ASSOCIATION OF SEDENTARY BEHAVIOUR AND ANTHROPOMETRIC MEASUREMENTS AMONG UNIVERSITY STUDENTS: A CROSS-SECTIONAL STUDY

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Background: Recent epidemiologic evidence suggests that long-term health consequences are related to habitual sedentary behaviour. Sedentary lifestyles are greatly influenced by increasing technological interaction and involvement among the young adults. Because of the prognostic importance of cardio metabolic markers on health and mortality this knowledge could provide an insight into the mechanisms through which sedentary behavior influences cardiovascular disease risk among young adults. However, there has been no thorough exploration of the independent contributions of sedentary behaviour to metabolic risk factors among university students and the relative importance of these factors.

Objectives: The purpose of this study was to determine the association between sedentary behaviour and anthropometric measures among university students.

Methods: 210 university students participated in the study. Sedentary Behaviour Questionnaire was used to assess their sedentary behaviour and height, weight, waist and hip measurements were made.

Result: The highest sedentary behaviour engaged by the participants was doing paperwork or computer work, sitting ranked second and listening to music and the third being sitting reading book or magazine. The least sedentary behaviour that participants engaged was doing artworks or crafts. There was no significant association between sedentary behaviour and anthropometric measurements (BMI $p = 0.329$, waist circumference $p= 0.835$ and waist to hip ratio $p = 0.584$) among university students.

Conclusion: The study concluded that sedentary behaviour is not an independent risk factor influencing the cardio metabolic risk factors.

PERFORMANCE INDEX AND PSYCHOLOGICAL MOMENTUM DURING A 3000M COMPETITION AMONGST UNIVERSITY CROSS-COUNTRY RUNNERS: A PSYCHOPHYSIOLOGICAL PERSPECTIVE

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Performance during a competition amongst endurance athletes may be distressed by psychophysiological parameters. The understanding and connection between them may lead to adapting training and follow up in elite athletes. Thus, the purpose of this study was to identify psychophysiological links with performance in a 3000m race. Distance runners were invited to participate at a recruitment race trial to be part of the varsity cross country team. Twenty runners participated: 10 women (25.9±7.0 years old; 22.2±1.8 BMI) and 10 men (23.2±2.4 years old; 22.6±1.6 BMI). Competition was filmed in order to hold semi structured individual interviews using a self-confrontation approach. During the interviews, athletes were invited to find key moments (positive and negative) of their race. Athletes also completed a maximal aerobic speed test (191 ± 10 bpm; 17.2 ± 1.1km/h) that was used to create performance indexes ($PERF_I$) relative to select moments. A significant $PERF_I$ difference ($p < 0.001$) was observed between positive (97.04 ± 5.88%) and negative (108.46 ± 7.76%) moments. Psychological momentum for women before the competition (24.86±4.67) and for competition generally (25.75±4.17) was significantly correlated ($r^2=0.88$ $p<0.01$; $r^2=0.76$ $p<0.01$ respectively) with the performance in the 3000m that was not for men (22.78±7.38 $r^2=0.0007$ $p=0.946$; 23.70±4.88 $r^2=0.005$ $p=0.838$ respectively). Momentum before the competition was correlated for women ($r^2=0.89$ $p<0.001$) with confidence and was not for men ($r^2=0.38$ $p=0.142$). In conclusion, it seems that a significant difference between sexes is present in the manner of living a competition in elite athletes and that mental preparation should be sex specific.

THE IMPACT OF A COGNITIVE-BEHAVIORAL (CBT) WEIGHT MANAGEMENT PROGRAM ON WEIGHT CHANGE AND DEPRESSIVE SYMPTOMS IN ASTHMATIC PATIENTS: A PILOT STUDY.

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Depressive symptoms have been shown to be prevalent in patients with obesity and in patients with asthma, and associated with worse asthma outcomes (e.g., worse control). CBT-based weight management programs have shown reductions in weight and depressive symptoms in obese patients, but no studies have examined the impact of CBT weight management on depressive symptoms in patients with asthma. A total of 16 overweight or obese patients (M age 50 [SD 9.5] years, Body Mass Index 26-43 kg/m^2) with diagnosed asthma were recruited from Hôpital du Sacré-Coeur de Montréal and completed a 12 week CBT weight management program. Weight (kg) and depressive symptoms (Beck Depression Inventory-II, BDI-II) were assessed at baseline (T1) and post treatment (T2). Repeated measures GLM analyses adjusting for age and sex, revealed a significant ($F=10.44$, $p=0.006$) average weight loss of -3.81 (SD=4.74) kg, and an average reduction in BDI-II symptoms of -7.10 (SD=8.27, $F=8.03$, $p=0.014$) post-intervention. Of note, changes in depression and weight were not correlated ($\beta=-0.10$, $p=0.844$). Results indicate that a CBT-based weight management intervention may be efficacious for both weight loss and depression. Future studies should examine whether improvements in weight and depression are associated with better asthma outcomes.

DEVELOPING AN INTERVENTION TO PROMOTE IMPLEMENTATION OF INTERNATIONAL SEXUAL COUNSELLING GUIDELINES IN HOSPITAL-BASED CARDIAC REHABILITATION.

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Background: Sexual problems are common among people with cardiovascular disease, reducing quality of life. American Heart Association and European Society of Cardiology guidelines recommend routine delivery of sexual counselling to cardiovascular patients. In Ireland, the Cardiac Health and Relationship Management and Sexuality (CHARMS) baseline study found, in line with international findings, limited implementation of sexual counselling guidelines in practice.

Objective: To develop the CHARMS intervention to improve implementation of sexual counselling guidelines in hospital-based cardiac rehabilitation.

Methods: The CHARMS intervention was developed using the Behaviour Change Wheel, a novel method from behavioural science to develop interventions. This involved understanding the behaviour, identifying intervention options, and selecting content and implementation options. Two previous studies exploring why sexual counselling is not currently delivered in cardiac rehabilitation were double-coded to understand staff's capability, opportunity, and motivation to engage in the behaviour. The APEASE (affordability, practicability, effectiveness, acceptability, side effects and equity) criteria were applied to select appropriate intervention functions and behaviour change techniques (BCTs). BCTs were then translated into intervention content.

Results: Provision of sexual counselling by cardiac rehabilitation staff to patients was identified as the target behaviour. Education, enablement, modelling, persuasion and training were selected as appropriate intervention functions. Twelve BCTs, mapped to intervention functions, were selected and translated into intervention content.

Conclusion: This is an example of using the Behaviour Change Wheel to develop an implementation intervention in an under-researched area of healthcare. This systematic and transparent process will facilitate intervention evaluation, future replication, and advance the science of intervention development.

THE EFFICACY OF EXERCISE AS A TREATMENT FOR DEPRESSION IN ADULTS WITH NON-COMMUNICABLE DISEASES (NCDS): A SYSTEMATIC REVIEW

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***Rationale**:* Depression is a serious illness and has been found to be more prevalent in patients living with a NCD than in the general population. Current treatments for depression are not always effective, which has prompted many studies to assess the efficacy of exercise as an alternative. However, no systematic reviews have compared exercise to other forms of treatments in patients with a NCD.

***Objective**:* Assess the efficacy of exercise on depressive symptoms compared to usual care and other types of treatments in patients living with a NCD.

***Methodology**:* Studies assessing exercise interventions for adults with NCD and having depressive symptoms were included. Control conditions included stress management, use of antidepressants and usual care. Interventions ranged from 2 to 5 times a week for 8 to 24 weeks. Searches were conducted in Pubmed, Medline, PsycInfo and SportsDiscus.

***Results**:* Fifteen studies with 4098 participants were included. Fourteen of the 15 studies were randomized controlled trials. Significant effects of exercise on depressive symptoms were found in 11 studies. Similar effects were found for exercise and stress management on depressive symptoms (1/15). Only two studies compared pharmacological treatments to exercise; 1 study found exercise was superior to antidepressants while the other one did not find any differences. Taken together, the studies show a reduction of 22% of depressive symptoms in the exercise intervention groups compared to no exercise (2%).

***Conclusion**:* Exercise is a promising effective intervention for reducing depressive symptoms in patients living with a NCD. However, more intervention studies are needed in order to fully elucidate the mechanisms.

THEORY-BASED PROCESS EVALUATION ALONGSIDE A CLUSTER RANDOMISED TRIAL OF A MULTIPLE BEHAVIOUR CHANGE INTERVENTION TARGETING PRIMARY CARE CLINICIANS' MANAGEMENT OF TYPE 2 DIABETES

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Background: Trials of clinician behaviour change interventions to improve quality of care test intervention effectiveness but do little to explain how change occurs. Theory-based process evaluations investigate hypotheses about mechanisms of change alongside behaviour change trials. We conducted a multi-centre cluster randomized trial testing the effectiveness of a behaviour change intervention targeting improvement in six clinician diabetes management behaviours.

Objective: To conduct a quantitative theory-based process evaluation alongside the trial to investigate mechanisms of change. We hypothesised that change in clinician behaviour would be explained through increased self-efficacy and coping planning.

Methods: We sent pre- and post-intervention questionnaires to 214 general practitioners, nurses and healthcare assistants in 44 primary care practices in England randomised to intervention or control. Questionnaires assessed theoretical constructs targeted by the intervention for each behaviour. Controlling for pre-intervention responses and clustering, we tested for differences between intervention and control on self-efficacy and coping planning.

Results: Over 60 clinicians responded at both time points. There were no differences in self-efficacy between groups. Coping planning scores for prescribing for HbA1c were higher in the intervention group (p=0.049), but did not differ between groups for any other behaviour (providing nutrition advice p=0.07; providing updated education p=0.25; providing exercise advice p=0.45; examining feet p=0.28; prescribing for blood pressure p=0.12).

Conclusion*:* The intervention improved clinicians' coping planning for prescribing for HbA1c, which may be a mechanism of change in the main trial. This study demonstrates a theory-based approach for conducting process evaluations alongside trials of behaviour change interventions.

ASSESSING THE FIDELITY OF DELIVERY OF A BEHAVIOUR CHANGE INTERVENTION TARGETING HEALTHCARE PROFESSIONALS WITHIN A CLUSTER TRIAL: AN APPLICATION OF THE BEHAVIOUR CHANGE TECHNIQUES TAXONOMY V1

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Background: We developed, delivered and evaluated a behaviour change intervention (cluster randomized trial) targeting primary healthcare professionals to improve type 2 diabetes care, using the Behaviour Change Techniques Taxonomy version 1 (BCTTv1) to describe active intervention content. The intervention involved one 90-minute workshop delivered to 22 separate primary care teams by two interventionists (one of three health psychologists and one of four clinicians).

Objective: As intervention effectiveness depends partly on intervention fidelity, we aimed to assess fidelity of intervention delivery.

Methods: All intervention sessions were audio-recorded, transcribed and anonymised. Two researchers independently coded workshop transcripts using NVivo and a BCTTv1-based coding frame focusing on 12 planned BCTs. We defined high fidelity of delivery as a BCT delivered in >80% of sessions, medium (50-80%), and low (<50%).

Results: Krippendorff's alpha (inter-rater reliability) was 0.89. The BCTs 'Problem solving' and 'Behavioural practice/rehearsal' were delivered in all sessions. 'Discrepancy between current behaviour and goal', 'Action planning', 'Demonstration of the behaviour' and 'Graded tasks' were delivered in 21/22 sessions. 'Goal setting (behaviour)' and 'Credible source' were delivered in 20/22, 'Adding objects to the environment' in 19/22, and 'Habit formation' in 18/22. 'Incentive

(outcome)' (14/22) and 'Verbal persuasion about capability' (5/22) had medium and low fidelity, respectively.

Conclusion: We achieved good reliability of coding of delivery using the BCTTv1. Fidelity of intervention delivery was good, with 10/12 BCTs exceeding our criterion for high fidelity. Assessing fidelity of delivery can increase assurance that intervention content was delivered as planned, which can aid interpretation of trial findings.

IS DEPRESSION ASSOCIATED WITH SPUTUM INFLAMMATORY MARKERS AND LUNG FUNCTION IN ASTHMA?

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Background: Asthma is a chronic inflammatory airway disease. Depression has been shown to affect about 20% of asthmatics, and previous work has suggested that inflammatory processes may also be involved in depression.

Objective: This study sought to evaluate the associations between depression, inflammatory profiles, and pulmonary function in patients with and without asthma undergoing pulmonary and sputum induction tests.

Methods: 117 patients with (n=48) and without (n=69) pre-existing asthma (43% women; M [SD] age=42 [11] yrs) were recruited. All patients underwent a sociodemographic and medical history interview, completed the Beck Depression Inventory (BDI-II), and underwent a methacholine challenge (PC_{20}) followed by sputum induction (neutrophils, eosinophils, lymphocytes and macrophages). General linear models examined interactions between asthma (yes/no) and depression (BDI-II score) on all measures adjusting for age, sex, inhaled corticosteroid dose and smoking status.

Results: There was a main effect of BDI-II (β=0.07, p= .043) and a group x BDI-II interaction (β=-0.12, p= .038) on % lymphocytes, such that higher BDI-II scores were associated with higher % lymphocytes in patients *without* asthma. No associations were found between BDI-II score and any other inflammatory marker or PC_{20}.

Conclusion: Higher depression symptoms were associated with higher % lymphocytes among patients not meeting diagnostic criteria for asthma following standard testing. Findings suggest that depression may alter inflammatory markers that cause symptoms that mimic asthma, leading to costly (and potentially unnecessary) investigations. Clinicians should consider screening for depression as part of the standard evaluation of asthma.

SELF-EFFICACY AND OUTCOME EXPECTANCIES PREDICT FITNESS IN OBESE YOUTH: THE HEARTY TRIAL

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Background: Obesity rates have increased in recent decades and increasing physical activity may reduce health-related problems. Social cognitive theory (SCT) provides a framework for understanding behaviour; two main constructs, self-efficacy and outcome expectancies, are posited to predict behaviour and may be affected by stress and depression.

Objective: To test SCT in predicting fitness in overweight youth.

Methods: Overweight youth (n = 228) from the exercise groups of the Healthy Eating, Aerobic and Resistance Training in Youth (HEARTY) randomized controlled trial participated in this study. Self-report measures included stress, depression, self-efficacy, and outcome expectancies at baseline and 3 months after enrollment. Outcome variables included aerobic fitness (VO_2 max) and musculoskeletal fitness (bench and leg press, push-ups, curl-ups) at baseline and trial completion (6 months). We used path analysis to model the data.

Results: The models accounted for 50% and 55% of the variance in VO_2 max and push-ups, respectively. Significant mediation was observed for VO_2 max and push-ups: Higher self-efficacy (3 months) was associated with higher fitness levels (6 months) via higher outcome expectancies (3 months; standardized indirect coefficient=.015, p=.029. and .017, p=.017, respectively). Curl-ups at trial completion were associated with self-efficacy (β=.18, p=.010), but not outcome expectancies. The models for bench and leg presses were not significant. In all models, higher stress and lower depression scores were associated with higher outcome expectancies, mediated by higher self-efficacy.

Conclusions: We found partial support for SCT. Interventions that enhance self-efficacy and account for stress and depression levels may increase fitness in obese youth.

THE EFFECT OF PSYCHO-EDUCATIONAL INTERVENTIONS ON HEALTH OUTCOMES IN INDIVIDUALS AT INCREASED RISK FOR MELANOMA: A SYSTEMATIC REVIEW OF RANDOMIZED CONTROLLED TRIALS

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Background: Melanoma, the deadliest and fastest growing skin cancer, has high survival rates if detected early and treated. Skin self-examination may facilitate melanoma early detection. Several psycho-educational interventions aim to increase self-examination behaviors in individuals at risk for melanoma. However, their effect on health outcomes has never been systematically reviewed.

Study Objective: To investigate whether interventions developed for individuals at increased risk for melanoma affect health outcomes, i.e., skin self-examination, melanoma early detection, and mortality.

Research questions:

1) Compared to an inactive control, do psycho-educational interventions for individuals at increased risk for melanoma increase skin self-examination behavior and early detection, and decrease mortality?

2) Are some behavioural and educational interventions for individuals at increased risk for melanoma more effective than others at increasing skin self-examination behavior and early detection, and decreasing mortality?

Methods: Data sources will include MEDLINE, PsycINFO, EMBASE, CINAHL, The Cochrane Central Register of Controlled Trials, and trial registries. Study eligibility criteria include intervention type, i.e., psycho-educational, and design, i.e., randomized controlled trial. Two reviewers will carry out the selection of relevant trials, data extraction, and quality assessment. Depending on the number of relevant trials, results will be pooled for a meta-analysis or a narrative synthesis will be provided. (Prospero Registration: CRD42016033765)

Results: The search identified 506 individual abstracts, which are currently being reviewed for inclusion/exclusion criteria. The poster will include preliminary findings from this review.

Conclusions: This review will synthesize existing evidence on psycho-educational interventions for populations at increased risk for melanoma and will inform future research.

ADHERENCE TO A LIGHT THERAPY INTERVENTION FOR CANCER-RELATED FATIGUE

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Background: One-third of cancer survivors report persistent fatigue making it an important target for intervention. However the available treatments typically have poor adherence rates. Light therapy has been investigated as an intervention to target post-treatment fatigue, but adherence rates have not been reported.

Objective: To investigate adherence to a light therapy intervention among fatigued cancer survivors.

Methods: Post-treatment cancer survivors who met criteria for cancer-related fatigue were recruited for this blinded RCT. They were randomly assigned to receive a Litebook device that produced either bright white light (BWL; intervention) or dim red light (DRL; active control). Participants were instructed to use the device daily for 30 minutes, within 30 minutes of waking, for a period of 28 days. Exposure was tracked by diaries and automatic loggers.

Results: Overall, 88 participants were allocated to either BWL (n=47) or DRL (n=41), with 5% dropout. 94% of completers provided a diary and data from 96% of loggers were available. Participants reported use for 95.7% of recommended days (M=26.8, SD=2.12) and for an average of 30.1 minutes per day (SD=.63). On average, users activated the device within 30 minutes of waking (M=29.8, SD=23.0). Logger data indicated use on 95% of days (M=26.6, SD=2.20) for an average of 31.0 minutes per day (SD=1.69). There were no differences between groups on these outcomes.

Conclusion: Results indicate that compliance with this protocol was excellent and exceeds adherence rates for light therapy interventions in other samples and those reported for other behavioral interventions specific to cancer-related fatigue.

A QUALITATIVE EXPLORATION ON THE TREATMENT AND MANAGEMENT OF SEVERE OBESITY IN YOUTH

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Background: While weight management interventions target behaviour changes, there is a growing interest in bariatric surgery for severely obese youth. Further study is needed to explore treatment decision-making factors for each patient.

Objective: Provide new insights into the perceptions, understandings and experiences of key stakeholders involved in the treatment decision-making process to best inform the development of behavioural interventions within the management of severe obesity, as well as the potential role bariatric surgery could play.

Methods: A qualitative arts-informed research design will be used. Thirty professionals (pediatricians, bariatric surgeons, health administrators), and ten obese youth (13 to 21 years old) will be recruited in Spring 2016 to participate in semi-structured interviews, with youth also creating body maps. Body maps consist of participants drawing an outline of their bodies on paper and create a collage using magazine cut-outs to fill in their body. The collages will capture their understandings of health, weight, and their bodies, as reflected by their behaviours and experiences of weight management including bariatric surgery. Interviews will be audio-recorded and transcribed. Open coding and constant-comparison will be used to analyse the transcripts, while new thematic collages will be developed using the body maps.

Results: Expected results will provide insight into the motivations, barriers and facilitators faced by the multiple stakeholders in delivering optimal health care for the management of severe obesity.

Conclusion: The outcomes will be used to inform clinical practice guidelines and clarify the decision-making process with the goal of optimizing health outcomes with tailored behavioral interventions.

DEPRESSION SYMPTOMS AS A PREDICTOR OF PULMONARY REHABILITATION AEROBIC EXERCISE ATTENDANCE AND COMPLIANCE, AND AUTONOMOUS EXERCISE LEVELS 9-MONTHS AFTERWARDS: A PILOT STUDY

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***Background**:* The health benefits of pulmonary rehabilitation (PR) for chronic obstructive pulmonary disease (COPD) are well established. PR's optimal effectiveness depends on attending exercise sessions, compliance to exercise intensity and duration, and maintaining regular exercise after PR. "Adherence" studies to date tend to measure *attendance*, not *compliance*, both of which may be influenced by depression. This study assessed the impact of depression on PR attendance, exercise compliance, and post-PR exercise.

***Methods**:* 36 patients (64% F) were enrolled in a 12-week (36-session) PR intervention. Patients underwent spirometry, an incremental cycling test, completed the Beck Depression Inventory-II (BDI-II) and provided sociodemographic information. Outcomes were: PR attendance (% sessions attended), PR exercise compliance (% training time at the target HR), and exercise level at 9-months post-PR (MET minutes of exercise over a 7-day period based on a physical activity diary).

***Results**:* Mean (SD) baseline BDI-II score was 9 (7), median (IQR) PR attendance was 83% (67-94), median PR exercise compliance was 94% (71-99), and median exercise MET minutes 9-months post-PR was 706 (445-146). Pearson correlations revealed that baseline BDI correlated with exercise compliance (r -.35, p=.037) but not attendance (r .02, p=.919), and had the strongest correlation of all independent variables with exercise levels at 9-months (r=.52, p=.002), even after covariate adjustment.

Conclusion: Baseline depression symptoms may predict compliance to prescribed aerobic exercise during PR and exercise levels maintained after PR, but not PR attendance in this study. Future interventions may consider targeting depressive symptoms as part of the PR program.

INCREASES IN EXPIRED CO_2 IN RESPONSE TO A STANDARD PANIC (CO_2) CHALLENGE IN ASTHMA PATIENTS WITH ANXIETY SENSITIVITY AND PANIC DISORDER

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Background: There is a link between anxiety and impaired airway function (i.e., increased dyspnea and bronchoconstriction) in asthma patients. Panic disorder (PD) is common among asthmatics and is associated with worse asthma outcomes, due to panic-induced respiratory changes. Anxiety sensitivity (AS) is a trait linked to excessive fear of anxiety-related sensations based on beliefs about their harmful consequences, and is high in PD patients.

Objectives: This study evaluated the impact of AS on respiratory measures including CO_2 production [VCO_2; ml/kg/min], in asthmatics with PD during a panic challenge.

Methods: 17 patients (age 44±15yrs; 82% women) with physician-diagnosed asthma and PD completed the anxiety sensitivity index (ASI) to assess AS, and then completed a panic challenge (one inhalation of 35% carbon dioxide [CO_2]). PD diagnosis was confirmed by meeting DSM-IV criteria. Breath-by-breath respiratory measures were assessed by a gas analyzer. Mixed models assessed the impact of AS and time (pre and post 35% CO_2 inhalation) on VCO_2.

Results: Analyses revealed an ASI by time interaction for VCO_2 ($F=4.0$, $p=.047$) and TV ($F=27.5$, $p<.001$). Post-hoc analyses revealed that immediately post CO_2 challenge, patients with high ASI had a significantly larger VCO_2 increase ($\Delta\beta=779$) than patients with low ASI ($\Delta\beta=653$) and remained higher for longer after the challenge, taking longer to return to pre-testing VCO_2 levels.

Conclusion: Asthma patients with PD and higher ASI had increased and more prolonged VCO_2 responses to the panic challenge. This could indicate that in addition to PD, AS also contributes to respiratory responses to a panic-inducing challenge.

THE ROLE OF CARDIO-METABOLIC RISK ON COPD EXACERBATIONS, IN COPD PATIENTS

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Background: Body Mass Index (BMI) appears to be an important risk factor for Chronic Obstructive Pulmonary Disease (COPD) exacerbations and outcomes, however the findings are inconsistent. Part of the inconsistency may be due to the presence of elevated cardio-metabolic risk. Obesity and Type 2 Diabetes (T2D) are components of cardio-metabolic risk that are develop through behavioural factors (poor diet, lack of exercise).

Objective: To investigate the role of obesity and T2D on the risk of COPD exacerbations.

Methods: 115 patients with physician-confirmed COPD (M age (years)= 66.80±8.02) completed a medical interview to determine T2D and obesity status. Obesity was defined as BMI≥30; BMI<29.9 was considered non-obese. T2D was determined by the presence of chart confirmed T2D or diabetic medication. From these categories, 4 groups were formed: Non-T2D, non-obese (N=64); Non-obese, T2D (N=14); Obese, non-T2D (N=16); Obese & T2D (N=10). Exacerbations (Outpatient [OE] and Inpatient [IE]) were recorded over a mean 2 year period (range:0.3-3.5years).

Results: Using cox regression models (reference point = non-T2D, non-obese), no differences in risk of OE were observed. For IE, there was a lower risk for non-obese, T2D (HR = 0.42; 95%CI: 0.18-1.01). No other group differences in risk were observed.

Conclusion: No difference in OE risk was seen regardless of obesity/T2D profile. The lowest risk of IE was apparent in COPD patients that are non-obese but have T2D. The possible mechanisms behind this lowered risk of exacerbation need further investigation

PARTNERS SHARE HEALTH BEHAVIOURS IN FAMILIES WITH RECENT GESTATIONAL DIABETES.

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Background: Recent findings have highlighted the risk for one partner to develop prediabetes/type 2 diabetes when the other has prediabetes/type 2 diabetes or even gestational diabetes.

Objective: We aim to describe health behaviours shared between partners in families with recent gestational diabetes.

Methods: Baseline evaluation of the 59 families recruited for the MoMMii program (5 cooking and exercise sessions to reduce the diabetes risk) included an oral glucose tolerance test (fasting and 2-hour blood glucose), measures of lipid profile, weight, height, blood pressure, daily steps (pedometer), and questionnaires (weight history, mindful eating, sleep quality, perceived physical activity). Correlations between partners' behaviors are presented with 95% confidence interval (95%CI).

Results: Partners (mean age 39.3 SD 5.6 years) have been in relationship for an average of 10.9 (SD 5.1) years and gained 8.7 (SD 9.6) kg since moving together (BMIs' change r= 0.55 95% CI 0.32, 0.72). Association for sleep quality (r= 0.30 95%CI 0.04, 0.52), mindful eating (r=0.30 95%CI 0.05, 0.52) and perceived aerobic fitness (r=0.27 95%CI 0.02, 0.50) were observed, but not for daily steps (r=0.10 95%CI -0.17, 0.35). Associations for BMI (r=0.39 95%CI 0.15, 0.58), systolic blood pressure (r=0.27 95%CI 0.02, 0.50), fasting blood glucose (r=0.30 95%CI 0.04, 0.51) and HDL-cholesterol (r=0.31 95%CI 0.06, 0.52) were observed.

Conclusion: Giving the shared perceptions for sleep quality, eating behaviors and aerobic physical activity, as well as the shared clinical values, when targeting one family member for disease prevention it may be of interest to expend our focus to both partners.

HYPERTENSIVE DISORDERS OF PREGNANCY IN WOMEN SIGNALS INCIDENT HYPERTENSION IN PARTNERS

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Background: Like hypertension and type 2 diabetes, hypertensive disorders of pregnancy (HDP) and gestational diabetes (GDM) are linked to eating patterns, physical activity levels, socioeconomic status, and other behavioral and environmental factors. These factors are shared between spouses. We previously demonstrated spousal concordance for diabetes and GDM as a risk factor for incident diabetes in partners.

Objective: To determine if HDP in mothers predicts incident hypertension in their partners.

Methods: We performed a retrospective analysis of a cohort of 67,394 Québec couples (health administrative and birth registry data) among whom half had a GDM history between April 1st, 1990 and December 31st, 2007 and were matched (age group, health region, year of delivery) with couples without such a history. Follow-up data was to 2012 for both fathers and mothers. In the present analyses, hypertension was defined as ≥ 2 outpatient or one hospital discharge diabetes diagnosis within a 2-year period. Couples with a hypertension diagnosis in the prior 3 years from delivery were excluded.

Results: Overall, 11.7% of fathers had a partner who was diagnosed with HDP. The fathers whose partners had HDP were older and had a greater number of prior pregnancies. After adjusting for partner GDM status, ethnicity, age of subject and partner, cohabitation status, previous pregnancy with partner, deprivation index and co-morbidity indices, the HR for developing hypertension in fathers whose partners had HDP was 1.13[95%CI 1.05,1.22].

Conclusion: In the present study, HDP in mothers resulted in a 13% risk increase of hypertension in fathers. Thus, HDP in mothers indicates a need for hypertension surveillance in fathers and provides a window of opportunity for prevention in fathers.

MOTIVATIONAL INTERVIEWING TECHNIQUES IMPROVE MILK AND ALTERNATIVES INTAKE IN HEALTHY CANADIAN YOUTH: PRELIMINARY RESULTS AT 6 MONTHS FROM A 2-YEAR RANDOMIZED CONTROLLED TRIAL.

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Motivational interviewing techniques (MInt) have been successfully employed to change a number of adolescents' health behaviors such as diet, weight and exercise. The present study explores whether incorporating MInt into the counselling framework over a 6-month period would improve milk and alternatives (MAlt) intake in teenagers participating in a 2-year randomized controlled trial (starting August 2014) to improve bone health. Healthy adolescents 14 to 18 y (n=13) with usual intake of < 2 servings of MAlt /d received MInt counselling to consume either 3 servings of MAlt /d [IInt group; n=7] or 4 or more servings/d [RInt group; n=6] reinforcing Canada's Food Guide recommendations for this age group. A 24-hour dietary recall was collected at baseline and 6 months. Data were analyzed using Nutritionist Pro software (Axxya Systems, TX, USA) and the Canadian Nutrient File 2010b. The number of MAlt servings was calculated according to Canada's Food Guide serving sizes. MInt techniques were applied by a registered dietitian. A mixed model ANOVA with *post-hoc* Bonferroni adjustment was used to test for differences between groups. Preliminary data are mean ± SE up to 6 month time-point. At baseline (BL), participants (15.6 ± 1.7 y) were 23% male (3/13). No significant differences were observed between groups for the number of daily servings of MAlt or for macronutrient, calcium and vitamin D intakes. At 6 months, macronutrient and vitamin D intakes were also not different between groups. Calcium intake improved significantly in IInt group (p= 0.01) and RInt group (p was = 0.02) but there was no difference between groups. Concurrently the number of MAlt servings/d increased significantly in both groups (IInt: BL: 1.6 ± 1.9, 6-mo: 3.1 ± 0.7; p= 0.01, RInt: BL: 2.0 ±1.3, 6-mo: 3.3 ± 1.1; p= 0.04) with no difference between groups. These preliminary results suggests that adopting MInt as a counseling approach may contribute potential benefits to MAlt intake in healthy young men and women without affecting their overall macronutrient distribution. The success of MI for improving longer term dietary calcium intakes will be confirmed upon completion of the study. (Study funded by the Dairy Research Cluster).

Table 1. Milk and alternative servings and dietary calcium intake in 14-18 y old adolescents.

	IInt group	RInt group
Milk and alt. serving/d*		
Baseline	1.6 ± 1.9 [a] (n=7)	2.0 ±1.3 [a] (n=6)
6 mo	3.1 ± 0.7 [b] (n=7)	3.3 ± 1.1 [b] (n=5)
Total Dietary Calcium (mg/d)		
Baseline	808.6 ± 531.3 [a]	1085.7 ± 420.7 [a]
6 mo	1283.6 ± 225.6 [b]	1594.0 ± 517.5 [b]
Non-dairy Calcium (mg/d)		
Baseline	359.1 ± 238.8	530.4 ± 262.7
6 mo	358.6 ± 78.65	535.7 ± 325.9
Dairy Calcium (mg/d)		
Baseline	449.5 ± 603.8 [a]	555.3 ± 368.7 [a]
6 mo	925.0 ± 227.8 [b]	1058.3 ± 356.1 [b]

Data are expressed as mean ± SD.
[a, b] Groups with different superscripts are significantly different from each other using a mixed model ANOVA accounting for age, sex ($p<0.05$).
* 1 serving of milk and alternatives: 250 ml of milk; 50 g of cheese; 175 g of yogurt.

TRAINING OF HEALTH CARE PROFESSIONALS IN HEALTH BEHAVIOR CHANGE STRATEGIES: A SYSTEMATIC REVIEW

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Background: More than 60% of deaths worldwide result from non-communicable chronic diseases (NCDs), including cardiovascular diseases, chronic lung diseases, diabetes and cancer. Main factors accounting for the development and progression are poor health behaviours: smoking, poor diet, excessive alcohol consumption, physical inactivity, and medication non- adherence. Traditional methods used by healthcare professionals (HPCs) are met with patient resistance. HCPs need to change their strategies. However, feasible and effective interventions targeting health behaviour change are poorly developed, and uptake by HCPs is low.

Objectives: The aim of this systematic review is to determine the content, dose, and structure of training programs, associated with clinical competency for health behavior change, for HCPs and to elaborate recommendations for future training trials.

Methods: This systematic review was performed according to requirements for the *Preferred Reporting Items for Systematic Reviews and Meta-Analyses*. Four databases were used and the research topic was operationalized into three distinct concepts: behaviour change counseling, training, and HCPs.

Results: Eleven studies were retained. Seven used self-reported evaluations of participants' skills. Five used no comparison group and seven had not stated competency assessment as a main goal. Results from studies using objective measures suggest that about 8 hours of training is necessary for HCPs to achieve clinical competency for health behaviour change. We recommend that future studies be RCT with adequate comparison groups, include interviews with patients, use repeated objective competency measure.

Conclusion: This review establishes the current state of knowledge in behavior change counselling training and brings forward recommendations for future studies.

INNOVATIONS IN TREATING COPD EXACERBATIONS: PROJECT ON ACTION PLANS USING NEW TECHNOLOGY

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Background: COPD exacerbations are the first cause of preventable hospital admissions in Canada. Prompt treatment increases recovery time and decreases hospitalizations. Effective self- management of exacerbations can be achieved with written Action Plans and case management. A strategy to ensure adherence to COPD Action Plans might be the use of communication technology.

Objective: To evaluate whether the implementation of an interactive phone tele-system increases adherence to COPD Action Plans.

Methods: Forty COPD patients from the Montréal Chest Institute clinic were enrolled in the study and followed for 1 year. Following an education session, patients received phone calls to reinforce Action Plan adherence. Adherence was defined as patient taking antibiotic or prednisone within 3 days of symptoms' worsening. Detailed data from patients' behaviours during exacerbations were recorded on monthly telephone evaluation by a third party.

Preliminary results: Patients had a median of 2 exacerbations per year and the exacerbation duration was 9 days. During these episodes, more than 60% of the patients still contacted their case manager nurse by phone and less than 40% by tele-system. Action Plan adherence was observed for 68% of the patients although only 37% was done through the tele-system. The patients who used the action plan by themselves had 84% adherence. Patients reported improved self-efficacy to manage exacerbations.

Conclusions: The implementation of the tele-system is feasible, although patients still had a tendency to call directly the case manager and it may take longer to change patient confidence in the tele-system. Benefits of this implementation include close patient monitoring and increased self-efficacy to manage exacerbations.

THE UPBEAT STUDY: PROTOCOL FOR THE EVALUATION OF A BRIEF MOTIVATIONAL INTERVENTION TO PROMOTE ENROLMENT IN OUTPATIENT CARDIAC REHABILITATION

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Background: Cardiovascular disease is a leading cause of death in Canada, and cardiac rehabilitation (CR) represents an effective secondary prevention strategy. Despite 15-28% reductions in mortality associated with CR, only a subset of eligible patients enroll. Motivational communication is a patient-centered counselling style that improves treatment engagement in other clinical areas, but its efficacy for improving CR enrolment is unknown.

Objective: To design and evaluate a brief motivational intervention to promote CR enrolment.

Methods/Design: A two-part study is being conducted prior to starting a 12-week exercise-based CR program in patients with acute coronary syndrome. Part 1 involves a qualitative examination of decision-making about CR participation. Patients (n=14) complete semi-structured interviews, coded using conventional content analysis. Part 2 involves an investigation of the impact of a motivational intervention on intention to enroll in CR using a two-group randomized controlled trial. Patients (n=100) are randomly assigned to the motivational intervention or usual care. The intervention is designed to address barriers/facilitators to CR enrolment identified in Part 1, and is delivered using a motivational communication style. The primary outcome is intention to enroll in CR. Secondary outcomes include attendance at ≥1 exercise appointment, CR beliefs and barriers, self-efficacy, illness perceptions, and social support.

Conclusion: This study will inform efforts to promote participation in a vastly underutilized program that significantly improves health outcomes in patients with cardiovascular disease. Key contributions include user-centered qualitative research and a characterization of plausible active ingredients through which the intervention may promote CR enrolment.

DEFINING A COLLABORATIVE ONTOLOGY FOR NON-PHARMACOLOGICAL INTERVENTIONS

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Background. Researchers working on non-pharmacological interventions (NPI) need to share and cross data. Open ontology is a way of describing and linking data and their interrelations across the globe on the web [1]. Building an ontology is a complex task that requires a considerable amount of human effort.

Objective. We aim at defining a shared ontology that will be considered as an open reference when dealing with non-pharmacological interventions. The vocabulary must include the list of all terms related to NPI and their relations.

Methods. We consider a collaborative approach that allows all researchers to edit/update/add the concepts related to NPI, including categories, terms and relations in the form of an ontology. For this purpose, we consider the use of existing tools that must be extended and connected. The ontology is shared and linked to other existing resources available on the Web of Data (Linked Open Data) with the use of the so-called URI [2].

Results. The NPI ontology is developed with WebProtégé [3] which allows researchers to edit and update it. The vocabulary is published over the Web of Data with BioPortal [4] which offers a collaborative environment.

Conclusion. The shared ontology is being built. The first results are promising but show how difficult it is to define a shared vocabulary. We claim that this will be a solid and important step to the CEPS platform. It will then allow to improve data retrieval and data crossing for better understanding NPI and better defining advanced digital tools.

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QUEL MODÈLE DE RECHERCHE CLINIQUE POUR LA VALIDATION D'UNE INTERVENTION COMPORTEMENTALE EN SANTÉ UTILISANT LES NOUVELLES TECHNOLOGIES ?

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Background : De plus en plus de psychothérapies et de programmes d'éducation thérapeutique utilisent les nouvelles technologies. Objets connectés santé, applications Smartphones ou encore Serious Game, autant d'exemples de Technologies d'Intervention Comportementale en Santé (TICS). Ces solutions prolifèrent dans le secteur de la santé. Leur rapide obsolescence technique interroge les modèles de validation clinique et risque de bouleverser les plus classiques inspirés de la validation des médicaments.

Objective : Notre but était de recenser les modèles de validation clinique des solutions de médecine comportementale utilisant des nouvelles technologies.

Methods : Nous avons réalisé une revue de la littérature sur les modèles de validation clinique des solutions de la médecine comportementale utilisant des nouvelles technologies. Nous procédé à une lecture épistémologique des articles identifiés.

Results : Nous avons identifié deux modèles classiques, l'un inspiré du médicament et appliqué aux dispositifs médicaux (e.g., FDA, EMA) ou aux interventions comportementales (e.g., ORBIT, Intervention Complexe) et l'autre inspiré de l'ingénierie et fondé sur le design et l'implémentation (e.g. : méthode Agile, modèle de Fogg, modèle de Ritterband). Nous avons également repéré des modèles hybrides (e.g., Multiphase Optimization Srategy, mHealth Development and Evaluation Framework, Sequential Multiple Assignment Randomized Trial).

Conclusion : Notre revue bibliographique ne montre pas de modèle consensuel pour la validation de l'innocuité et de l'efficacité des interventions comportementales utilisant la e-santé. Les attentes du public et la rapide obsolescence des solutions informatiques amènent à une diffusion dans le secteur de la santé sans validation clinique préalable, tout au mieux une analyse a posteriori avec le bigdata. Il devient urgent d'y réfléchir. Des modèles sont proposés. Au cours de nos lectures, nous avons pu constater l'écart du nombre de publication dans le secteur entre le nombre relativement faible d'études interventionnelles de qualité et le nombre élevé d'études mécanistiques.

APPROCHE CENTRÉE PATIENT COMME OUTIL DE REPÉRAGE DE VULNÉRABILITÉ SOCIALE

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Contexte: Le concept de vulnérabilité sociale est une forme de vulnérabilité représentant une fragilité matérielle ou morale à laquelle est exposé un individu et dont la concrétisation potentielle serait l'exclusion sociale. Le médecin généraliste est un acteur de premier recours dans le système français. La connaissance du patient et de son histoire, son ancrage dans l'espace-temps du patient doit permettre au médecin généraliste de mieux les repérer.

Objectif : L'objectif de cette étude a été de comprendre comment les médecins généralistes repèrent les déterminants socio-économiques de leur patient à partir de leur expérience vécue et en quoi cela influence leurs attitudes et leurs pratiques.

Méthode : Nous avons utilisé une approche compréhensive qualitative par entretiens semi-directifs de médecins généralistes de la Région Languedoc-Roussillon (France) avec analyse sémiopragmatique des verbatims.

Résultats : Notre principal résultat est que les médecins généralistes utilisent l'approche centrée sur le patient comme un outil de repérage de la vulnérabilité sociale. Le caractère universel de la vulnérabilité est souligné.

Discussion : La vulnérabilité est comprise comme un processus diachronique, un premier pas vers la précarité. Les médecins généralistes s'adaptent en mettant en place des stratégies pour leurs patients repérés vulnérables en se mettant quelquefois en marge des lois sociales. Les médecins généralistes s'inscrivent dans une démarche conforme à l'éthique du care et adaptent leurs stratégies de soins.

Conclusion : L'étude qualitative montre que les médecins généralistes considèrent la vulnérabilité sociale comme une donnée d'observation clinique et à explorer dans leur entretien. Elle devrait être intégrée dans tout dossier médical.

EVALUER LA SURVIE DANS UNE ÉTUDE INTERVENTIONNELLE NON MÉDICAMENTEUSE INTERNATIONALE.

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Background : Un des enjeux scientifiques majeurs dans le secteur des interventions non médicamenteuses (INM) est de vérifier leur bénéfice sur la durée de vie (e.g., survie, survie sans récidive, survie sans perte de qualité de vie, survie sans incapacité) et non pas uniquement sur la qualité de vie et des symptômes. Les standards méthodologiques actuels exigent d'inclure un grand nombre de patients dans les essais randomisés contrôlés, ce qui dépasse souvent le potentiel d'un seul pays si les résultats veulent être connus relativement rapidement (e.g., environ 15 ans dans le cancer du colon). L'étude interventionnelle internationale CHALLENGE (Colon Health and Life-Long Exercise Change) conçue par Kerry Courneya (Université d'Edmonton, Canada) et ses collaborateurs évalue l'efficacité d'un programme supervisé d'activités physiques adaptées (APA) sur la survie sans récidive chez des patients atteints d'un cancer du côlon. Cette étude a nécessité la participation de plusieurs centres hospitaliers d'Allemagne, d'Australie, des Etats-Unis, de France, d'Israël et du Royaume-Uni.

Objective : Notre équipe de Montpellier (France) participe à cet essai clinique inédit. Notre poster vise à présenter les difficultés de réalisation de ce type d'étude et les voies de résolutions.

Methods : Un essai clinique de phase III conçu pour tester l'efficacité d'un programme supervisé d'activités physiques adaptées sur la survie exige un grand nombre de malades atteints d'un cancer du côlon de stade II ou III, soit 962. La planification (recrutement, stratification, randomisation, évaluations, suivi), le contenu du programme interventionnel (guide, formation), les critères d'inclusion et de non inclusion, et les critères de jugement sont clairement établis (Courneya et al., 2013). Les patients sont répartis aléatoirement dans le groupe expérimental qui bénéficie d'un programme combinant activité physique et soutien comportemental pendant 3 ans soit dans le groupe contrôle ne bénéficiant pas de ce programme. Le critère de jugement principal est la survie sans maladie évalué à 10 ans.

Discussion : La mise en place de ce protocole dans un centre hospitalier en France (des autorisations à l'inclusion du premier patient) aura duré deux ans. Le poster explique les freins administratifs, réglementaires, éthiques et opérationnels à cette mise en place et comment les freins ont été levés.

Conclusion : L'étude CHALLENGE est le premier essai randomisé contrôlé au monde destiné à vérifier l'efficacité d'un programme d'activités physiques adaptées sur la survie dans le cancer du côlon. Notre participation à cette étude internationale a amené à résoudre des problèmes administratifs, réglementaires, éthiques et opérationnels que nous ne soupçonnions pas. Si ce type d'étude est demandé dans la littérature, sa mise en œuvre selon les standards méthodologiques du paradigme médicamenteux est bien moins simple.

RÉGLEMENTATION FRANÇAISE DES COMPLÉMENTS ALIMENTAIRES

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Contexte : Près d'un adulte sur cinq et un enfant sur dix consomme des compléments alimentaires (CA) au moins une fois par an [1]. Le marché des CA génère un chiffre d'affaires de plus de 1 300 millions d'euros par an en France.

Objectif : Ces produits font partie des denrées alimentaires gérées en France par la Direction Générale de la Concurrence, de la Consommation, et de la Répression des Fraudes et de l'Agence Nationale de Sécurité Sanitaire de l'Alimentation, de l'Environnement et du Travail. Ils possèdent une réglementation propre permettant de les distinguer des médicaments et des autres produits de santé [2,3].

Méthode : Directive 2002/46/CE du Parlement européen, transposée par le décret du 20 mars 2006 : « On entend par compléments alimentaires les denrées alimentaires dont le but est de compléter le régime alimentaire normal et qui constituent une source concentrée de nutriments ou d'autres substances ayant un effet nutritionnel ou physiologique seuls ou combinés, commercialisés sous forme de doses à savoir les formes de présentation telles que les gélules, les pastilles, les comprimés, les pilules et autres formes similaires, ainsi que les sachets de poudre, les ampoules de liquide, les flacons munis d'un compte-gouttes et les autres formes analogues de préparations liquides ou en poudre destinées à être prises en unités mesurées de faible quantité ».

Résultats : Les CA à base de plantes possèdent des propriétés particulières et font l'objet en France d'un arrêté au Journal Officiel du 24 juin 2014 [4].

Conclusion : La réglementation complexe encadrant le marché des CA permet de sécuriser ces produits possédant des propriétés bénéfiques pour la santé mais aussi des risques accompagnés de précautions d'emploi.

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[2] Directive 2002/46/CE du Parlement européen, transposée par le décret du 20 mars 2006 relatif aux compléments alimentaires.

[3] Règlement (UE) N°536/2013 de la commission du 11 juin 2013 modifiant le règlement UE N°432/2012 établissant une liste des allégations de santé autorisées portant sur les denrées alimentaires, autres que celles faisant référence à la réduction du risque de maladie ainsi qu'au développement et à la santé infantiles.

[4] Arrêté du 24 juin 2014 établissant la liste des plantes, autres que les champignons, autorisées dans les compléments alimentaires et les conditions de leur emploi.

COMPÉTENCES DES PHARMACIENS EN FRANCE SUR LES COMPLÉMENTS ALIMENTAIRES À BASE DE CHAMPIGNONS

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Contexte : L'engouement du grand public pour les compléments alimentaires se généralise en Europe, et en particulier en France. La mycothérapie, relativement récente en France, propose de nombreux compléments alimentaires à base de champignons [1, 2].

Objectifs : Les pharmaciens d'officine sont aux premières lignes quant à la dispensation de ces produits [3]. Il convient donc de s'interroger sur les connaissances que les docteurs en pharmacie possèdent sur ces compléments alimentaires à base de champignons.

Méthodes : Une enquête nationale anonyme en ligne a été réalisée pour faire un état des lieux des connaissances des pharmaciens d'officine concernant ces produits [4].

Résultats : Cette enquête montre que les pharmaciens possèdent globalement une bonne connaissance des compléments alimentaires à base de champignons.

Conclusion : Les résultats permettent d'adapter les enseignements dispensés aux étudiants en pharmacie afin de répondre aux besoins et aux interrogations des consommateurs.

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DEFINING A COLLABORATIVE ONTOLOGY FOR NON-PHARMACOLOGICAL INTERVENTIONS (NPI)

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Background: Researchers and trialists working on Non-Pharmacological Interventions (NPI) need to share results and cross data. However, interventions are not well defined and described.

Objective: We aim to define a shared ontology of Non-Pharmacological Interventions (NPI). The ontology will be considered as an open source reference when dealing with Non-Pharmacological Interventions (research and clinical practice). The vocabulary must include the list of all terms related to NPI and their relations (e.g., synonymy, generalization).

Methods: We consider a collaborative approach that allows all researchers to edit/update/add the concepts related to NPI, including categories, terms and relations in the form of an ontology. For this purpose, we consider the use of existing tools that must be extended and connected. The ontology is shared and linked to other existing resources available on the Web of Data (Linked Open Data) with the use of the so-called URI [1].

Results: WebProtégé [2] is used for allowing researchers to edit and update the ontology, while BioPortal [3] is used to publish the vocabulary over the Web of Data.

Conclusion. The shared ontology is being built. The first results are promising but show how difficult it is to define a shared vocabulary. We claim that this will be a solid and important step to the CEPS Platform (Montpellier, France). It will then allow to improve data retrieval and data crossing for better understanding NPI and better defining advanced digital tools.

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SHORT- AND LONG-TERM IMPACT OF THE COGNITIVE TRAINING PROGRAM IN OLDER PERSONS WITH AND WITHOUT MILD COGNITIVE IMPAIRMENT.

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Background: Cognitive training is a potentially effective way to improve cognition and slow down cognitive decline in older adults with Mild Cognitive Impairment (MCI). In particular, the MEMO intervention has been shown to improve short-term performance on episodic memory in persons with amnestic MCI (a-MCI) (Belleville et al., 2006). To date, empirical data lack about the efficacy of MEMO intervention on the other subtypes of MCI, nor about its robustness (Bier et al., 2015).

Objective: (1) Replicate previous results about the improvement on episodic memory in persons who provided the MEMO intervention, (2) Test the MEMO intervention's robustness (i.e., long-term impact), (3) Determine its sensitivity in persons with nonamnestic MCI (na- MCI).

Methods: 55 participants, recruited at the Millenaire hospital, were consecutively included and single-blinded to group assignment. 5 patients dropped out. Analysis focused on 50 participants: 36 patients with single-domain of MCI (14 with a-MCI and 22 with na-MCI) and 18 patients without impairment (WI). All participants had a memory complaint, benefited from neurological, biological, neuropsychological and RMI exams. 23 of them received intervention and 27 others received no intervention (waiting-list group). The two groups were matched on demographic, neuropsychological and distress. The MEMO intervention, administered by a trained clinician, focused on changing representations on aging and teaching episodic memory strategies. It consisted of 8 weekly 120-min group sessions (5 patients per group) and 5-min of daily home cognitive practice. All the 50 participants received the same assessments at pre-treatment (T0, baseline), post-treatment (T1 = T0 +3 months) and follow-up (T2 = T0 +5 months). Primary outcome measures consisted of 3 tasks of episodic memory (list recall, face-name association, text memory). Secondary measures included memory complaint, well-being, depression, anxiety, perceived stress, self-esteem, routinization, and also, process speed and verbal fluency abilities.

Results: Compared to controls, participants who received MEMO showed better scores at the face-name association and the list recalls tasks, even 5 months after the sessions beginning. The only qualitative and significant change between the 2 groups concerns memory complaint, assessed with a visual analogical scale [$F(2, 96) = 3.74$, $p=.02$]. However, post-hoc analysis showed that the benefit in the MEMO group disappeared after 2 months ($p=.16$). As expected, na-MCI participants also benefited from the MEMO intervention compared to controls, but only at specific memory tasks. Finally, evolution patterns across time are different in the a-MCI, na-MCI and WI group.

Discussion: Previous results about the improvement on episodic memory in persons who provided the MEMO intervention are partially replicated at short-term. The MEMO intervention's robustness seems effective 5 months after the sessions beginning, but this long- term impact only focus on objective scores. The MEMO intervention may also concern persons with na-MCI and WI.

Conclusion: The MEMO intervention's robustness seems effective 5 months after the sessions

beginning.

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Impact of psychiatric disorders on heath and employment outcomes in patients referred for evaluation of occupational asthma

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Background: Occupational asthma (OA) is caused by workplace exposure to sensitizing agents that cause asthma. Most patients referred for evaluation of OA (70%) are not diagnosed with OA or any other medical disorder, but will remain symptomatic and unable to work. Though several differential diagnoses are considered, psychiatric disorders (PD) are rarely assessed. This study assessed the prevalence of PD's among patients under investigation for OA and their impact on employment status and healthcare use at 12-18 months.

Methods: 219 patients underwent a sociodemographic, medical history, and psychiatric interview (PRIME-MD) on the day of their OA evaluation, as well as spirometry and SIC testing. Patients also completed questionnaires assessing depression, anxiety and hypochondriasis and were re-contacted 12-18 months later to assess employment status and healthcare use.

Results: At baseline 78% met criteria for ≥1 medical disorder (26%=OA) and 34% met criteria for ≥1 current PD; mood and anxiety disorders affected 29% and 24% of the sample respectively, and 7% had hypochondriasis, which increased the likelihood of not receiving a medical diagnosis nearly 4-fold (OR=3.92). At follow-up, irrespective of receiving a medical diagnosis, patients with (vs. without) a PD had worse outcomes: they were less likely to be employed (44% vs. 64%) and had more emergency visits (35% vs. 19%).

Conclusions: PD's are common in patients presenting for evaluation of OA, and are associated with less favorable outcomes, including greater unemployment and use of health services. Greater efforts should be made to assess (and treat) PD's in this population.

ENDURING HAPPINESS AND CONTINUED SELF-ENHANCEMENT (ENHANCE): DESIGN AND RATIONALE OF A RANDOMIZED CLINICAL TRIAL

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Happiness is defined as a fundamental human goal, and is associated with increased physical and emotional health, income, positive relationships, and overall longevity. While interventions to help people achieve higher levels of happiness exist, they often only target student populations across a short period of time. Moreover, these studies often focus on only one construct at a time, leaving a comprehensive evidence-based intervention yet to be achieved. ENHANCE: Enduring Happiness and Continued Self-Enhancement is a multi-center, multimodal long-term randomized controlled study that encompasses numerous evidence-based treatment elements to improve positive emotions and life satisfaction. Community-based adult participants (26-65 years of age) will be recruited at the University of British Columbia (n = 60) to participate in an in-person version of ENHANCE or at the University of Virginia (n = 100) to participate in an on-line version of the program. Participants will be randomly assigned to the treatment group or to the control group for a period of six months. The primary outcome is subjective well-being as measured by the Scale of Positive and Negative Experience, the Satisfaction with Life Scale, and the Meaning in Life Questionnaire. Secondary outcomes will include a cognitive assessment of well-being, peer reports of well-being, social functioning, and physical health. Exclusion criteria for the study include major psychological disorders, such as severe anxiety and depression. The present study seeks to determine if ENHANCE will result in greater overall happiness, well-being, and physical and emotional health.