original article

An autonomy-supporting cardiovascular prevention programme: Practical recommendations from Self-Determination Theory

Nele Jacobs*[1] and Neree Claes[1,2]

[1] Hasselt University, Faculty of Medicine, Belgium
[2] Hasselt University, Faculty of Business Economics, Patient Safety, Belgium

Abstract

Health promotion is an important challenge for the health sector in the 21st century. Chronic diseases such as cardiovascular disease (CVD) can be avoided by, amongst other things, making prudent lifestyle changes. However, stimulating long-term behaviour change remains an important challenge for health promotion practitioners. Self-Determination Theory (SDT) has been applied in various health care settings to facilitate long-term behaviour change with some evidence of positive outcomes. From the perspective of SDT the effectiveness of prevention programmes should not only be defined as the proportion of participants that comply with recommendations, but should also give information on the level of autonomous motivation of the compliers. SDT would suggest that to stimulate the development of autonomous motivation and long-term behaviour change, autonomy-supporting interventions should be developed. Health care professionals can enhance patient behaviour change outcomes through support of patients' psychological needs for autonomy, competence, and relatedness. However, the health promotion field, involving health practitioners with various professional backgrounds, requires a more practical and specific summary of recommendations to improve the quality of intervention design. The aim of this manuscript is to describe in detail how practical recommendations from SDT were applied to a cardiovascular prevention programme in Belgium.

Introduction

Health promotion is an important challenge for the health sector in the 21st century. Chronic diseases such as cardiovascular disease (CVD) can be avoided by, amongst other things, making prudent life style changes (De Backer et al., 2003). Clear recommendations for addressing the behavioural risk factors for CVD (inadequate physical activity (PA) levels, an unhealthy diet and smoking) exist. For example, for physical activity (PA) recommendations include: participate in at least 30 minutes of moderate PA on most, preferably all days of the week; or participate in 20 minutes of vigorous PA for 3 times per week (Graham et al., 2007; Haskell et al., 2007). For diet, the following advice is given: limit the daily energy intake from fat to a maximum of 30%; and eat at least 2 pieces of fruit and 3 servings of vegetables a day (Casagrande, Wang, Anderson, & Gary, 2007; Graham et al., 2007). However, most people do not follow these recommendations at all or lack adherence to them over time (Ryan, Patrick, Deci, & Williams, 2008). The Self-Determination Theory (SDT) has evolved from basic to applied research and clinical trials in various health areas have been conducted using the theory's concepts (Ryan & Deci, 2007). Despite the recognition that "Nothing is more practical than a good theory" (Vansteenkiste & Sheldon, 2006), more detailed recommendations have to be formulated for the application of theory in the field of health promotion. Practical recommendations can already be found in the literature, e.g. in a manuscript on the effect of a supportive versus a controlling communication style on adolescents' academic achievements (Vansteenkiste, Simons, Lens, Soenens, & Matos, 2005). Since health promotion initiatives are carried out by practitioners from various disciplines, a practical and exhaustive summary of recommendations is needed to improve the design of autonomy-supporting interventions.

Nele Jacobs
PhD Student
Faculty of Medicine, Hasselt University
Belgium

The cardiovascular prevention programme

The cardiovascular prevention programme (PreCardio) included interventions targeted at the medical and behavioural risk factors for CVD (Claes & Jacobs, 2007). The effectiveness of this programme in reducing these risk factors was investigated in a randomised clinical trial. This trial included 314 highly educated adults who were randomised using a 2/3 ratio to an intensive intervention group (IIG) (n=208) and a minimal ►

*Corresponding Author: Nele Jacobs; email: nele.jacobs @ uhasselt.be

original article

An autonomy-supporting cardiovascular prevention programme

intervention group (MIG) (n=106). The trial was approved by the Hasselt University Ethics Committee and was registered (ISRCTN23940498). The interventions targeted at medical risk factors were available to both groups; a tailored behaviour change programme was only available to the IIG. The medical risk factors were investigated during a medical assessment at the university and the patients' cardiovascular risk profile was determined. A global profile with a summary of the patient's risk factors was sent to the participants. Next, all participants filled out an online questionnaire on psychosocial determinants (e.g. autonomous motivation), the stage of behaviour change (Prochaska & DiClemente, 1992), the fat intake, the fruit intake and PA at baseline and after 6, 12 and 24 months of intervention (Claes & Jacobs, 2007). If participants did not complete the questionnaire, they were sent reminders. The tailored behaviour change programme consisted of a personalised website and individual coaching. The personalised website included 4 sections with information on cardiology, PA, diet and quitting smoking. Each section included several behaviour change techniques (e.g. self-monitoring), self tests and tailored advice (Vandelanotte, De Bourdeaudhuij, Sallis, Spittaels, & Brug, 2005). The individual coaching (IC) was based on a needs assessment that took place at baseline by telephone. IC was organised depending on the participants' preferences for intervention dose and delivery mode (website, e-mail, telephone, face-to-face). Participants were free to choose between limited or intensive IC. IC for diet, PA, and smoking were based on the Theory of Planned Behaviour (Ajzen, 1991) and the Self-Determination Theory (Ryan & Deci, 2000) and were provided by a psychologist with the assistance of undergraduate students (sports or nutrition bachelor).

Autonomy support

The development of the cardiovascular prevention programme involved deciding on the best way to approach participants for a health promotion initiative. Diverse initiatives, often with a commercial undertone and paternalistic attitude, illustrate the need for such an ethical reflection. The autonomy of the participants should be respected. In accordance with SDT, autonomy is defined as the psychological freedom to make a good, informed choice while being aware of one's own needs and values (Ryan & Deci, 2000). Participants will make a free choice if they completely back this choice due to its connection with their values and needs. This does not mean that health promotion programmes should avoid stimulating patients to behave in a healthier way. The advice should be given in such a way that participants can agree with the advice they receive. Consequently, participants will consider the recommended behaviour change as their own goal in accordance with their values. This favourable outcome in health promotion can be stimulated by an autonomy-supporting context. This is a social context that satisfies 3 inborn needs: the need for competence (or effectiveness), the need for autonomy (or voluntariness) and the need for relatedness (Ryan & Deci, 2000). The need for competence means that people want to feel efficient in the actions they undertake. The need for autonomy means that people want to feel they initiate their behaviour. The need for relatedness consists of the wish to feel supported and loved by others in the actions he/she undertakes. In SDT the assumption is made that, if the social context satisfies these needs, people underwrite the behaviour and become more autonomously motivated.

Practical recommendations from the Self-Determination Theory

Creating an autonomy-supporting context can stimulate participants to become autonomously motivated to make lifestyle changes. To create this context several practical recommendations were derived from SDT and applied to the cardiovascular prevention programme. An autonomy supportive context consists of a number of critical elements: 1) offering choice; 2) respecting choice; 3) giving a meaningful explanation for uninteresting behaviour; 4) avoiding controlling language; 5) avoiding guilt inducing techniques; and 6) avoiding the use of rewards and punishments.

Health promotion programmes preferably offer different choices to participants. The participants from the intensive intervention group in the PreCardio study received access codes for the personalised website where they could choose for different sections: cardiology, PA, diet and quitting smoking. Furthermore, individual coaching was based on a needs assessment. People could freely choose the intervention intensity and delivery mode.

If participants chose to change nothing, this choice was respected and no judgement was made on the decision they made. The health promotion practitioner did not push participants to change their behaviour in the desired direction but asked if he could come back to the topic in a future contact. It is important that people feel appreciated, independent of the choice they make. No values were forced upon the participants as this would only stimulate ►

original article

An autonomy-supporting cardiovascular prevention programme

introjected regulation. Since long-term behaviour change was the objective, all communication with the participants included a statement that changing nothing at all was fine as well.

If participants didn't have a spontaneous interest for the advised behaviour, the health promotion practitioner gave a meaningful explanation of why to engage in the behaviour (e.g. the benefits of changing behaviour were summarised). For instance, participants who participated in a face-to-face session for PA received a flyer describing advantages of PA. On the website, within the section containing information on cardiology, they could read how CVD can be prevented by making favourable lifestyle changes.

It is important to avoid controlling language because only external regulation is stimulated and autonomous motivation will not occur. Controlling language such as "You should stop smoking" or "You better engage in physical activity" was replaced by "You can choose to quit smoking" or "It is possible to increase daily moderate physical activity". Controlling language was avoided in the individual coaching and on the personalised website.

SDT suggests that guilt or shame inducing interventions should be avoided since this would stimulate introjected regulation and the transition to a more autonomously motivated behaviour would be impeded. The interventions of PreCardio were not guilt or shame inducing. Furthermore, controlling strategies such as deadlines, extrinsic rewards and competitive situations have a negative effect on the autonomous motivation of the participants. Consequently, these were not included in the cardiovascular prevention programme.

Conclusion

Health promotion practitioners can create an autonomy-supporting context wherein participants spontaneously choose to improve their lifestyle. A health promotion initiative is, from this perspective, not successful if the participants engage in physical activity because they feel controlled by a coach or would feel guilty if they miss out on a session. Consequently, one can wonder what a good outcome measure is for health promotion. Most of the time, the effectiveness of health promotion is measured by the proportion of the participants who comply with recommendations for health-related behaviour. In future health promotion research, it is important to investigate not only the compliance to these recommendations but also the quality of the motivation of the compliers. ■

Statement of competing interests: The authors declare that they have no competing interests or financial relationships that might lead to a conflict of interests

Funding: The PreCardio-study is funded by 'The Chair De Onderlinge Ziekenkas-Preventie'.

References

Ajzen, I. (1991). Theory of Planned Behavior. *Organ Behav Hum Decis Process, 50*, 179-211.

Casagrande, S. S., Wang, Y., Anderson, C., & Gary, T. L. (2007). Have Americans increased their fruit and vegetable intake? The trends between 1988 and 2002. *Am J Prev Med, 32*, 257-263.

Claes, N., & Jacobs, N. (2007). The PreCardio-study protocol - a randomized clinical trial of a multidisciplinary electronic cardiovascular prevention programme. *BMC Cardiovasc Disord, 7*, 27.

De Backer, G., Ambrosioni, E., Borch-Johnsen, K., Brotons, C., Cifkova, R., Dallongeville, J., et al. (2003). European guidelines on cardiovascular disease prevention in clinical practice. Third Joint Task Force of European and Other Societies on Cardiovascular Disease Prevention in Clinical Practice. *Eur Heart J, 24*, 1601-1610.

Graham, I., Atar, D., Borch-Johnsen, K., Boysen, G., Burell, G., Cifkova, R., et al. (2007). European guidelines on cardiovascular disease prevention in clinical practice: executive summary. *Eur Heart J, 28*, 2375-2414.

Haskell, W. L., Lee, I. M., Pate, R. R., Powell, K. E., Blair, S. N., Franklin, B. A., et al. (2007). Physical activity and public health: updated recommendation for adults from the American College of Sports Medicine and the American Heart Association. Med Sci Sports Exerc, 39, 1423-1434.

Prochaska, J. O., & DiClemente, C. C. (1992). Stages of change in the modification of problem behaviors. *Prog Behav Modif, 28*, 183-218.

Ryan, R., & Deci, E. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *Am Psychol, 55*, 68-78.

Ryan, R., & Deci, E. (2007). Active human nature: Self-determination theory and the promotion and maintenance of sport, exercise, and health. In M. Hagger & N. Charzisarantis (Eds.), Intrinsic motivation and self-determination in exercise and sport (pp. 1-19): Human Kinetics Europe Ltd.

Ryan, R., Patrick, H., Deci, E., & Williams, G. (2008). Facilitating health behaviour change and its maintenance: Interventions based on Self-Determination Theory. *The European Health Psychologist, 10*, 2-5.

Vandelanotte, C., De Bourdeaudhuij, I., Sallis, J. F., Spittaels, H., & Brug, J. (2005). Efficacy of sequential or simultaneous interactive computer-tailored interventions for increasing physical activity and decreasing fat intake. *Ann Behav Med, 29*, 138-146.

Vansteenkiste, M., & Sheldon, K. M. (2006). There's nothing more practical than a good theory: integrating motivational interviewing and self-determination theory. *Br J Clin Psychol, 45(Pt 1)*, 63-82.

Vansteenkiste, M., Simons, J., Lens, W., Soenens, B., & Matos, L. (2005). Examining the motivational impact of intrinsic versus extrinsic goal framing and autonomy-supportive versus internally controlling communication style on early adolescents' academic achievement. *Child Dev, 76*, 483-501.