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Letters to the Editor

We need reproducible health behaviour change interventions to help adults with severe mental illness

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Dear Editor,

It is with great pleasure we read the health behaviour change intervention developed by Bonfioli et al. (2017) that aimed to increase the time improve physical activity and dietary fiber consumption in adults with severe mental illness. In their trials, the authors found that seven one-hour health education group sessions combined with weekly group of walking sessions significantly increased the number of participants with health behaviours (HB) corresponding to the World Health Organization recommendations. It is an encouraging result. The author's efforts to help patients from psychiatric community services to improve their HBs are praiseworthy and should be commended.

The current letter highlights several crucial conceptual and methodological issues of HB change interventions in people with schizophrenia. Four central points about these interventions are presented: a need of theoretical rationale to design HB change intervention, an intervention content presented with behaviour change techniques (BCTs) targeting determinants of change, a need of fidelity checking to improve the external validity of intervention, and the use of validated health behaviour measures. We used the Bonfioli et al. investigation to illustrate the future research challenges in HB change, with respect for their work. Indeed, HB change in psychiatry is a current major challenge for clinicians and researchers. However, we need to improve the designing of HB change interventions in mental health research.

Bonfioli et al. provided a succinct description of their intervention limiting a possible replication of their investigation. Having a short description of the HB change intervention constitutes a barrier for future evidence synthesis as for the translation towards in clinical contexts (Michie and Abraham, 2004). Also, readers cannot clearly understand the potential mechanisms explaining the intervention effectiveness. Over the last decade, HB experts highlighted the need for theoretical rationale to design HB change intervention (Michie et al., 2013a; Michie and Abraham, 2004). Indeed, the lack of theory when developing the intervention limits the potential understanding of the mechanisms involved in the intervention effectiveness and might omit the central psychological processes involved in HB modification (Michie and Abraham, 2004). Moreover, using a theory-based intervention also facilitates the identification of the possible underlying psychological determinants resulting in effective HB change (Gourlan et al., 2016).

To modify these determinants, BCTs have been defined. BCTs are the “observable, replicable, and irreducible components of an intervention designed to alter or redirect causal processes that regulate behaviour; that is, a technique is proposed to be an active ingredient (e.g., feedback, self-monitoring)” (Michie et al., 2013b). BCTs are generally used in combination and in a variety of formats. Two BCT taxonomies have been developed including one that is specifically designed for physical activity and healthy eating behaviours (Michie et al., 2013b, 2011). Recently, the most effective BCTs have been identified to improve different HBs (Dusseldorp et al., 2014). Moreover, the examination of BCTs effects in behaviour change interventions including physical activity is growing in psychiatry (Farholm and Sørensen, 2016). Therefore, researchers should identify the most appropriate BCTs during their intervention preparation to test their effects and acceptability. An intervention manual could clearly present the BCTs linked with the theory, as the BCTs’ content used at each contact with study participants (Michie et al., 2016).

To another extent, though the PHYSICO-DSM-VR trial was multicenter, no details were provided about the control of the content of the intervention in the different centers. Without clear clarifications of the delivered content in group sessions, the replication of identical intervention in centers could vary in critical aspects (Walton et al., 2017). In this perspective, a treatment fidelity checking has been recommended to improve the external validity of HB change interventions (Walton et al., 2017). Fidelity of delivery can be assessed by self-reported measures, audio recording, or by (in)direct observation during all or in randomly selected sessions. In line with the previous paragraph, the fidelity checking is easier when a manual presenting BCTs has been developed.

Furthermore, in HB change research perspective, the choice of outcome measures is crucial. However the assessment of physical activity and vegetable consumption in the Bonfioli et al’s study was questionable. For physical activity, only five items were used, including physical activity at work and weekly frequencies of physical activity at moderate and vigorous intensity, and physical activity is a much broader behaviour. Similarly, two items measured the daily frequency of vegetables consumption. The reliability and validity of these questionnaires was not presented, and we know that physical activity assessment is particularly challenging in adults with severe mental illness (Duncan et al., 2017). In this perspective, several physical activity questionnaires have been

validated for this population and more efforts should be provided to measure this behaviour (e.g., see Duncan et al., 2017) Also, the use of device-assisted measures of physical activity (e.g., accelerometers) should be recommended to obtain more accurate outcomes following HB change intervention (Firth et al., 2017).

In conclusion, future HB change interventions for adults with severe mental illness should require more interdisciplinary collaboration between behavioural medicine, health psychology and psychiatry.

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