs who requested the package, 43 (53%) returned the GP-questionnaire. The remaining 38 GPs were interviewed by telephone.

GPs who did not ask for the SBI package received a questionnaire by mail, and they were asked to state briefly why they were unwilling to request the package. The questionnaire was returned by 38 out of 62 GPs (61%) who did not request the SBI package. The remaining 24 GPs were interviewed by telephone.

The SBI package

The Alcohol Use Disorders Identification Test (AUDIT) is a ten-item questionnaire covering alcohol consumption, binge drinking, problems and harmful consequences related to excessive alcohol use and early signs of alcohol dependence.[7,8] Each answer is given a score from 0–4 points and a total score of eight or more is taken to indicate a positive case. The SBI package recommends that all adult patients attending the practice are asked by the receptionist to complete the AUDIT in the waiting room prior to the consultation. It takes the patient only a few minutes to complete the AUDIT. During the consultation, the GP determines the score using a scoring template. Those who score above the cut-off point of 8 are asked some supplementary questions. They are then offered around 5 minutes of advice by the GP using an advice handycard. One side of the handycard covers the health effects of different levels of alcohol consumption, the drinking practices of the population and the expected benefits of lowering alcohol consumption. The reverse side of the handycard carries an action plan for reducing drinking, including goal setting, alternative behaviour to drinking and advice on how to maintain safe levels of drinking. Finally problem drinkers are provided with a self-help booklet designed to reinforce the intervention provided by their GP. The first section of the booklet discusses the health effects of alcohol. The second section presents a "six-step plan" for modifying drinking habits. For the small proportion of patients with an AUDIT-score of more than 12 and evidence of alcohol dependence, further treatment should be initiated.

Modes of dissemination

In all the different methods of approaching the GP the scientific basis of the AUDIT questionnaire and the brief interventions was underlined. The importance and effectiveness of GP participation in the prevention of alcohol-related problems were stressed, and the GP was encouraged to give an AUDIT questionnaire to all adult patients attending the practice. It was argued that by doing this, the GP could become aware of patients previously not expected to be problem drinkers. At the same time he would soon show marked improvement in his ability to counsel them. Thus, by using the SBI package, the GP could contribute to strengthening the role of general practice in the prevention of alcohol-related problems.

GPs were not given any credit points or reimbursed for handing out AUDIT questionnaires, but the package was provided free of charge. We tried to minimize the extra workload on the GP by facilitating the use of the SBI package. For example, a step-by-step guide on how to use the package was given to the GP.

The consultant was a doctor who had just finished his training to become a GP, and he made all the calls in the telephone approach and all the visits in the academic detailing approach. The first author of this article was the consultant, he was trained by using role play and had a script for both the phone calls and the visits. The script also contained answers to the most likely questions, to be asked of the GP. The content of the mailings and the scripts was standardized to ensure consistency across the direct mailing, telephone and academic detailing approach.

For ethical reasons, the GPs were briefly told that we were also evaluating the effectiveness of different methods of dissemination.

Direct mail

GPs assigned to the direct mail approach received a mailed promotional brochure and a personalized introductory letter. The mailings were sent in envelopes from the Central Research Unit of General Practice in Copenhagen. GPs could request the SBI package by returning a post-paid mail card or by sending a fax. Those who did not respond within 3 months were considered as not interested in receiving the package.

Telephone approach

The consultant telephoned the practice, presented himself as a GP calling from the Central Research Unit of General Practice and asked to speak to the GP, when it was convenient. If the GP was unavailable at the time, the consultant called back at a more convenient time or left a message with the receptionist for the GP to return the call. When contact was established, the GP was asked if he was interested in receiving the SBI package.

Academic detailing

Before the visit, the consultant telephoned the practice and requested an appointment with the GP. The

consultant only briefly mentioned the subject he wished to discuss with the doctor. This was to minimize the possibility of adopting a telephone approach or having access refused. The consultant visited the practice, and once contact with the GP was established, a standard script (similar to the script used in the telephone approach) was followed.

Outcome measures

In the theories of diffusion of innovations[25] it is recognized that an individual's decision about an innovation like SBI is a process that occurs over time. Over this period an individual passes from a stage of first knowledge of the innovation to forming an attitude towards the innovation, to a decision to adopt or reject, to implementation of the new idea, and to confirmation of this decision. The focus of this study was on the first three stages of this innovation–decision process, and therefore the main outcome measure was the uptake rate: the number of GPs who asked for the SBI package relative to the number of GPs whom the consultant made an attempt to contact, expressed as a percentage. Additionally we calculated the utilization rate as the number of GPs who reported that they had handed at least one patient an AUDIT questionnaire, expressed as a percentage of the number of GPs who asked for the SBI package.

It is noted that the utilization rate is only a minimal measure of the GP's utilization of SBI, and it does not give information about to which extent SBI was used by the GPs. Furthermore, the utilization rates are based on the GP's self reports, and are subject to the limitations of such information, including possible self-assessment bias.

Statistics

The data were analysed using the chi-square test for categorical variables and Wilcoxon tests for continuous variables. We calculated means for the use of time by the consultant when calling and visiting GPs. The study was designed to detect a 30% difference in uptake rate between the three approaches two by two, with a risk of a type I error of 5% and a type II error of 20%.

Ethical approval

The study was recommended by the Committee for Multicentre Studies of the Danish College of General Practitioners and accepted by the Health Insurance Department of the County Council of Copenhagen.

Results

Uptake and the use of the SBI package

The SBI package was requested by 14 of the 47 GPs contacted by direct mail (Table 2). Telephone calls were made to 50 practices in the telephone approach, one GP did not answer the telephone and 36 GPs asked for the package. In the academic detailing approach, 8 of the 46 practices refused a visit when the consultant telephoned the practice to make an appointment, and 31 GPs requested the package.

TABLE 2 *Uptake and utilization of the screening and brief intervention package in three approaches*

	Method through which the GPs were approached		
	Direct mail	Telephone	Academic detailing
Number of GPs who the consultant made an attempt to contact	47	50	46
Number of GPs who asked for SBI[a]	14	36	31
Number of GPs who gave at least one patient an AUDIT[b]	8	11	19

[a] SBI = The screening and brief intervention package.
[b] AUDIT = The Alcohol Use Disorders Identification Test.

Telephone contact and academic detailing yielded statistically significantly higher uptake rates than the direct mailing approach (Fig. 1). No difference was observed between telephone contact and academic detailing.

A total of 58 out of the 62 GPs who did not ask for the SBI package stated the major reason for not requesting the package. Lack of time was the main reason reported by 24 GPs (41%). A further 7 GPs (12%) originally approached by direct mail stated that they could not remember having seen the letter or the brochure. Six GPs (10%) reported that they were hesitant to introduce health promotion into a consultation scheduled for another purpose, or that they did not want the receptionist to hand out AUDIT questionnaires before they had had the chance to inform the patients personally about it. Five GPs (9%) indicated that they did not want to ask the patients about such a sensitive topic. Other reasons given by the remaining 16 GPs (28%) were lack of confidence in helping patients with alcohol problems, lack of reimbursement for the time spent screening patients and the GP's own plans for retiring.

Utilization rate was higher in the academic detailing approach than in telephone contact (Fig. 1). There was no difference in utilization rate between direct mail and telephone contact or between direct mail and academic detailing.

The SBI package was requested by a total of 81 GPs. However, after they had had the possibility of using the SBI package for a month, 43 GPs said that they had never given any AUDIT questionnaires to their patients. The most important reason given for this was reported by 39 GPs; lack of time was stated by 26 GPs (67%), and a further 4 GPs (10%) answered that they had no

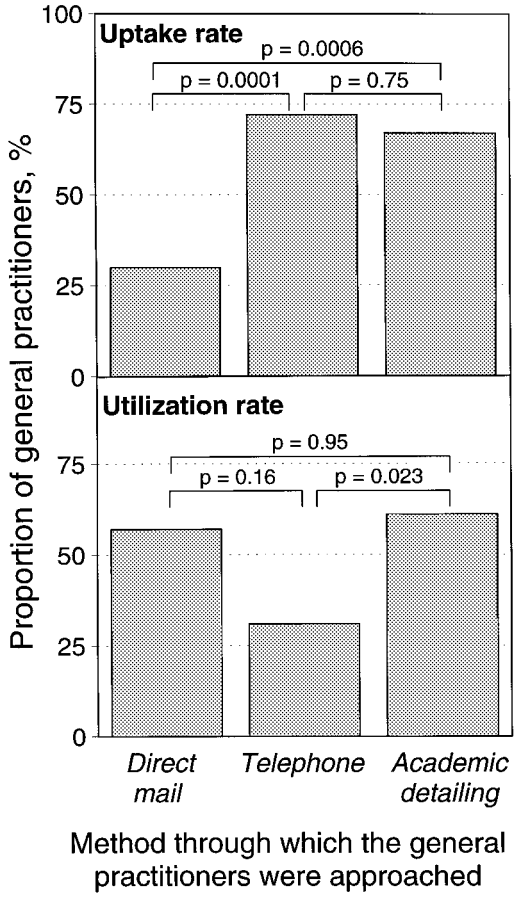

FIGURE 1 *Uptake and utilization rates in relation to the method through which the GPs were approached*

receptionist to hand out the AUDIT questionnaires to patients. Other major reasons given by 9 GPs (23%) were that the GP did not want to hand out AUDIT questionnaires to the patients, that the GP did not want to ask the patients about such a sensitive topic or that the GP had fallen ill.

Costs of the approaches to the GPs

The consultant used a template for the personalized introductory letter in the direct mailing approach, which made it possible to prepare the mailings to the GPs in 1 day. In total, 21 days were used by the consultant to make the phone calls in the telephone approach. The consultant made approximately five telephone calls to make contact with the GP, and when contact was established the telephone calls lasted approximately 7 minutes. In the academic detailing approach, approximately five telephone calls to the practice were necessary to make an appointment with the GP. The conversations with the GP and/or the receptionist lasted approximately 5 minutes. When visiting the GP the consultant had to wait approximately 6 minutes to see the GP, and each visit lasted approximately 15 minutes. The consultant did approximately three visits a day. The consultant spent 28 days in all on this approach.

The direct mailing approach costs amounted to 59 Danish kroner (DKK) per GP compared with 603 DKK for the telephone approach, and 919 DKK for the academic detailing approach (100 DKK ≈ £8.70) (Table 3). The costs of the telephone and academic detailing approaches were 10 and 16 times higher than those of the direct mailing approach.

Discussion

Both telephone contact and academic detailing were statistically significantly more effective than direct mail in encouraging GPs to take up the SBI package for problem drinking. However, many GPs who requested the SBI package never used it. This was most pronounced in the telephone approach where there was a lower utilization rate than in the approach by direct mail or academic detailing. These results must be viewed against the background of a successful randomization.

A possible explanation for the different uptake and utilization rates obtained in the different approaches to the GPs may be found in theories on diffusion of innovations.[25] According to these theories, individuals can be classified into different adopter categories on the basis of when they first begin using a new idea. Innovators and early adopters take up new ideas faster than other members of a social system and may be activated by passive education strategies like letters and publications. However, the majority are much more easily influenced by interpersonal channels of information, which involve face-to-face exchange of information between individuals, especially if these interpersonal channels link individuals similar in education or in other important aspects.[25] In our study, face-to-face contact between GPs and the

TABLE 3 *Costs of the direct mailing, telephone and academic detailing approach (Danish kroner)*

	Method through which the GPs were approached		
	Direct mail	Telephone	Academic detailing
Salaries	1426	29 946	39 928
Postage articles	940		
Postage	410		
Phone		180	96
Travel			2232
Total	2776	30 126	42 256
Costs per GP	59	603	919
Cost relative to mail	1	10.2×	15.6×

Costs exclude research costs.

consultant, who was also a GP, was obtained in the academic detailing approach, and this fact is likely to explain the high uptake and utilization rate obtained in this approach. Telephone contact to GPs might be a more personal way to contact the GPs than direct mail, even though telephone contact to the GPs does not involve face-to-face contact. It is likely that this explains the higher uptake rate in the telephone approach than in the direct mailing approach. It is, however, surprising that we did not obtain a higher uptake rate in the academic detailing approach than in the telephone approach. It is after all likely that the academic detailing approach involves a more personal contact than the telephone approach. A possible explanation could be that a telephone contact is a disturbing event in a GP's daily work. The GPs, therefore, might wish to bring to an end the telephone conversation by requesting the SBI package, rather than being genuinely interested in using SBI. This assumption is supported by the finding of a relatively low utilization rate in the telephone approach.

Lack of time was stated by the majority of GPs as a major reason why some who were approached would not try the SBI package and why some who requested the SBI package never used it. Given the very high workload in general practice, it is not surprising that many GPs in this study did not have time to screen their patients for problem drinking. From other studies we are aware of barriers to the prevention and treatment of alcohol-related problems in general practice; they seem to be both practical and attitudinal in nature and stem from GPs, patients and the primary health care system itself.[26–28] Thus, there seems to be room for further improvement in the uptake and utilization of SBI by the GPs observed in our study if some of these barriers are to be removed.

The costs of the telephone and academic detailing approaches were 10 and 16 times that of the direct mailing approach. The main explanation for the differences in costs is the salary to the consultant, as more time was used by him in the academic detailing approach compared with the telephone and direct mailing approaches. The direct mailing approach was the least time-consuming.

A limitation of this study is that we did not obtain objective measures concerning to what extent SBI was used by the GPs on a long-term basis. Nor do we know if the participating GPs changed drinking habits in the population of the county as a whole. We did not include these measures, as the focus of the study was on the first stages of the innovation-decision process. Future studies will address the later stages.

In conclusion, our study showed that relatively high uptake and utilization rates are obtained in the academic detailing approach, suggesting that this approach is to be preferred in encouraging a rapid uptake of SBI among GPs. However, academic detailing is associated with the highest costs. Thus the added benefit in terms of relatively more GPs who would continue to use SBI in the academic detailing approach would have to be high to justify this expense. When budgets are limited it may be more cost-effective to use the direct mailing approach as part of a long-term change in clinical practice to create awareness-knowledge about SBI among GPs and encouraging innovators and early adopters to undertake SBI. Following this, according to theories of diffusion of innovations, it is likely that the use of SBI will spread to other GPs in the community by person-to-person contact. Studies are needed to confirm this hypothesis.

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