Digital paths to changing problematic alcohol use: Effectiveness of unguided and guided interventions in a stepped care model

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Introduction: Digital interventions for reducing problematic alcohol use have shown small effect sizes in relation to control groups. A meta-analysis (Riper et al., 2014) found an overall effect size of 0.20, with slightly higher effect sizes of 0.23 for interventions with a human guide, compared to 0.20 for unguided interventions. Five different interventions, from unguided low-intensity to high-intensity guided interventions, were evaluated in separate randomized controlled trials (RCT) and are compared here.

Methods: Target groups included internet help-seekers and university students, with hazardous drinking according to the Alcohol Use Disorders Identification Test (AUDIT), excessive drinking based on national public health guidelines, or diagnosed alcohol use disorder (AUD). Study 1 evaluated eScreen.se, offering minimal screening and personal feedback, and alkoholhjalpen.se, a self-help program, with 633 internet-based participants reporting hazardous drinking. Study 2 evaluated the PartyPlanner and Promillekoll smartphone apps with 1932 university students reporting hazardous drinking. Study 3 evaluated the TeleCoach skills-based app with 186 university students who drank excessively. For studies 1-3 assessment-only controls were comparison groups. Study 4 compared the unguided eChange 10-week program to a guided version with 80 internet-based participants having at least hazardous use. Study 5 was a feasibility study of the ePlus 13-week program for 13 internet-based participants with AUD and excessive drinking; an RCT has also now been completed with 166 participants.

Results: Studies 1-5 are compared with one another in terms of baseline characteristics and results. Although inclusion criteria varied, baseline AUDIT levels out of a maximum of 40 points for studies 1-5 respectively were 20.82 (SD 6.93), 10.55 (3.90); 13.46 (4.69); 21.00 (490) and 23.70 (1.40). Within-group and between-group results are compared, showing greater effects for more intensive interventions.

Discussion: Effects vary by target groups, severity levels and interventions, but it is clear that digital interventions contribute to reduced problematic alcohol use.

Why is it so hard to become an ex-smoker?

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Over the past two decades or so, in countries with strong tobacco control programs, we have become very good at stimulating people to make quit attempts. However, the overwhelming majority of quit attempts end in failure. Smokers make on average at least two failed attempts per year. This high failure rate occurs at all stages after quitting, most in the first few days, but most smokers have survived for more than a month and yet relapsed. If smokers have the motivation to try, they have enough motivation to succeed. We have been modestly successful in helping smokers stay quit while they use an evidence-based pharmacotherapy (eg NRT, varenicline), but have made little progress in preventing relapse longer term. We now know that different factors influence maintenance to those involve in initiation of attempts. Strategies for increasing maintenance involve increasing self-regulatory capacity which is typically a temporary measure, and strategies to reduce the appeal of smoking, either through extinction, provision of alternatives. I present data from experimental studies showing both kinds of effects. In particular work of mine showing that enhancing self-regulatory skills can reduce relapse. The potential role of alternative nicotine products as easier to adopt substitutes is also discussed.

How an eastern body-mind-spirit intervention empower end-stage lung cancer patients and their family caregivers? A RCT of IBMS and CBT

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Despite the advances in targeted therapies, lung cancer remains a deadly disease with poor prognosis and heavy symptom burden. Both the patients and their family caregivers face multitude challenges in their physical, psychological, social and spiritual well-being. In spite of being the most common cause of cancer deaths worldwide, psychosocial support targeting families confronting lung cancer remains rare, not to mention programs that are evidence-based, dyadic and holistic. In this presentation, we will introduce an ongoing trial that compares the effectiveness of integrative body-mind-spirit (IBMS) intervention with cognitive behavioural therapy (CBT) to enhance the quality of life of both patients and their family caregivers. Using a randomized controlled trial and carried out in the form of parallel groups, we contrasted the effects of eight weekly sessions of IBMS intervention and CBT on improving physical, functional, psychological and social well-being of patients and caregivers. Assessments are conducted at four time points: baseline (T0), immediately post-intervention (T1), and 8 and 16 weeks after intervention (T2, T3). Up to September 2017, 121 pairs of patients and caregivers have completed the intervention. During the presentation, we will also discuss how various therapeutic components of IBMS (e.g., bodily exercises, meaning reconstruction exercises) are suited to target the specific needs of lung cancer patients and their caregivers. The study will extend our understanding of culturally-attuned, family-oriented, dyadic psychosocial interventions for families facing life-threatening illnesses.

Social Strategies, Digital Media and Social Change: The Resilience of health workers and service providers working with gender- and sexually-diverse youth in Australia

Rob Cover, PhD, *Associate Professor, School of Social Sciences, University of Western Australia*

Little is known of how service providers working with vulnerable gender- and sexually-diverse young people perceive and manage their own resilience, and how they understand the relationship between resilience, care of self, and provision of care to others. The resilience of service providers has an impact on outcomes for clients, co-workers, families, communities.

This study interviewed twenty service providers, including health practitioners, specialists, social/youth workers, volunteers with support organisations and those who otherwise work in everyday mental health. Three domains of resilience among those working with vulnerable youth were identified: (i) deliberate personal and social strategies for resilience from social networks to aloneness; (ii) a range of situational resources in the workplace from role models to training programs; (iii) the emergent use of digital media and digital networks from increasing understanding of younger persons to providing informal peer networks of support.

This presentation addresses reasons why the perception of resilience in each of these three domains differed depending on 'classification' of youth health service provision work (professional, semi-professional, volunteer) and the distinctive circumstances of each of these classifications in producing resilient service provision environments in both recognised and unorthodox employment scenarios.

The Australian National Firearms Agreement and gun-related deaths in Australia, 1979-2015: lessons for global gun control policy

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Firearms-related mortality remains a significant public health problem in some developed countries, most particularly the United States of America. In 1996 the Australian government introduced the National Firearms Agreement (NFA) in order to reduce the occurrence of mass shootings. This agreement has been credited not only with eliminating mass shootings in Australia, but also with significant reductions in the annual rate of firearm-related suicide and assault mortality. Based on this success the agreement has been recommended as a model gun control policy for countries such as the USA that have high rates of both mass shootings and firearms-related mortality. In this study, Australian suicide and assault-related mortality was analyzed for the period 1979-2015 using a fully specified difference-in-difference model to estimate the specific effect of the firearms agreement on assault and suicide mortality, after accounting for contemporaneous changes in other methods of suicide. We found that the national firearms agreement had no significant impact on firearms-related mortality due to either suicide or assault, in men or women, and that other forms of suicide experienced greater reductions in trend than firearms-related mortality. While the NFA has been highly successful in eliminating mass shootings, it was not designed to target the kinds of firearms used in suicide or individual assaults, and had no effect on these forms of mortality. If America is to reduce its extraordinarily high rates of firearms-related suicide and assault mortality, it will need to introduce more comprehensive and far-reaching gun control laws, of the kind that preceded the NFA in Australia. Although eliminating mass shootings is a desirable public order goal, it has little impact on overall firearms-related mortality and constitutes only a limited and ineffective response to the epidemic of gun violence in the USA.

Resilience and vulnerability in patients with Chronic Kidney Disease

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The presentation will synthesize findings from set of longitudinal studies in Singapore evaluating patient-reported outcomes in context of Chronic Kidney disease so as to highlight critical learnings related to conducting implementation research in terms of needs analysis and development of interventions. The key focus will be on the prevalence and course of emotional distress across renal replacement modalities, its predisposing and perpetuating risk factors and its prognostic associations with clinical and disease outcomes.

Chronic Fatigue Syndrome and Chronic Fatigue in long term conditions: Are they any different?

Rona Moss-Morris, PhD, *Professor of Psychology as applied to Medicine, Head of Health Psychology Section, Psychology Department, Institute of Psychiatry, Kings College London*

The cognitive behavioural model of fatigue proposes that primary disease factors trigger the initial symptom of fatigue, which is then perpetuated or worsened depending on how people react to the fatigue cognitively, emotionally, behaviourally, and physiologically. In this talk, I will present evidence from a range of studies in support of this model in the context of chronic fatigue syndrome (CFS) and chronic fatigue in long term conditions including multiple sclerosis and End Stage Renal Disease. I will show that the cognitions involved include beliefs specific to fatigue, such as the belief one has no control over fatigue or it will last forever, or more general beliefs about the illness and other symptoms. Examples of the latter are catastrophizing about the experience of symptoms or thinking it is better not to engage in activities to avoid physical harm or embarrassment about the nature of the symptoms. Behaviours may also worsen or perpetuate the fatigue. Some people overexert themselves attempting to meet perceived demands and, by doing so, increase the fatigue and the need to rest and recover (all-or-nothing behaviour). Others avoid over-activity and rest excessively. Excessive rest and day-time sleep create a disturbance of sleep and the sleep–wake cycle which exacerbate fatigue. In turn, distressed mood (depression and anxiety) can be worsened or generated by the cognitions and behaviours surrounding fatigue and the illness. These emotional responses are known to increase fatigue. The cognitive behavioural model of fatigue suggests that the complex interaction between these cognitive, behavioural and emotional responses can create a vicious cycle in which they interact with physiological changes such as disrupted circadian rhythms, heightened autonomic arousal, deconditioning and inflammation in maintaining the fatigue. Finally, I will discuss implications for treatment and results from randomised controlled trials of cognitive behavioural therapy for fatigue.

CHALLENGES OF BEHAVIOUR CHANGE

Per Nilsen, PhD, *Professor of Social Medicine and Public Health, Linköping University*

Behaviour is critical to the public health. The number of people in the world with Type-2 diabetes is expected to rise from 370 million at the present time to 550 million in 2030. And whereas about 17 million people died from cardiovascular disease in 2008, some 23 million are expected to do so in 2030. The response to health challenges such as these must involve an understanding of human behaviour.

Despite this negative scenario, advances in research have led to improved opportunities for better patient treatment, disease prevention and health promotion, offering the potential for improved health and well-being of populations. However, research in the rapidly growing field of implementation science has shown that adoption of research findings by practitioners in health care and other settings tends to be slow. Hence, behaviour change is not only important at the patient or population level, but also at the practitioner level, to translate research findings into improved health of the public.

Behaviour change can be notoriously difficult to initiate and maintain. This presentation describes four perspectives on behaviour – four ways to understand behaviour change – and discusses implications for strategies to achieve behaviour change.

Multimodal interventions to delay the onset of dementia: a life-course approach

Chengxuan Qiu, PhD, *Professor and Senior Lecturer, Aging Research Center, Karolinska Institutet*

As the absolute number and proportion of aging population increase, dementia has posed tremendous challenges to the current health care and social welfare systems of both high- and middle-income countries. Thus, dementia has been identified by the World Health Organization as a global public health priority. There is currently no cure or even no a disease-modifying therapy for dementia. However, since the 1990s, epidemiological research has from the life-course perspective identified several modifiable risk and protective factors for dementia. Of these factors, smoking, diabetes, and midlife hypertension, sedentary lifestyle, obesity, and high cholesterol might increase risk of dementia by causing cerebral macro- and microvascular damage (e.g., brain infarcts, lacunes, white mater lesions, and microbleeds) and neurodegeneration (e.g., amyloid depositions), whereas high educational attainments in early life and social engagement, physical and mentally-stimulating activities during adulthoods might help maintain late-life cognitive function by increasing cognitive reserve. Theoretically, clinical onset of dementia is likely to be postponed by implementing multimodal interventions targeting these modifiable factors over the lifespan. Evidence from intervention studies has been emerging that multimodal interventions in young-old people that consist of intensive control of cardiovascular risk factors, balanced diets, physical activity, and cognitive training could help maintain cognitive function into later in life. There is emerging evidence now to support notion that multimodal behavioral and lifestyle interventions to promote physical exercise, healthy diet, mentally and socially-stimulating activities and proper management of other medical conditions (e.g., diabetes, hypertension) might recue the risk of dementing disorders in older adults and delay the onset of clinical dementia at population levels. As dementia is highly prevalent among older people, especially among the oldest old, successful intervention will have significant economic and societal benefits.

Keywords: Dementia; behavioral factors; multimodal intervention; life-course epidemiology

Recommended Key readings:

- Qiu C, Fratiglioni L. A major role for cardiovascular burden in age-related cognitive decline. Nature Rev Cardiol 2015;12(5):267-277.
- Qiu C, Yan Z, Du Y. Population intervention strategies towards delaying the onset of dementia (in Chinese). Chin J Behv Med Brain Sci 2017;26(6):501-506.