



## Original article

# EPA guidance on physical activity as a treatment for severe mental illness: a meta-review of the evidence and Position Statement from the European Psychiatric Association (EPA), supported by the International Organization of Physical Therapists in Mental Health (IOPTMH)



Brendon Stubbs<sup>a,b,\*</sup>, Davy Vancampfort<sup>c</sup>, Mats Hallgren<sup>d</sup>, Joseph Firth<sup>e,f</sup>, Nicola Veronese<sup>g</sup>, Marco Solmi<sup>h</sup>, Serge Brand<sup>i,j,k</sup>, Joachim Cordes<sup>l</sup>, Berend Malchow<sup>m</sup>, Markus Gerber<sup>j</sup>, Andrea Schmitt<sup>m,n</sup>, Christoph U. Correll<sup>o,p,q</sup>, Marc De Hert<sup>r</sup>, Fiona Gaughran<sup>a,b</sup>, Frank Schneider<sup>s</sup>, Florence Kinnafick<sup>t</sup>, Peter Falkai<sup>m</sup>, Hans-Jürgen Möller<sup>m</sup>, Kai G. Kahl<sup>u</sup>

<sup>a</sup> South London and Maudsley NHS Foundation Trust, Denmark Hill, London, SE5 8AZ, United Kingdom

<sup>b</sup> Institute of Psychiatry, Psychology and Neuroscience (IoPPN), King's College London, London, United Kingdom

<sup>c</sup> University Psychiatric Centre, Department of Neurosciences and Department of Rehabilitation Sciences, Katholieke Universiteit Leuven, Kortenberg, 3070, Belgium

<sup>d</sup> Department of Public Health Sciences, Karolinska Institutet, Solna, 171 77, Sweden

<sup>e</sup> NICM Health Research Institute, Western Sydney University, Sydney, Australia

<sup>f</sup> Centre for Youth Mental Health, University of Melbourne, Melbourne, Australia

<sup>g</sup> National Research Council, Neuroscience Institute, Aging Branch, Via Giustiniani 2, 35128, Padova, Italy

<sup>h</sup> Department of Neurosciences, University of Padova, Padova, Italy and Padova Neuroscience Center, University of Padua, Padua, Italy

<sup>i</sup> University of Basel, Psychiatric Clinics (UPK) Center for Affective, Stress and Sleep Disorders, CH-4002, Basel, Switzerland

<sup>j</sup> University of Basel, Department of Sport, Exercise, and Health, Division of Sport and Psychosocial Health, CH-4052, Basel, Switzerland

<sup>k</sup> Kermanshah University of Medical Sciences, Substance Abuse Prevention Research Center and Sleep Disorders Research Center, Kermanshah, Iran

<sup>l</sup> Department of Psychiatry and Psychotherapy, Heinrich-Heine Universität Düsseldorf, Germany

<sup>m</sup> Department of Psychiatry and Psychotherapy, Ludwig Maximilian University Munich, Nussbaumstrasse 7, 80336, Munich, Germany

<sup>n</sup> Laboratory of Neuroscience (LIM27), Institute of Psychiatry, University of Sao Paulo, Rua Dr. Ovidio Pires de Campos 785, 05453-010, São Paulo, SP, Brazil

<sup>o</sup> Hofstra Northwell School of Medicine Hempstead, New York, USA

<sup>p</sup> The Zucker Hillside Hospital, Department of Psychiatry, New York, USA

<sup>q</sup> Charité Universitätsmedizin, Department of Child and Adolescent Psychiatry, Berlin, Germany

<sup>r</sup> Universitair Psychiatrisch Centrum KU Leuven, 3070, Kortenberg, Belgium

<sup>s</sup> Department of Psychiatry, Psychotherapy and Psychosomatic, University of Aachen (RWTH), Germany

<sup>t</sup> School of Sport, Exercise and Health Sciences, National Centre for Sport and Exercise Medicine, Loughborough University, Loughborough, Leicestershire, LE11 3TU, UK

<sup>u</sup> Department of Psychiatry, Social Psychiatry and Psychotherapy, Hannover Medical School, Germany

## ARTICLE INFO

## Article history:

Received 30 May 2018

Received in revised form 17 July 2018

Accepted 18 July 2018

## Keywords:

Physical activity

Sedentary behaviour

Exercise

Psychosis

Schizophrenia

Severe mental illness

Bipolar disorders

Major depressive disorders

## ABSTRACT

Physical activity (PA) may be therapeutic for people with severe mental illness (SMI) who generally have low PA and experience numerous life style-related medical complications. We conducted a meta-review of PA interventions and their impact on health outcomes for people with SMI, including schizophrenia-spectrum disorders, major depressive disorder (MDD) and bipolar disorder. We searched major electronic databases until January 2018 for systematic reviews with/without meta-analysis that investigated PA for any SMI. We rated the quality of studies with the AMSTAR tool, grading the quality of evidence, and identifying gaps, future research needs and clinical practice recommendations. For MDD, consistent evidence indicated that PA can improve depressive symptoms versus control conditions, with effects comparable to those of antidepressants and psychotherapy. PA can also improve cardiorespiratory fitness and quality of life in people with MDD, although the impact on physical health outcomes was limited. There were no differences in adverse events versus control conditions. For MDD, larger effect sizes were seen when PA was delivered at moderate-vigorous intensity and supervised by an exercise specialist. For schizophrenia-spectrum disorders, evidence indicates that aerobic PA can reduce psychiatric symptoms, improves cognition and various

\* Corresponding author at: Physiotherapy Department, South London and Maudsley NHS Foundation Trust, Denmark Hill, London, United Kingdom.

E-mail address: [brendon.stubbs@kcl.ac.uk](mailto:brendon.stubbs@kcl.ac.uk) (B. Stubbs).

subdomains, cardiorespiratory fitness, whilst evidence for the impact on anthropometric measures was inconsistent. There was a paucity of studies investigating PA in bipolar disorder, precluding any definitive recommendations. No cost effectiveness analyses in any SMI condition were identified. We make multiple recommendations to fill existing research gaps and increase the use of PA in routine clinical care aimed at improving psychiatric and medical outcomes.

© 2018 Elsevier Masson SAS. All rights reserved.

## 1. Introduction

### 1.1. Serious mental illness, physical co-morbidity and premature mortality

Severe mental illnesses (SMI), defined as schizophrenia-spectrum disorders, bipolar disorder (BD) and major depressive disorder (MDD), are leading causes of years lived with global disability and are of considerable public health importance [1]. In addition to the impact of the mental health symptoms and reduced daily life functioning, people with SMI are at increased risk of premature mortality by between 10–20 years compared to age- and sex-matched controls [2–5]. While suicide accounts for a concerning portion of the early mortality [6,7], there is increasing recognition that physical disorders account for approximately 70% of these premature deaths [3,8]. Of notable concern, cardiovascular and metabolic diseases appear to greatly increase the risk of early death in those with SMI [9], which is of particular importance, given the high prevalence of these diseases in SMI [9–11]. People with SMI are also at increased risk of various other physical comorbidities, such as respiratory disease [12,13], poor bone health [14] and physical multimorbidity [15]. Moreover, people with SMI typically experience pronounced cognitive impairment, which often worsens over time [16–18] and for which treatment approaches remain limited [19,20].

Current treatment for mental health symptoms and functioning largely revolves around psychotropic medication [21,22] and/or psychotherapeutic interventions [23–25]. Whilst both of these dominant approaches, alone and in combination, have demonstrated treatment efficacy on mental health symptoms [26], their impact on the rising physical health burden in this population is limited, and psychotropic medication may even have an adverse relationship with cardiometabolic/physical health [8,9]. In addition, antipsychotic medication has been associated with reduced grey matter volume in people with schizophrenia [27] while psychotherapeutic interventions appear to have limited efficacy for cognitive impairment in this population [28].

### 1.2. Established benefits of physical activity in the general population

In the general population, there is evidence that physical activity is equally effective as frontline pharmacological interventions, such as statins and beta-blockers, in preventing cardiovascular disease mortality [29]. Moreover, there is consistent evidence that physical activity and exercise can decrease the risk of developing cardiovascular and metabolic disease [30–32] and reduce inflammatory parameters, such as C-reactive protein [33,34], which are commonly raised in people with SMI [35]. Conversely, higher levels of sedentary behaviour (characterized by an energy expenditure  $\leq 1.5$  metabolic equivalents (METs), while in a sitting, reclining or lying posture during waking hours [36]) are independently associated with an increased risk of diabetes, cardiovascular disease and premature mortality [37]. In the general population, there is also evidence that lower levels of cardiorespiratory fitness are a more accurate determinant of premature death than body mass index (BMI) [38]. Moreover, there

is evidence that aerobic exercise is effective in improving cognitive function in the general population [39–43] including potentially increasing hippocampal volume [44]. In addition, a recent global meta-analysis has demonstrated that higher levels of PA confers protection from the development of depressive symptoms and MDD [45].

### 1.3. Low levels of physical activity and fitness

Despite the aforementioned, there is evidence to suggest that less than half of people with SMI (schizophrenia [46], bipolar disorder [47] and major depression [48] [49]) meet recommended physical activity levels of 150 min of moderate-vigorous physical activity per week [50]. Moreover, each of these populations engage in remarkably high levels of sedentary behaviour [46 [48] and have low levels of cardiorespiratory fitness [51]. People with SMI experience, a number of barriers from engaging in physical activity exist, such as side effects of medications, complications from obesity/poor physical health [52,53], lack of resources/professional support [54], various motivational factors [55], which calls for targeted interventions in this highly sedentary population [56–58].

## 2. Aims

The overall aims of this meta-review and position statement were as follows: First, to establish the benefits of physical activity / exercise across all categories of severe mental illness (SMI), using top-tier evidence from published systematic reviews and meta-analyses. Second, examine how the benefits of physical activity may differ across specific SMIs, including schizophrenia-spectrum disorders, BD and MDD. Finally, to use these findings to provide guidance for clinical practice, policy and future research.

## 3. Methods

### 3.1. Guidance development process

This guidance paper was performed in accordance with the PRISMA guidelines [59] following a pre-determined, published protocol (PROSPERO registration CRD42017068292). Moreover, the current guidance was conducted in accordance with the European Psychiatric Association (EPA) guidelines framework and wherever possible, adopted guidance based on the findings from systematic reviews and meta-analyses [60].

### 3.2. Searches and study selection

Two independent authors searched from inception to 15<sup>th</sup> January 2018 Medline/ Pubmed, PsychInfo, EMBASE and the Cochrane database for systematic reviews (with and without meta-analyses) of studies investigating physical activity/ exercise among people with SMI, schizophrenia-spectrum disorders, BD or MDD. The search terms included (exercise or aerobic exercise or physical activity or resistance training) and (schizophrenia or

Download English Version:

<https://daneshyari.com/en/article/11033535>

Download Persian Version:

<https://daneshyari.com/article/11033535>

[Daneshyari.com](https://daneshyari.com)