TYÖRYHMÄT/WORKSHOPS 3, la/Sat 22.11.klo: 10.40-11.45

Behaviour change interventions: social psychological processes

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1. Changing clinician behaviour to change patient behaviour: A chain of mediations within the Movement as Medicine program. Keegan Knittle [a,b], Sophie O'Connell [b,c], Leah Avery [b], Sarah Denton [b], Mike Lavender [b], Falko Sniehotta[b] & Mike Trenell [b]
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Background: Cardiovascular disease (CVD) is the leading cause of death globally, and increasing physical activity (PA) can improve CVD risk factors. Primary care has great reach to promote PA and thereby reduce CVD risk. However, common approaches to PA promotion in primary care (e.g. advice giving, PA prescription, exercise referral) generally do not result in lasting behavioural changes. Furthermore, healthcare professionals (HCPs) cite many barriers to promoting PA, including deficits in time, motivation, tools, knowledge and skills. This talk will outline the development and early results of a newly-developed pathway to improve PA promotion in primary care (Movement as Medicine for CVD Prevention - MaM), and describe the chain of mediations at its base.

Methods: A needs assessment was conducted via focus groups and interviews with HCPs and patients. Key theoretical constructs and behaviour change techniques were chosen from evidence in extant literature, and intervention components were subsequently co-designed with patients, HCPs and behavioural scientists. This process resulted in a single pathway with separate interventions for patients and HCPs. The feasibility, acceptability and fidelity of this primary care pathway are now being tested among patients with 20% risk of developing CVD in the next decade.

Interventions: HCPs receive a motivational interview (MI) and follow an online training course to increase their knowledge of, and motivation and self-efficacy for, promoting PA as a way to prevent CVD. After the training course, HCPs deliver behaviour change consultations including aspects of MI to patients in practice, and receive feedback on their performance. After these consultations, patients receive access to a website which contains behaviour change tools derived from self-determination and self-regulation theories, as well as follow-up contacts via telephone.

Results: Early results indicate that although the online course improved HCPs self-efficacy and motivation for promoting PA in practice, MI delivery immediately after the course varied across practitioners. Interviews with HCPs indicate that feedback mechanisms for MI delivery are appreciated and effective.

Discussion: The MaM for CVD Prevention pathway has the potential to improve PA promotion in primary care settings, as it targets constructs important in changing the behaviour of HCPs and patients alike. Such synergistic approaches provide advantages in terms of user-friendliness and saleability. However, they rely on a continuous chain of mediations to be effective. This study will help to identify the weakest links of this chain, so that they can be strengthened before testing in a randomised controlled trial.

2. A systematic review of school-based physical activity and sedentary behaviour interventions among older adolescents, Sini-Tuuli Hynynen* (1), Maartje M van Stralen (2), Falko F Sniehotta (3), Wendy Hardeman (4), Vera Araujo-Soares (3), Mai JM Chinapaw (2), Tommi Vasankari, (5), Nelli Hankonen (1)
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Background: Earlier reviews on school-based physical activity interventions among adolescents have not characterized intervention content in sufficient detail to draw conclusions about the effective ingredients of these interventions. This systematic review evaluates 1) the effectiveness of school-based interventions for PA and SB, and 2) whether intervention content (i.e., behaviour change techniques, BCTs) influences intervention effectiveness.

Methods: Five databases were searched. Two researchers independently screened publications to check eligibility, assessed risk of bias, and coded intervention content using BCT Taxonomy v1.

Results: Ten studies were included. Seven studies showed significant differences in PA between intervention and control groups post-intervention. Effect sizes (Cohen's d) ranged from small to medium (0.132 - 0.659). Only two studies found significant differences between intervention and control group in SB. Interventions effective in increasing PA included BCTs related to self-regulation, e.g, goal setting and self-monitoring.

Discussion: School-based interventions can increase PA in the short term, and use of self-regulatory BCTs seems promising. Researchers need to improve the quality of intervention descriptions to be able to identify which BCTs were actually implemented.

3. Testing Smart Family - lifestyle counselling method in maternity-, child welfare- and school clinics: Neuvokkaasta voimaa –study, Marja Kinnunen[1,2], Terhi Koivumäki [1],Marjaana Lahti-Koski[1] & Pilvikki Absetz[3]
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Smart Family is a lifestyle counselling method used in maternity clinics, child welfare clinics and school clinics. The method was developed by Finnish Heart Association with its collaborators, and it is applied in 102/320 municipalities, and reaches approximately 40-50% of Finnish families. The main tool of the method is Smart Family -card (Neuvokas perhe -kortti) given to a child and his/her parents.

The card includes statements on eating and physical activity for parents and the child. Depending on the age of the child, the statements are answered by parents or also by the child (e.g. "My child eats / I eat vegetables, fruits and berries several portions each day"). The options for answers are marked on "traffic lights" (green = usually, yellow = sometimes, red = very rarely/ never/not possible). The purpose of the Smart Family card is to help families to assess their own health habits and especially to encourage them to spot their strengths. The card enables families to choose the topics for discussion at a subsequent nurse's appointment. Families may also fill in their own concerns and goals on the card. In addition, Smart Family tools include a picture folder and an information folder for nurses. Nurses attend to one day training of the method and lifestyle counselling before applying the method with their clients. The main aim of the training is to promote techniques of motivational interviewing.

The purpose of the present study is to examine whether Smart Family method is able to increase families' perceived autonomy support in lifestyle changes: 1) self-efficacy for healthy eating, physical activity and everyday hassles 2) willingness and intentions for lifestyle change and 3) actual changes made. The data collection starts at November 2014 in four municipalities (2 intervention + 2 control).The baseline questionnaires for families will be distributed for families (maternity clinics N=200, child welfare clinics N=200 and school clinics N=200) at the nurse's appointment. Follow-up will take place after the next appointment, which will take place after about 5 weeks (maternity clinics and school clinics) and 6 months (child welfare clinics). In the presentation, theoretical background, Smart Family method and study protocol will be discussed.

Development of a school-based multi-level intervention to increase physical activity and decrease sitting among youth: Lessons from a feasibility trial

Authors: Nelli Hankonen, Sini Hynynen, Hanna Laine, Matti Heino, Vera Araujo-Soares, Ari Haukkala, *on behalf of the Let's Move It research group*

Background: Regular physical activity (PA) improves mental and physical health and well-being, but few people reach the recommended levels of PA. Socioeconomic health disparities call for targeted intervention efforts among lower educated people. So far, no school-based PA interventions among youth have demonstrated long-term effectiveness, possibly due to inadequate development and pilot-testing. Also, interventions rarely measure whether the participants actually use the intended behavior change techniques (BCTs). As interventions based on scientific evidence are more successful, the Let's Move It intervention for vocational college youth was based on social psychological theories, original research and reviews of evidence, as is recommended in developing complex behavior change interventions.

Study aims: To investigate the feasibility and acceptability of the intervention and trial procedures, and to present features of the optimized intervention program.

Methods: A pilot cluster-randomised controlled trial, with outcome-assessor blinding, was conducted. Four classes of students (matched pairs) were randomly allocated to either intervention or control group. The intervention group received 6 group sessions targeting PA motivation and self-regulatory skills, and teacher-led sitting reduction in all other classes. At baseline (T1), mid-intervention (T2), post-intervention (T3) and six months after baseline (T4) we measured hypothesized psychosocial mediators (including use of BCTs) and self-reported PA and sitting. Objective assessment of PA (7-day accelerometry) was measured at T1, T3 and T4, and body composition at T1 and T4. Intervention arm students filled in acceptability questionnaires at T3 and interviewed post-intervention (n=15). Intervention mapping and Behaviour Change Wheel approaches were used in the intervention optimization phase.

Results: Blind to group allocation, 43 students (80%) gave their consent to participate. By T3, all post-intervention measures were completed by 33 students (77 %), and by T4, by 12 (28%). Acceptability ratings of sessions and program were high. Process measures indicated the hypothesized changes in mediators in some but not all variables. Intervention group reported increased use of BCTs post-intervention, with goal setting and action planning among the most frequently used techniques at T3. Use of BCTs correlated with objectively measured PA.

Conclusions: We detected high willingness to participate, good response rates to questionnaires, adequate retention, as well as acceptability of the concept. Based on feedback from staff and students, some changes were made to improve the program, including intensified habit formation exercises. In sum, after this initial test and refinement the effectiveness of the program can now next be tested in a full randomized controlled trial.