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Commentary

Moving the Body to Treat the Mind: Physical Health and Physical Activity as Targets for Mental Health Care in Secure Psychiatric Settings

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Abstract

Individuals with severe mental illness (SMI) have a life expectancy 10–20 years shorter than the general population, with a significant portion of this gap attributable to preventable physical disease. This problem is exacerbated in secure psychiatric settings where prolonged detention in environments with restricted movement, in conjunction with high-dose psychotropic medication, can contribute to high rates of obesity and type 2 diabetes. Physical activity (PA) is a modifiable determinant of cardiometabolic risk and an evidence-based therapeutic approach that can improve depressive and negative symptoms of cognition, sleep and quality of life. This commentary discusses the evidence of the relationship between physical health, PA and mental health with particular attention to adults and adolescents detained in secure care. Using specific examples from the author, it summarises potential mechanisms through which PA may impact mental health, examines the potential barriers that make its translation into secure services challenging and considers sleep and sedentary behaviour as complementary targets. There is a growing body of evidence to suggest that the limiting factor is no longer efficacy but rather implementation. Practical recommendations are offered for clinicians, service managers and commissioners seeking to embed PA into routine secure care.

Keywords: physical activity; severe mental illness; secure psychiatric care; forensic mental health; physical health; sedentary behaviour; implementation

1. Introduction

There has been a chronic lack of understanding of the key role of physical health in the care of people with severe mental illness (SMI). A meta-review of 20 systematic reviews covering more than 1.7 million patients confirmed that every major mental disorder carries an elevated all-cause mortality risk relative to the general population, with a reduction in life expectancy of 10–20 years, which is a burden that is comparable to, or exceeding, that of heavy smoking [1]. Critically, suicide accounts for only a minority of these excess deaths, with the dominant contributors being cardiovascular disease, respiratory disease, metabolic disorder and cancer. These are all conditions that are, in principle, preventable and treatable [2].

The Lancet Psychiatry Commission characterised this as a multifaceted, transdiagnostic and global problem arising from the interaction of illness-related behavioural change, adverse effects of psychotropic medication, socioeconomic disadvantage and unequal access to physical health care [2]. Because of this, physical activity (PA) can play a role as a key therapeutic target, as it serves as a multifactorial element. It is a modifiable determinant

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of cardiometabolic risk, and it can have a direct impact on psychiatric symptoms. PA includes structured activity such as exercise, as well as general unstructured activity. For the purpose of this commentary, PA will refer to structured activity and exercise.

This commentary focuses on the population in which the problem is most severe: people detained in secure psychiatric settings. It is based on the author's experience in the field, draws on published studies, and provides specific examples. These services—low, medium and high secure, together with psychiatric intensive care—admit individuals whose illness and associated risk cannot be managed in the community, often for periods measured in years rather than weeks [3]. The length of admission, the restrictions associated with the environment, and the complexity of the patient group make secure care both the setting of greatest need and the most complex for implementation.

2. The Physical Health Burden in Secure Care

Secure psychiatric environments are frequently described as obesogenic, and the empirical record supports this description. In a review of electronic records for 351 patients across a UK secure service, 34% met criteria for obesity—which was considerably above the general population rates at the time—while one third were prescribed medication for hyperlipidaemia and 10% carried a diagnosis of type 2 diabetes [4]. A higher body mass index was associated with regular antipsychotic medication prescribing and with lower physical activity levels, and women showed a tendency for weight to continue rising across a three-year follow-up, consistent with lower engagement in physical activity.

The behavioural basis of these findings is well documented. A global meta-analysis found that people with schizophrenia, bipolar disorder or major depressive disorder spend approximately eight hours per day in a sedentary lifestyle and spend an average of only around 38 min in moderate-to-vigorous physical activity (MVPA), significantly less than matched controls [5]. While symptom severity and medication play a key role, other factors in a secure care environment also exacerbated this pattern, including restricted grounds access, strict ward-based routines, staff attitudes, limited leave and a general pattern of sedentary occupation associated with long periods of unstructured time [3].

These consequences are not confined to adults. A systematic scoping review of PA in adolescents with SMI identified only 13 eligible studies, even though adolescents in secure care are exposed to the same obesogenic conditions at a critical point in their development, with physical health implications that will extend into their adult life [6]. Early intervention in this group therefore represents a clear opportunity that could be exploited to avoid the longer-term negative consequences.

3. Physical Activity as a Treatment for Mental Health

The case for PA does not depend on physical health benefits alone. The European Psychiatric Association, in a meta-review supported by the International Organization of Physical Therapists in Mental Health, concluded that PA is an efficacious adjunctive treatment for SMI, improving depressive symptoms, cardiorespiratory fitness and quality of life, with effect sizes for depression comparable to those reported for antidepressant medication and psychotherapy [7]. The guidance recommends approximately 150 min of moderate-to-vigorous physical activity (MVPA) per week and emphasises that programmes supervised by qualified exercise professionals achieve significantly better adherence and greater fitness benefits than unsupervised advice.

A more recent meta-review extended these conclusions across diagnostic categories and proposed some potential underlying mechanisms [8]. Neurobiological pathways include exercise-induced increases in brain-derived neurotrophic factor (BDNF) and hippocampal neurogenesis, attenuation of systemic inflammation, normalisation of the

hypothalamic–pituitary–adrenal (HPA) axis and improved cerebral blood flow. In addition, the psychosocial impact of physical activity includes enhanced confidence, expression and improved social interaction. Positive behavioural impacts include the restoration of a normal circadian rhythm. However, the review identified that initial uptake and subsequent sustained engagement were key challenges for people with SMI to engage in PA [8]. These are also areas where secure settings encounter difficulties.

4. What Is Different About Secure Settings?

There is a lack of evidence relating to the impact of PA on patients with SMI who reside in a secure care setting, as the majority of the evidence for the effectiveness of the intervention has been obtained in the outpatient or community setting. A systematic review of PA interventions in secure forensic settings identified only four studies with 112 participants in total, all of which had a limited design quality, and none reported follow-up beyond the intervention period [9]. The authors concluded that there is a lack of evidence of the effects of PA for people with SMI in these settings, although the interventions are likely to result in both symptomatic and physical health benefits. This highlights the heterogeneity of the population and the bias that may exist within the current evidence base. So, while there is a body of evidence for an impact of PA on mental health, the challenge is demonstrating that this can be reproduced in a secure setting with all of the additional challenges that are present, especially the complex SMI status of the patients involved.

Qualitative research has provided more detailed information about why the implementation of PA programmes fails. Interviews with 15 medium-secure inpatients identified ward restrictions, mental health symptoms and medication side effects as being the dominant barriers, alongside inconsistent staff attitudes and a lack of staff training in PA promotion [3]. However, patients also identified specific benefits. They valued PA not only for weight loss or improved fitness but also for symptom relief, improved mood, and as an escape from the ward. Reviews of inpatient settings more broadly have identified four key barriers: patient physical and mental health, service provider factors, environmental factors, and cultural factors.

Two features distinguish secure care from other inpatient contexts. First, autonomy is structurally constrained: a patient cannot simply decide to go for a walk, so any PA opportunity is limited by staff availability, risk assessment and leave status. Second, the therapeutic relationship between patients and staff is a key determinant. In a long-term stay situation, whether a patient engages in a meaningful therapeutic relationship depends heavily on their interaction with the staff delivering the activity, both relationally and technically. It is vital that this relationship is trustworthy and that the patient understands the long-term benefit of the PA intervention.

A further consideration is that the population itself is heterogeneous, and this makes the design of inpatient clinical trials challenging. Secure services encompass long-term residents, forensic wards, psychiatric intensive care and acute inpatient units, admitting patients with psychotic, affective and personality disorder diagnoses, frequently with comorbid learning disabilities or neurodevelopmental conditions, and widely differing physical capabilities [3]. Negative symptoms, cognitive impairment, sedation and weight gain attributable to medication, and low baseline fitness all impact what is realistically achievable, and each is itself partly responsive to increased activity. Medication will also be a confounding factor, with patients with complex SMI often being prescribed multiple agents which impact their physical ability and performance. Peer interaction on a ward also influences participation in any PA interventions, although this can be both positive and negative [3]. Overall, a single standardised interventional programme is unlikely to serve

a whole ward due to the heterogeneity of the population. Therefore, personalised plans rather than standard group trials are more appropriate when assessing the impact of PA on mental health. These will depend on the individual patient's capabilities, expectations and goals from trial participation. For patients with SMI with different diagnoses, levels of physical ability, and a varying recovery journey, their sole common factor is that they are in the same secure ward; thus, a personalised intervention would be the most appropriate approach. Additionally, patient safety must be considered, and the restrictions associated with secure care are critical when planning any physical activity intervention, such as remote activity monitoring [10].

5. Sleep, Sedentary Behaviour and the 24-h Day

Over 40% of secure psychiatric inpatients report poor sleep quality and disrupted sleep–wake cycles. Daytime napping, delayed sleep and fragmented night-time sleep are common. Poor sleep is not merely a comorbidity but a driver of symptom severity, cognitive impairment and impaired daytime function. It also interacts reciprocally with inactivity. Daytime inactivity and napping significantly impact night-time sleep, which, in turn, reduces the energy and motivation available for activity the following day. Furthermore, this disrupts the circadian rhythm and impacts overall physical and mental health.

An example of how PA may benefit people with SMI in secure care is a feasibility study of 22 inpatients which investigated whether a simple exercise programme could interrupt this cycle [10]. The programme consisted of three 10 min bouts of self-selected activity per day, five days per week, over ten weeks. Participants added an average of 17 min of MVPA per day and experienced a shift towards a healthier circadian pattern with a forward movement in both time to bed and time to sleep. Retention in the trial was 100%, attributed in part to an initial co-production of the trial and the rapport that was established with the researcher. This finding is of practical importance in an environment where a longer period of one hour of continuous supervised exercise is often unachievable. In this study, medication levels did not impact the participants' ability to complete the study. While this study demonstrates feasibility of a PA intervention in secure care and preliminary evidence for effectiveness, further research is required to consolidate these findings.

6. From Evidence to Implementation

While there is an increasing body of evidence to suggest that PA can benefit both physical and mental health and the feasibility has been demonstrated primarily in a community setting, the key challenge is the ability to integrate this into routine practice and to maintain this as part of "treatment as usual". Adherence, rather than recruitment or retention, is the key point of failure [10], and interventions seldom survive the departure of the researcher who delivered them. Much of the field has focused on individual-level behaviour change while neglecting the wider changes that are required at an institutional level.

While there is a lack of evidence for the effectiveness of PA in a secure setting, there has been an emergence of an international consensus involving stakeholders across inpatient mental health services that points towards a multi-level solution. Strategies rated most effective and impactful concern leadership and organisational commitment, PA infrastructure, consistent access to opportunities, workforce capacity and a positive day-to-day PA culture [11]. However, this requires investment at all levels of the organisation. Strategies rated the most feasible are those that can operate across internal barriers to protect PA time within patient timetables, co-design programmes with patients, use patient feedback and ongoing service evaluation, and work with the staff providing the PA intervention. The gap between what is effective and what is feasible is itself the central challenge for implementation and it needs full organisational support.

A challenge is that the secure-setting literature is dominated by small, single-site studies with short intervention periods, heterogeneous outcome measures and an absence of longer-term follow-up. This makes it difficult to draw solid conclusions about the implementation of organisation-wide programmes which often require a solid evidence base [6,9]. Randomisation is often impractical and blinding is impossible. Realist and consensus methods, which ask what works for whom and in what circumstances rather than whether an intervention works on average, are consequently well matched to this field and are increasingly being applied to it [11]. Alternative trial designs such as pragmatic adaptive or hybrid implementation-effectiveness trials should also be considered, as these may be more appropriate for the environment than classic clinical trials. Outcome measures are also critical, considering both mental and physical health outcomes as well as patient-centred outcome measures. The key research challenge is the appropriate design of robust trials to determine the impact of PA on the mental health of people with SMI in secure settings. While preliminary evidence suggests this will be effective [11], the challenge is to design trials appropriately for the setting rather than translating a community-based trial into a secure environment [12]. Furthermore, it is crucial to ensure the results are sufficiently robust to be generalisable to other secure settings rather than being specific to an individual institution. This will require appropriate planning with a multidisciplinary team including clinical trial expertise and health economics. However, given the shift towards increased community care, the challenge is to persuade funders that a residual secure care population will always be necessary and that they require optimal care for which research is a key component.

While this commentary has focused on the issues facing people with SMI in a secure setting, implementation of a PA programme for people with SMI in the community also has reported challenges. An example is the UCLP-PRIMROSE programme, which was established to reduce physical health inequalities for people with severe mental illness. Implementation varied across general practices and community care teams. Factors such as the development of the SMI physical health check impacted the implementation. As with secure care, staff buy-in was critical for successful implementation. Despite moderate success in a short period, all teams wanted to sustain delivery in the longer period [12].

7. Implications for Clinical Practice

Physical health monitoring in secure care should be treated as a core clinical practice, with weight, metabolic indices and activity levels reviewed alongside mental state, and with antipsychotic choice informed by cardiometabolic risk as well as symptomatic efficacy [2]. PA should be recorded and reviewed as a clinical variable, not considered as an occupational or leisure provision.

Programmes should be co-designed with patients and framed around the outcomes patients themselves value. These can include mental health benefits such as mood, symptom relief, relief from the ward, social connection, and physical benefits such as increased energy, improved sleep and weight loss [3]. Doses should be pragmatic and evidence has demonstrated that short, frequent bouts are demonstrably capable of shifting activity and circadian outcomes and fit the realities of ward life better than conventional exercise prescriptions [10]. PA, sleep and sedentary behaviour should be addressed together across the 24 h day.

Delivery should be by staff with appropriate competence with whom the patients are acquainted and where there is a therapeutic bond, since such an alliance is a determinant of engagement and ward staff require training and clear role expectations if they are to support activity consistently [3,9]. Previous studies have demonstrated that staff engagement is a key component of patient involvement in PA, whether structured or unstructured [3,11].

The development of toolkits to promote PA among patients should have input from all stakeholder groups to ensure that there is complete participation [13]. Finally, adolescents in secure care deserve specific attention considering the potential long-term impact of adverse physical health [6]. Other confounding factors such as sexual relationships and development should also be taken into consideration when planning interventions for this particular patient group.

All PA programmes should also consider the health economic impact and particularly the cost-effectiveness of the intervention. This should include the appropriate clinical outcome measures as well as patient-reported outcomes, quality of life measures, length of stay in secure care, any additional staff costs and its role in the ultimate journey patients undergo within the healthcare system. Other factors to be considered include medication cost and requirement for other therapies.

8. Conclusions

The mortality gap experienced by people with SMI is a treatable phenomenon, and PA is among the few interventions that may address its causes and psychiatric impact simultaneously. In secure psychiatric settings, the need is greatest and the evidence base is weakest, although there is a trend for increased research in this area. While there is a key challenge to develop an evidence base to demonstrate that physical activity works, this should be carried out in parallel with a programme to determine how it can be appropriately embedded in restricted environments where there are a heterogeneous group of patients with complex unmet needs and where there may be competing clinical priorities. This requires organisational commitment rather than isolated intervention studies, alongside high-quality trials with longer follow-up periods, in both adolescent and adult populations. Parity of esteem between physical and mental health remains a key objective for this clinical population.

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