A QUALITATIVE PERSPECTIVE ON MULTIPLE HEALTH BEHAVIOUR CHANGE: VIEWS OF SMOKING CESSATION ADVISORS WHO PROMOTE PHYSICAL ACTIVITY

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A qualitative perspective on multiple health behaviour change: Views of smoking cessation advisors who promote physical activity

Abstract

There are mixed views on whether smoking cessation advisors should focus only on quitting smoking or also promote simultaneous health behaviour changes (e.g. diet, physical activity), but no studies have qualitatively examined the views and vicarious experiences of such health professionals. Semi-structured interviews were conducted with 11 trained smoking cessation advisors who promote physical activity to their clients. The data were categorised into themes using thematic analysis supported by qualitative data analysis software. We report themes that were related to why advisors promote multiple health behaviour change and issues in timing. Physical activity could be promoted as a cessation aid and also as part of a holistic lifestyle change consistent with a non-smoker identity, thereby increasing feelings of control and addressing fear of weight gain. Multiple changes were promoted pre-quit, simultaneously and post-quit, and advisors asserted that it is important to focus on the needs and capabilities of individual clients when deciding how to time multiple changes. Also, suggesting that PA was a useful and easily performed cessation aid rather than a new behaviour (i.e. structured exercise that may seem irrelevant) may help some clients to avoid a sense of overload.

1. Introduction

People who stop smoking gain, on average, over 7kg in weight gain (with over 10% gaining more than 13kg) in the long term (Filozof, Fernández Pinilla & Fernández-Cruz, 2004; Parsons, Shraim, Inglis, Aveyard & Hajek, 2009). Most of this weight gain occurs between the end of treatment (4-6 weeks after quitting) and a 6 month follow-up (Parsons et al., 2009; Varner, 1999). Weight gain following smoking cessation is not only undesirable to people who want to quit, but is also a major cause of relapse in quit attempts. In one of the largest studies to examine weight gain, just prior to quitting, 52% of participants feared gaining weight, 84% reported being unwilling to accept a gain of more than 5 kg in body weight, and 28% were not prepared to accept any weight gain (Tønnesen et al., 1999). Concern about weight gain during or after smoking cessation is strongly associated with relapse to smoking (Klesges, Meyers, Klesges, & La Vasque, 1989).

There are mixed views on whether smoking cessation advisors should focus only on quitting smoking or also promote simultaneous health behaviour changes (e.g. diet, physical activity [PA]). For example, increasing PA may lead to a stronger interest in quitting smoking (deRuiter, Faulkner, Cairney, & Veldhuizen, 2008; Haddock et al., 2000) and possibly greater success in quitting (Ussher, Taylor & Faulkner, 2008). PA may be a useful distraction but if implementation is complex and goal oriented it may lead to cognitive overload and failure among quitters. As McEwen, Hajek, McRobbie and West (2006) suggest, it may be best to initiate other behaviours such as PA after a period of successful abstinence. On the other hand Marcus, Hampl and Fisher (2004) advocate a need to prevent weight gain after smoking cessation through simultaneously changing multiple health behaviours that may reinforce each other. Empirically, Johnson et al. (2008) reported that individuals progressing to action/maintenance stage (of the Transtheoretical Model) for a single behavior were 2.5-5 times more like to progress (a stage) on another behaviour.

There is growing interest in PA as an aid for smoking cessation and some evidence for its effectiveness (Ussher et al., 2008), and a national survey of 170 smoking cessation advisors revealed that 56% of advisors promote PA as a strategy to help smokers quit (Everson, Taylor & Ussher, 2010). Also, a survey of 181 smokers who were making a quit attempt, with behavioural support, revealed

that 22% were using PA as an aid to quitting and 35% had previously done so (Everson-Hock, Taylor & Ussher, in press). However, little is known about how smoking cessation advisors tackle the promotion of multiple health behaviour changes based on personal and vicarious experiences, and how PA is promoted in practice.

A systematic review of 13 randomised controlled trials to examine the effects of PA on smoking cessation (Ussher et al., 2008), involved PA interventions that began up to 4 weeks before smokers quit (e.g. Kinnunen et al., 2008), at the same time as quitting (e.g. Martin et al., 1997) and after quitting (e.g. Russell, Epstein, Johnston, Block & Blair, 1988). Indeed a recent study also showed that a physical activity intervention involving use of a pedometer at 12 and 20 weeks post-quitting increased cessation rates (Prochaska et al., 2008). It is not clear how these variations impacted on the outcomes since there was considerable heterogeneity in the research methods across the studies. However, many smokers do not plan to quit up to four weeks prior to quitting and may not be interested in starting a PA programme at that time. Most of the seven studies in which PA began prior to quitting started just a week before quitting (e.g. Ussher, West, McEwen, Taylor & Steptoe, 2003; 2007). Most of the studies involved group-based supervised PA sessions, with lifestyle PA interventions (which had the potential to reduce the magnitude of any multiple behaviour change) in only a few studies. In order to design effective interventions it would be valuable to understand advisor perspectives on inherent implementation issues associated with promoting PA and dietary change to smokers wishing to quit.

The aim of the present study was to gain information on issues surrounding the implementation of multiple health behaviour changes in smoking cessation clinics. Our specific research questions were: what are the advantages of integrating physical activity into smoking cessation counselling practice, and how is such integration implemented?

2. Methods

2.1 Participants

Three male and eight female trained smoking cessation advisors were recruited. A purposive sampling strategy was used, targeting advisors active in promoting PA in their clinics. Seven participants were

recruited via pre-existing contacts at each of three smoking cessation services; two through a questionnaire at one service; and two through a recommendation from an interviewee at the final service. Ten advisors were in posts dedicated to smoking cessation support ('specialist advisors'), delivering group support, and one was a practice nurse, delivering cessation support on a one-to-one basis. Participants' characteristics are displayed in Table 1.

Insert Table 1 here

2.2 Data Collection

Semi-structured interviews began with questions about the general context in which the advisors operated and then how they promoted PA. This was followed with prompts to explore more detailed issues around promoting PA and multiple behaviour change, including examples of practice perceived by the advisors to be more and less effective, how they perceive PA to help people attempting to quit smoking, and how their clients responded to PA promotion in their clinics. Participants were interviewed individually for between 30 and 60 minutes. All interviews were audio taped and transcribed verbatim. Participants are referred to by pseudonym to preserve anonymity. The study was approved by the local research ethics committee and all participants gave written consent.

2.3 Data Analysis

The data were categorised into themes using thematic analysis, a method for organising and describing qualitative data in detail through identifying, analysing and reporting patterns in the data (Braun & Clarke, 2006). Thematic analysis was supported by qualitative data analysis software, QSR NVivo 7. Due to the specific nature of the research question, we approached the thematic analysis from an essentialist position (assuming that meaning and experience is articulated through language; Potter & Wetherell, 1987) and correspondingly we identified themes at the semantic or explicit level (Boyatzis, 1998).

The process of analysis was inductive and iterative. In the interview transcripts, lines, sentences, phrases and clauses were assigned a code, remaining close to participants' words. Similar codes were ordered into sub-themes, and codes and sub-themes were then ordered hierarchically with the support of NVivo into node trees, with parent and child nodes consisting of both codes and sub-themes.

Extracts were checked for consistency within each code/sub-theme. Conceptually similar sub-theme were organised into overarching themes with an awareness of the topic areas. Although an inductive approach was taken, it should be noted that such analysis nevertheless takes place in the context of researchers' prior experience and knowledge. The process of data collection and analysis was undertaken through the lens of our background in PA and smoking cessation research and beliefs in the value of PA. Data analysis was primarily conducted by the first author with team meetings to discuss emergent themes. We refined the organisation of emergent codes, categories and themes throughout the process, remaining close to the original interview transcriptions (Michie, Hendy, Smith & Adshead, 2004). Finally, we derived a broad concept-map (see Figure 1).

Insert Figure 1 here

3. Results

We identified two key themes related to implementing physical activity into smoking cessation practice: 'benefits of multiple health behaviour change' and 'issues of timing' (see Figure 1).

3.1 Benefits of multiple health behaviour change

Advisors perceived benefits for their clients of multiple health behaviour change in the following five areas:

Feeling in control

Several advisors suggested that physical activity gave clients an opportunity to self-regulate cravings and withdrawal symptoms and thus feel in control while quitting. For example, Jean noted that a 10-minute walk had helped a few of her clients to gain control of their cravings. Advisors also felt that increasing PA might also give clients more confidence for, and hence control over quitting smoking. Another advisor suggested that clients would often talk about their awareness of the need to change several sometimes interlinked behaviours, to gain greater control over their health:

> If you're going to make one healthy behaviour why not incorporate it, feel you're getting more control over your life and obviously get your strategies in. (Luke)

Lifestyle change

Some advisors saw their clinics as an opportunity for clients to discuss how health behaviours were linked, and to consider the opportunity for adopting a healthy lifestyle more broadly that inherently included moving towards a more health-conscious identity. Notably, some clients would come to clinics prepared to take on new behaviours. Marie portrayed the general image of a "life-changing process" when quitting. For example, sometimes clients would report cutting down on caffeine and doing more lifestyle PA, such as walking the dog or walking to work while trying to quit. Several advisors noted the opportunity, in group discussions, to encourage clients to adopt a more holistic set of lifestyle changes, consistent with and complimentary to not smoking. Holistic lifestyle change was also regarded as an important way to tackle weight gain barriers in clients:

> A lot of people see it as a change of lifestyle, which I think is always good and it's a good sign that they're going to be successful in stopping smoking, because they're really wanting to change things and you know do it as a package really. (Danielle)

> It will make them feel healthier in addition to the health benefits they're going to get from stopping, it will stop them going back again, it's changing their lifestyle as a whole, so they're not going to miss smoking, they're not going to miss that lifestyle of when they used to have the fags, because they're going to have a whole new lifestyle where they're active and they enjoy exercising. (Simon)

Impact on health outcomes

Another belief held by the advisors was that changing multiple health behaviours could have a greater impact on health outcomes (including psychological well-being) than simply stopping smoking. Advisors suggested that clinic discussions routinely centred on physiological benefits of quitting (e.g. breathing, energy levels) and believed there was an opportunity for enhancing this through PA. Advisors also believed improvements in mood and stress levels could result from increasing PA and healthy eating while quitting:

> Well, yeah, long-term benefits obviously is once they're quitting smoking and doing all the exercise and eating healthy it's, long-term, it's reducing the stress-related illnesses, it's reducing cancer, diseases, strokes, all things like that. (Marie)

Preventing relapse through weight gain

Preventing smoking relapse due to weight gain was an important challenge for advisors, especially among female clients, and dominated the discussion on support for promoting multiple health

behaviour change. The sub-categories were ‘diet and smoking cessation’ and ‘client perception or fear of weight gain’ (see Figure 1).

Diet and smoking cessation

Although the interviews focused on PA, the advisors talked about eating behaviours in detail. Two further sub-categories identified were ‘advice given’ and ‘client behaviour’, which were sometimes complimentary and sometimes conflicting. There was also some conflict among advisors’ recommendations.

In terms of *advice given*, advisors apparently had a well-rehearsed range of strategies, including advice to replace snacking with PA, replace smoking with snacking (as a distraction, reward, and/or to reduce cigarette cravings) and also conversely not to replace smoking with snacking. They also advised clients to replace smoking with healthier eating habits (e.g. fruit and vegetables), and one advisor (Sophie) advised against “going on an actual diet”, advocating PA as an alternative, with direct calorie comparisons to compensate for a slowing metabolism:

> People quite like to know that whatever they’re doing even if they are eating the same, they’ve still got this extra 200 calories a day because their metabolism’s dropped that much when they’ve quit smoking. And that’s quite nice because if you can see that figure then they can talk about ways of dealing with those extra 200 calories and so that’s where diet and exercise comes in (Sophie).

In terms of *client behaviour*, advisors commonly reported that snacking increased immediately after quitting, and attributed this to increased appetite, ability to taste food, the “comfort factor” of food, and behavioural mechanisms such as cue reinforcement:

> …instead of getting… the trigger, then an urge to smoke, and then smoking, which then reinforces the trigger, they’re getting the trigger, which is like putting the kettle on or you know whatever it is, then an urge to smoke, and then eating, which then reinforces the trigger again, so there’s this feedback mechanism, and they don’t realise that that’s actually what they’re doing (Jean).

One advisor also suggested that some clients use smoking cessation as an excuse for putting on weight and attempted to encourage clients to take responsibility for their weight through changing their PA and eating.

Client fear of weight gain

Client fear about weight gain founded on past and vicarious experience was common in advisors' dialogue. The advisors perceived such fear to be as much of a barrier to quitting as actual weight gain, or more so, and saw advice to change diet and PA as one way to address such fear.

3.2 Issues in timing

A primary concern of advisors was the timing of multiple health behaviour change, whether directly promoted or engaged in independently by clients. Advisors perceived four ways of timing multiple changes: 'pre-quit client preparation', 'simultaneous changes', 'stopping smoking first' and 'tailoring to the individual'.

Pre-quit client preparation

The advisors suggested that occasionally clients would attempt to combat anticipated weight gain by commencing a diet or regular PA pattern before quitting smoking, which was generally perceived positively:

> I'm thinking about a lady that I've just finished working with in a group and she was quite a big gym goer for about four months before she quit because she wanted to build up her fitness and she wanted to lose a bit of weight before she quit, so that when she did quit she was in the exercise zone and she was feeling good about herself anyway and for her it's worked fantastically. She goes to the gym six days a week, she hasn't put on any weight, she's been quit three months and it's just really helped her to stay focused (Laura).

Simultaneous changes

According to the advisors, some clients would want to make other changes at the same time as their quit attempt. For example, Sophie reported some of her clients joining a gym or resuming an activity they had done previously. The advisors seemed to have conflicting views about whether or not this was beneficial. Some believed that increasing PA prior to or at the same time as quitting could have other benefits for cessation, such as the social benefits of exercising with others and increased self-confidence from mastering PA; advisor Simon believed that this would increase clients' confidence to be able to "beat the cravings and beat the addiction".

However, a key concern regarding simultaneous multiple lifestyle changes was the potential for overload. Several advisors suggested that overloading clients could decrease their chances of quitting successfully:

> I think it's too much pressure all at once definitely, people just think, "oh I can't do this, it's too much" (Belinda).

> I try to put across that the thing about not putting too much pressure on yourself and you know if you set yourself too big a task then you know there are going to be times when you feel 'God I've given up smoking and I'm only eating this celery stick and that carrot' and you know it can be quite difficult for people to maintain that sort of restrictive, commitment to lifestyle change really (Laura).

One advisor attempted to address overload by framing PA promotion as an integrated part of clients' smoking cessation treatment rather than a distinct additional behaviour change:

> I think it's important that… they're being advised to get it across in the right way. It's not like "you should be exercising because it'll make you fitter", it's like "right well have you tried becoming more active because it may help you reduce your cravings and it may help your body to recover faster", so therefore they see it as part and parcel of stopping, rather than a separate issue altogether (Simon)

Stopping smoking first

Some advisors noted that shortly after quitting was a good time to promote PA because of the physical benefits of quitting smoking. Esther noted, "When they've stopped smoking they've got more oxygen and they feel like doing things more."

Furthermore, adopting a new identity as a non-smoker was thought to be a catalyst for other health behaviour changes, including changes to diet, PA and lifestyle in general. Likewise, advisors believed that successfully quitting smoking could increase self-esteem and self-confidence, acting as a catalyst for attempting another change and making clients more receptive to the suggestion of making other changes to their behaviour patterns and lifestyle:

> …I think as people quit for longer it gives them more confidence in terms of being able to make a change in their lifestyle and then they're more open to perhaps making another change… I think because there'll always be a whole attitude of how difficult its going to be to give up smoking for so many people that when they actually do achieve it, or at least get to a certain place down the line whilst they're still working with us, you begin to think well if I can do that, then what else can I do? (Laura).

Tailoring to the individual

Perhaps most pertinent was the perceived need to tailor the timing of multiple changes to the individual. The advisors focused on what their clients wanted and were capable of and generally supported them in their choice of making multiple changes simultaneously or sequentially:

> There's a lot of emphasis around "don't do two things at once", but sometimes people don't realise people can do it and there's a lot of people who could do two things at once. There's a lot of people who couldn't, you know, so I do agree with aspects of "concentrate on the smoking because it's the best thing for your health", but there are people who probably could incorporate both. (Tracey)

4. Discussion

To the best of our knowledge, this is the first study to explore multiple health behaviour change issues perceived by SSS advisors from a qualitative perspective. The advisors were generally positive about promoting (and clients deciding to make) multiple health behaviour changes; however, there were also some concerns, most notably overload, and some conflicts in belief and opinion (e.g. advice regarding snacking during cessation). Advisors emphasised the need to focus on their clients' needs and capabilities for changing two or more health behaviours at once when considering promoting multiple health behaviour change. In many cases the advisors were keen to support and compliment clients' attempts to incorporate multiple changes in adopting a smoke free lifestyle with personal knowledge, interest and expertise, often derived from previous posts involving health promotion (see Table 1). This complements the finding that advisors who are more physically active are more likely to promote PA as a cessation aid (Everson et al., 2010).

Interest in strategies and theory to facilitate multiple health behaviour change has increased (e.g. Prochaska, 2008) and the present study complements the predominantly quantitative approach in the literature to date. Overall, our sample of advisors suggested that one behaviour change (i.e. increasing PA) may facilitate one or more other changes (i.e. quitting smoking and improving diet), but also that quitting smoking can trigger other changes. This is consistent with recent qualitative research into multiple health behaviour change. For example, Malpass, Andrews and Turner (2009) found physical activity to be a catalyst for other positive health changes among Type 2 Diabetes patients.

Intervention studies examining the effects of PA on smoking cessation have shown mixed results, possibly due to a focus on structured exercise programmes and increasing fitness (Ussher et al., 2008). Only one study involved PA counselling directed towards general lifestyle change, but the intervention may have been insufficiently intense and failed to show a significant effect on smoking cessation (Ussher et al., 2003; 2007). The present study provides insight into how PA has been successfully integrated into existing smoking cessation treatments. For example, PA has been promoted *as a cessation aid* (rather than an additional major behaviour change) in order to counteract perceptions of overload and also as part of a *holistic lifestyle change* consistent with a *non-smoker identity* to increase *feelings of control*. There are many ways to time multiple behaviour changes during smoking cessation but a focus on the needs and capabilities of individual clients is perhaps most important when deciding to emphasise pre-quit, simultaneous or post-quit changes. There is clearly scope to identify new approaches that adopt a more holistic approach to smoking cessation that includes physical activity. As Malpass et al. (2009) suggested in the context of diet and PA, it may be that providing smoking cessation advice and PA information together will encourage some clients to use physical activity in strategic ways to aid cessation.

Some of the more complex issues surrounding the promotion of multiple health behaviour change were not discussed by the advisors. Most notably, they appeared to view the timing of multiple changes as sequential or simultaneous, with talk about advising or not advising PA during cessation and the types of activities recommended to clients. While some advisors recommended gradually increasing PA over time, this recommendation was made as a method of adopting PA as a health behaviour rather than as a way of gradually introducing multiple changes to overcome overload. In addition, advisors did not mention the effects of changes to PA and/or diet on clients who relapsed, whereas research indicates that increasing PA levels may be beneficial even if cessation is not achieved (deRuiter & Faulkner, 2006).

While the focus of the current paper is behavioural and concerned with practical implications, there are likely to be important emotional and cognitive mediators and moderators involved in multiple health behaviour change. An interesting finding was that the advisors in this study commonly spoke

about client fear of weight gain, which they perceived to be as much of a barrier to cessation as actual weight gain, or more so. The broader literature highlights the importance of emotional and cognitive factors in smoking cessation, for example with fear of weight gain presenting a barrier to cessation attempts in women (Brouwer & Pomerleau, 2000; Pomerleau & Kurth, 1996). Future qualitative research would benefit from exploring emotional and cognitive mediators and moderators of multiple health behaviour change in detail.

Interviews with advisors not promoting PA in their clinics would have yielded an alternative perspective on issues in multiple health behaviour change, but we deliberately sought the views of those who were keen to promote multiple behaviour change to explore how this was done. We feel that the sample was fairly representative of advisors who promote PA, given the variety of different modalities and techniques implicated in advisors' PA promotion (see Table 1).

Another potential limitation of the study was the small sample size. An attempt was made to capture an adequate representation of advisors' views through iterative data collection and analysis to the point of thematic saturation and this is reflected in the variety of different PA promotion modalities and techniques.

5. Conclusion

Thematic analysis of interviews with smoking cessation advisors identified many issues that may be relevant for the implementation of multiple health behaviour change in practice. In particular, PA could be promoted as a cessation aid and also as part of a holistic lifestyle change consistent with a non-smoker identity, thereby increasing feelings of control. Multiple changes were promoted pre-quit, simultaneously and post-quit, although advisors believed it important to focus on the needs and capabilities of individual clients when deciding how to time multiple changes. Also, suggesting that PA was a useful and easily performed cessation aid rather than a new behaviour (i.e. structured exercise that may seem irrelevant) may help some clients to avoid a sense of overload.

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Table 1: Characteristics of participants

Advisor pseudonym	Job	Service	Nature of PA promotion	Professional background	PA background
Sophie	Specialist advisor	SW1	Advice about PA for weight management	Smoking cessation telephone helpline, nursing, social work, counselling	Walking, jogging
Belinda	Practice nurse	SW1	Advice about PA for weight management post-quit	Nursing, community care	PA generally
Laura	Specialist advisor	SW1	Advice about PA for mood & weight (esp. walking), signposting to structured PA classes	Psychology, counselling	Running
John	Specialist advisor	SW1	Advice about PA for weight gain & mood	Sports science, lifestyle change	Sports, running, gym
Luke	Specialist advisor	SW2	Brings a PA specialist to the clinic, advice about PA for quitting	Private smoking cessation consultation	Running, sports
Simon	Specialist advisor	SW2	Advice about PA for quitting, links to PA professionals	Sports science	Gym
Danielle	Specialist advisor	N1	PA for weight management & distraction post-quit	Exercise referral scheme	PA generally
Jean	Specialist advisor	N1	Lifestyle PA for mood, distraction & weight management	Did not mention	Walking, previously cycled
Tracey	Specialist advisor	N2	Pedometer-based PA (group exercise & in own time)	Health promotion	Did not mention
Marie	Specialist advisor	N3	Structured PA scheme, advice about lifestyle exercise	Did not mention	Did not mention
Esther	Specialist advisor	N3	Structured PA scheme	Exercise and obesity	Did not mention

Note: N1-3 & SW 1 & 2 refer to location of employment. Further details removed for blind review.

Figure 1 Themes and sub-themes for advisor views on multiple health behaviour change.

Notes: PA=Physical Activity, SC=Smoking cessation, MHBC= multiple health behaviour change