FATEBENEFRATELLI

Tempo quotidiano
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e psicopatologia

I risultati del progetto DiAPAson

Innovazione in salute mentale ed interventi precoci: le lezioni del progetto DIAPASON

Giovanni de Girolamo

IRCCS Centro San Giovanni di Dio Fatebenefratelli

Gli studi multicentrici con campioni di pazienti superiori a 100 soggetti condotti in Italia negli ultimi 40 anni sono tre:

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CENTRI PARTECIPANTI	117 CSM	27	37
WEBSITE	No	No	Si
TIPO DI STUDIO	RCT	Cross-sezionale con FU	Cross-sezionale + coorte
ANALISI GENETICHE	Si	Si	No
BRAIN IMAGING	Si	No	No
STRUMENTI DIGITALI	No	No	Si
N. PAZIENTI RECLUTATI	444	921	655
RECLUTAMENTO FAMILIARI	No	Si	No
CONTROLLI SANI	No	Si	Si
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THE CHARACTERISTICS OF INNOVATION

CON PAZIENTI SOFFERENTI DI DSS……

1° studio internazionale per valutare la percezione soggettiva del tempo con lo ZTPI.

1° studio internazionale per valutare la 'positività' nella percezione della propria vita con la Positivity Scale

1° studio italiano con Experience Sampling Method.

1° studio italiano impiegando un accelerometro per monitorare i pattern di AF ed il ritmo sonno-veglia.

1° studio italiano con il Working Alliance Inventory per valutare l'alleanza terapeutica.

1° studio italiano con il Maslach Burnout Inventory per valutare il burnout dello staff.

1° studio italiano in un campione nazionale con la Camberwell Assessment of Need per valutare i bisogni dei pazienti.

1° studio italiano in un campione nazionale con la Ward Atmosphere Scale per valutare la percezione del setting di trattamento e l'alleanza terapeutica.

2° studio condotto in Italia (e primo studio condotto su un campione nazionale) per valutare la qualità delle strutture residenziali psichiatriche con il QuIRC-.SA.

Collaborazioni internazionali

Maciej Stolarski
(Univ di Varsavia, Polonia)

Ulf Ekelund
(Univ di Oslo, Norvegia)

Scott Crouter
(Univ del Tennessee, USA)

Philip Harvey
(Univ di Miami, USA)

Helen Killaspy
(Univ College London, UK)

Chris Correll
Hofstra/Northwell University, USA)

Kate Berry
(Univ Manchester, UK)

Olav Nielssen
(Univ Sydney, Australia)

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BMC Psychiatry

STUDY PROTOCOL Open Access

DAily time use, Physical Activity, quality of care and interpersonal relationships in patients with Schizophrenia spectrum disorders (DiAPASon): an Italian multicentre study

Giovanni de Girolamo[1*], Matteo Rocchetti[2,3], Ilaria Maria Antonietta Benzi[1], Sara Agosta[4], Letizia Casiraghi[2,3], Clarissa Ferrari[5], Nicola De Franceschi[6], Ambra Macis[5], Silvia Pogliaghi[7] and Fabrizio Starace[4]

Abstract

Background: Schizophrenia spectrum disorders (SSD) are ranked among the leading causes of disabilities worldwide. Many people with SSD spend most of their daily time being inactive, and this is related to the severity of negative symptoms. Here, we present the 3-year DiAPAson project aimed at (1) evaluating the daily time use among patients with SSD living in Residential Facilities (RFs) compared to outpatients with SSD and to the general population (Study 1); (2) evaluating the quality of staff-patient relationships, its association with specific patient outcomes and the quality of care provided in RFs (Study 2); and (3) assessing daily activity patterns in residential patients, outpatients with SSD and healthy controls using real-time methodologies (Study 3).

Methods: Study 1 will include 300 patients with SSD living in RFs and 300 outpatients; data obtained in these clinical populations will be compared with normative data obtained by the National Institute of Statistics (ISTAT) in the national survey on daily time use. Time use assessments will consist of daily diaries asking participants to retrospectively report time spent in different activities.
In Study 2, a series of questionnaires will be administered to 300 residential patients (recruited for Study 1) to evaluate the quality of care and staff-patient relationships, level of well-being and burnout of RFs' staff, and quality of RFs using a European standardized questionnaire (QuIRC-SA).
In Study 3, the daily time use will be evaluated in a subgroup of 50 residential patients, 50 outpatients and 50 healthy controls using the Experience Sampling Method approach (participants will complete a brief questionnaire -about time use, mood and perceived energy- on a smartphone 8 times a day for 1 week) to compare retrospective and real-time reports. Moreover, their level of physical activity, sleep patterns, and energy expenditure will be monitored through a multi-sensor device.

(Continued on next page)

*Correspondence: gdegirolamo@fatebenefratelli.eu
[1]Unit of Epidemiological and Evaluation Psychiatry, IRCCS Istituto Centro San Giovanni di Dio Fatebenefratelli, Brescia, Italy
Full list of author information is available at the end of the article

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BMC Psychiatry

RESEARCH Open Access

Quality of residential facilities in Italy: satisfaction and quality of life of residents with schizophrenia spectrum disorders

Alessandra Martinelli[1,2*], Helen Killaspy[3], Cristina Zarbo[4], Sara Agosta[5,6], Letizia Casiraghi[7], Manuel Zamparini[4], Fabrizio Starace[5], Matteo Rocchetti[7], Giovanni de Girolamo[4], Mirella Ruggeri[1] and DIAPASON consortium

Abstract

Background: Recovery and human rights promotion for people with Schizophrenia Spectrum Disorders (SSDs) is fundamental to provide good care in Residential Facilities (RFs). However, there is a concern about rehabilitation ethos in RFs. This study aimed to investigate the care quality of Italian RFs, the quality of life (QoL) and care experience of residents with SSD.

Methods: Fourty-eight RFs were assessed using a quality assessment tool (QuIRC-SA) and 161 residents with SSD were enrolled. Seventeen RFs provided high intensity rehabilitation (SRP1), 15 medium intensity (SRP2), and 16 medium-low level support (SRP3). Staff-rated tools measured psychiatric symptoms and psychosocial functioning; user-rated tools assessed QoL and satisfaction with services. RFs comparisons were made using ANOVA and Chi-squared.

Results: Over two-thirds patients (41.5 y.o., SD 9.7) were male. Seventy-six were recruited from SRP1 services, 48 from SRP2, and 27 from SRP3. The lowest QuIRC-SA scoring was Recovery Based Practice (45.8%), and the highest was promotion of Human Rights (58.4%). SRP2 had the lowest QuIRC-SA ratings and SRP3 the highest. Residents had similar psychopathology ($p = 0.140$) and functioning ($p = 0.537$). SRP3 residents were more employed (18.9%) than SRP1 (7.9%) or SRP2 (2.2%) ones, and had less severe negative symptoms ($p = 0.016$) and better QoL ($p = 0.020$) than SRP2 residents. There were no differences in the RF therapeutic milieu and their satisfaction with care.

Conclusions: Residents of the lowest supported RFs in Italy had less severe negative symptoms, better QoL and more employment than others. The lowest ratings for Recovery Based Practice across all RFs suggest more work is needed to improve recovery.

Keywords: Schizophrenia, Residential facilities, Recovery, Quality of care, Quality of life, Functioning

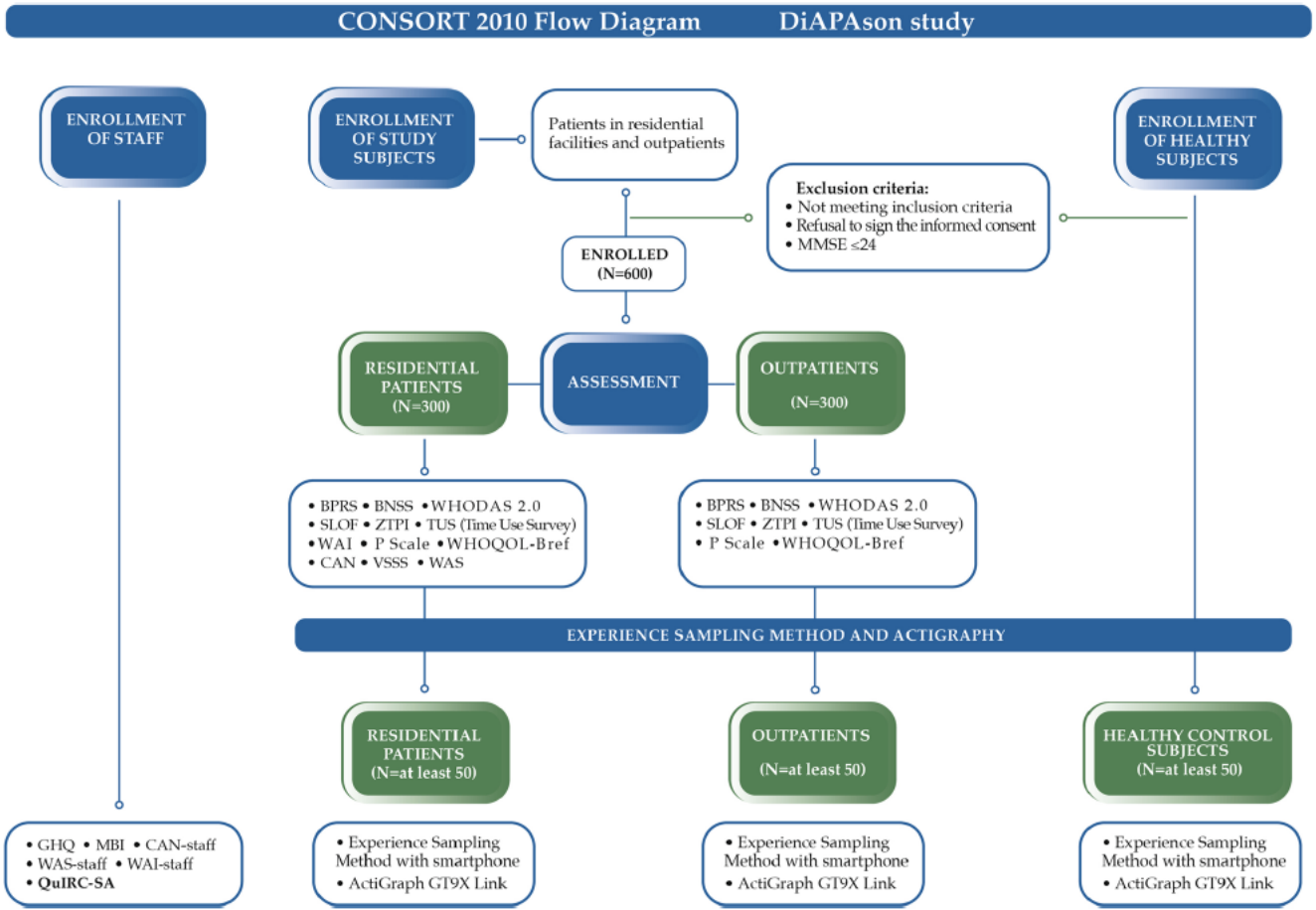

Fig. 1 Flow-diagram showing procedures for enrolment and assessment of clinical subjects and healthy controls

QUALI STRADE PERCORSE DALLA RICERCA SULLA SCHIZOFRENIA?

	PUBMED HITS
(("Psychotic Disorders"[Mesh]) OR "Schizophrenia"[Mesh]) AND genetics	22.919
(("Psychotic Disorders"[Mesh]) OR "Schizophrenia"[Mesh]) AND (imaging OR neuroimaging)	15.006
(("Psychotic Disorders"[Mesh]) OR "Schizophrenia"[Mesh]) AND exercise	502
(("Psychotic Disorders"[Mesh]) OR "Schizophrenia"[Mesh]) AND (actigraphy OR accelerometer)	137

Health Policy

Transforming mental health systems globally: principles and policy recommendations

A burgeoning mental health crisis is emerging globally, regardless of each country's human resources or spending. We argue that effectively responding to this crisis is impeded by the dominant framing of mental ill health through the prism of diagnostic categories, leading to an excessive reliance on interventions that are delivered by specialists; a scarcity of widespread promotive, preventive, and recovery-oriented strategies; and failure to leverage diverse resources within communities. Drawing upon a series of syntheses, we identify five principles to transform current practices; namely, address harmful social environments across the life course, particularly in the early years; ensure that care is not contingent on a categorical diagnosis but aligned with the staging model of mental illness; empower diverse front-line providers to deliver psychosocial interventions; embrace a rights-based approach that seeks to provide alternatives to violence and coercion in care; and centre people with lived experience in all aspects of care. We recommend four policy actions which can transform these principles into reality: a whole of society approach to prevention and care; a redesign of the architecture of care delivery to provide a seamless continuum of care, tailored to the severity of the mental health condition; investing more in what works to enhance the impact and value of the investments; and ensuring accountability through monitoring and acting upon a set of mental health indicators. All these actions are achievable, relying—for the most part—on resources already available to every community and country. What they do require is the acceptance that business as usual will fail and the solutions to transforming mental health-care systems are already present within existing resources.

Disappointingly, 50 years on, we still do not have a single biological finding that can be applied to diagnose any mental illness, nor a single new therapeutic agent or target for prevention. Yet, this reductionist framework continues

Accelerometro/actigrafo

PHYSICAL ACTIVITY CLASSIFICATION

Sedentary behaviour: time spent sitting or lying down (except when sleeping), with very little energy expenditure, as sitting at work, watching TV, reading.

Light intensity activities: those that require standing up and moving around, either in the home, workplace or community, as housework like hanging out the washing, ironing and dusting, working at a standing workstation.

Moderate intensity: the activities require some effort but you can still talk while doing them, as brisk walking, recreational swimming, social tennis, cleaning the windows at home.

Vigorous intensity: the activities lead to harder breathing, or puffing and panting (depending on your fitness), as aerobics, jogging, many competitive sports, lifting, carrying and digging.

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BMJ Mental Health

ADULT MENTAL HEALTH

Ecological monitoring of physical activity, emotions and daily life activities in schizophrenia: the DiAPAson study

Cristina Zarbo ,[1] Matteo Rota,[2] Stefano Calza,[2] Scott E Crouter,[3] Ulf Ekelund,[4,5] Stefano Barlati,[6] Riccardo Bussi,[7] Massimo Clerici,[8] Roberto Placenti,[9] Giuseppina Paulillo,[10] Silvia Pogliaghi,[11] Matteo Rocchetti,[12] Mirella Ruggeri,[13] Fabrizio Starace,[14] Stefano Zanolini,[15] Manuel Zamparini,[16] Giovanni de Girolamo ,[16] DiAPAson Collaborators

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For numbered affiliations see end of article.

Correspondence to
Dr Giovanni de Girolamo, UOPEV, IRCCS Centro San Giovanni di Dio Fatebenefratelli, Brescia, Italy; gdegirolamo@fatebenefratelli.eu

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ABSTRACT

Background Schizophrenia spectrum disorders (SSD) compromise psychosocial functioning, including daily time use, emotional expression and physical activity (PA).

Objective We performed a cohort study aimed at investigating: (1) the differences in PA, daily activities and emotions between patients with SSD and healthy controls (HC); (2) the strength of the association between these variables and clinical features among patients with SSD.

Methods Ninety-nine patients with SSD (53 residential patients, 46 outpatients) and 111 matched HC were assessed for several clinical variables, and levels of functioning by means of standardised clinical measures. Self-reported daily activities and emotions were assessed with a smartphone application for ecological momentary assessment (EMA), and PA levels were assessed with a wearable accelerometer for 7 consecutive days.

Findings
Patients with SSD, especially those living in residential facilities, spent more time being sedentary, and self-reported more sedentary and self-care activities, experiencing higher levels of negative emotions compared with HC. Moreover, higher functioning levels among patients were associated with more time spent in moderate-to-vigorous activity.

Conclusions Sedentary behaviour and negative emotions are particularly critical among patients with SSD and are associated with more impaired clinical outcomes.

Clinical implications Mobile-EMA and wearable sensors are useful for monitoring the daily life of patients with SSD and the level of PA. This population needs to be targeted with specific rehabilitative programmes aimed at improving their commitment to structured daily activities.

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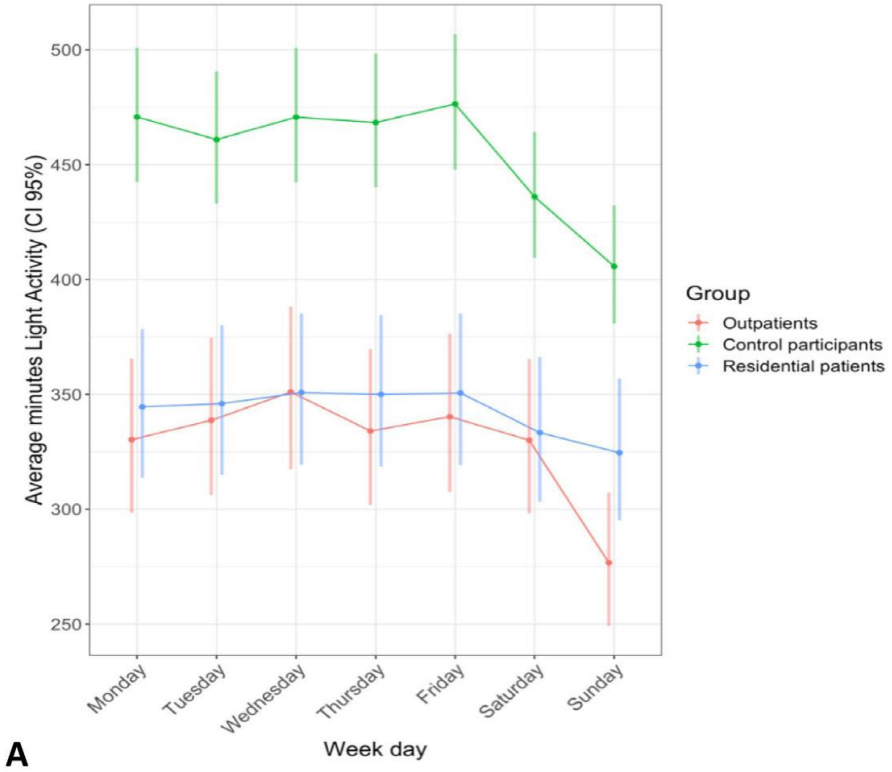
BACKGROUND

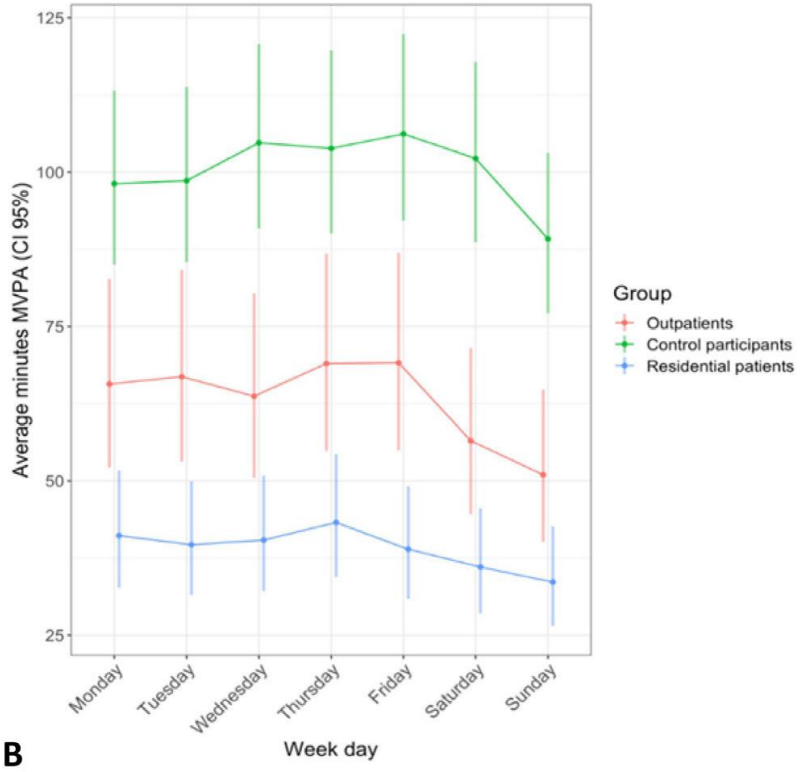
Patients with schizophrenia spectrum disorders (SSD) often show marked impairments in daily time functioning,[1] with adverse consequences for prognosis, number of medical comorbidities and mortality rates.[2] However, despite the importance assigned to the daily time use of patients with SSD, most studies have mainly collected self-reported retrospective data. The use of retrospective self-reports in patients with severe mental disorders is prone to errors related to recall bias and to potentially impaired cognitive capacities.[3]

The integration of innovative methodologies (eg, ecological momentary assessment (EMA)) and wearable devices like accelerometer-based biosensors in research and clinical practice with individuals with SSD is promising. These tools reduce biases, provide longitudinal, objective and time-resolved ecologically valid data (ie, a fine-grained picture of patients' experiences in their natural contexts), and capture the variability over time and the dynamic patterns of reactivity to the environment.[4] In the last few decades, EMA has been used with patients with SSD for the evaluation of daily emotions or symptomatology, but only a few have used this methodology to assess daily life activities.[5–8] These studies have generally found that patients with SSD spend more than half (ie, 52%) of the day being inactive/doing nothing,[9] and most activities are performed sitting or lying down.[8] Furthermore, inactivity time is usually higher in patients with SSD when compared with healthy controls.[5 6]

Some studies have used accelerometer-based biosensors for the monitoring of physical activity (PA) in this population.[10–13] PA refers to any bodily movement that requires energy expenditure and engages the muscles. It encompasses a wide range of activities, such as walking, running, cycling, swimming, dancing, playing sports and engaging in structured exercise routines.[14] On the contrary, sedentary behaviour refers to activities involving low energy expenditure characterised by sitting, reclining or lying down while engaging in activities such as watching television, working on a computer, using electronic devices or reading.[15] A recent meta-analysis found that individuals with SSD spend a mean of 80.4 min in light PA, 47.1 min in moderate-to-vigorous PA (MVPA) and 1.05 min in vigorous PA per day[1] and usually show lower MVPA levels compared with healthy controls.[1 12] Moreover, lower PA and sedentary behaviour are


Average minutes Light Activity (CI 95%)
500
450
400
350
300
250
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
Sunday
Week day
Group
Outpatients
Control participants
Residential patients

A


Average minutes MVPA (CI 95%)
125
100
75
50
25
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
Sunday
Week day
Group
Outpatients
Control participants
Residential patients

B

MONITORAGGIO DEL SONNO

Molecular Psychiatry www.nature.com/mp

ARTICLE

Check for updates

Shared and distinct abnormalities in sleep-wake patterns and their relationship with the negative symptoms of Schizophrenia Spectrum Disorder patients

Ahmad Mayeli[1,12], Alice D. LaGoy[1,12], Stephen F. Smagula[1], James D. Wilson[1], Cristina Zarbo[2], Matteo Rocchetti[3], Fabrizio Starace[4], Manuel Zamparini[2], Letizia Casiraghi[3], Stefano Calza[5], Matteo Rota[5], Armando D'Agostino[6], Giovanni de Girolamo[2], DiAPAson Consortium* and Fabio Ferrarelli[1]✉

Sleep and rest-activity-rhythm (RAR) abnormalities are commonly reported in schizophrenia spectrum disorder (SSD) patients. However, an in-depth characterization of sleep/RAR alterations in SSD, including patients in different treatment settings, and the relationship between these alterations and SSD clinical features (e.g., negative symptoms) is lacking. SSD ($N = 137$ altogether, $N = 79$ residential and $N = 58$ outpatients) and healthy control (HC) subjects ($N = 113$) were recruited for the DiAPAson project. Participants wore an ActiGraph for seven consecutive days to monitor habitual sleep-RAR patterns. Sleep/rest duration, activity (i.e., M10, calculated on the 10 most active hours), rhythm fragmentation within days (i.e., intra-daily variability, IV; beta, steepness of rest-active changes), and rhythm regularity across days (i.e., inter-daily stability, IS) were computed in each study participant. Negative symptoms were assessed in SSD patients with the Brief Negative Symptom Scale (BNSS). Both SSD groups showed lower M10 and longer sleep/rest duration vs. HC, while only residential patients had more fragmented and irregular rhythms than HC. Compared to outpatients, residential patients had lower M10 and higher beta, IV and IS. Furthermore, residential patients had worse BNSS scores relative to outpatients, and higher IS contributed to between-group differences in BNSS score severity. Altogether, residentials and outpatients SSD had both shared and unique abnormalities in Sleep/RAR measures vs. HC and relative to one another, which also contributed to the patients' negative symptom severity. Future work will help establish whether improving some of these measures may ameliorate the quality of life and clinical symptoms of SSD patients.

Molecular Psychiatry; https://doi.org/10.1038/s41380-023-02050-x

INTRODUCTION

Schizophrenia Spectrum Disorders (SSD) have an enormous impact in terms of suffering, disability, and health care costs worldwide [1]. While the diagnosis of SSD is based on the presence of positive (i.e., hallucinations, delusions) and negative (i.e., apathy, anhedonia) symptoms [2], disturbed sleep and activity patterns have been consistently observed since the earliest clinical descriptions of SSD and are commonly reported by these patients [3, 4]. Disturbed sleep and rest-activity rhythm (RAR) patterns in SSD patients can also have implications for certain aspects of health. For example, sedentary lifestyles (i.e., less daytime activity and longer/more frequent rest periods) may contribute to an increased risk of suicide, metabolic disorder, and cardiovascular disease and consequently to the shorter lifespan observed in SSD patients [5–9]. Characterization of sleep/RAR disturbances and their relationships with clinical symptoms may therefore help to establish the implication of these disturbances in the pathophysiology of SSD, which in turn could improve prognosis and treatment outcomes in these patients.

Actigraphy can be employed to quantify disturbances in RAR and sleep parameters (Box 1) objectively and non-invasively. Sleep and circadian abnormalities in patients with SSD have been reported, regardless of the phase of the disorder (i.e., prodromal phase and early course or chronic stages) [10–12]. A significant increase in total sleep time and a reduction in motor activity are some of the most consistently reported findings in SSD patients relative to control groups [4]. Furthermore, SSD patients often present with irregular rest-activity patterns [13], reduced daytime activity [14], and fragmented sleep periods [15]. However, previous studies assessing sleep and RAR alterations in SSD patients via actigraphy have mostly focused on a subset of these parameters and suffered from relatively small sample sizes; [14, 16–21] thus, an extensive characterization of sleep/RAR alterations in a large cohort of patients with SSD relative to healthy control (HC) subjects is currently lacking. Further, to our knowledge, only one study compared RAR parameters between a small group of inpatients ($n = 10$; mean age: 58.9 years) and

[1]Department of Psychiatry, University of Pittsburgh, Pittsburgh, PA, USA. [2]Unit of Epidemiological Psychiatry and Evaluation, IRCCS Istituto Centro San Giovanni di Dio Fatebenefratelli, Brescia, Italy. [3]Department of Mental Health and Dependence, ASST of Pavia, Pavia, Italy. [4]Department of Mental Health and Dependence, AUSL of Modena, Modena, Italy. [5]Unit of Biostatistics and Bioinformatics, Department of Molecular and Translational Medicine, University of Brescia, Brescia, Italy. [6]Department of Health Sciences, University of Milan, Milan, Italy. [12]These authors contributed equally: Ahmad Mayeli, Alice D. LaGoy. *A list of authors and their affiliations appears at the end of the paper. ✉email: ferrarelli@upmc.edu

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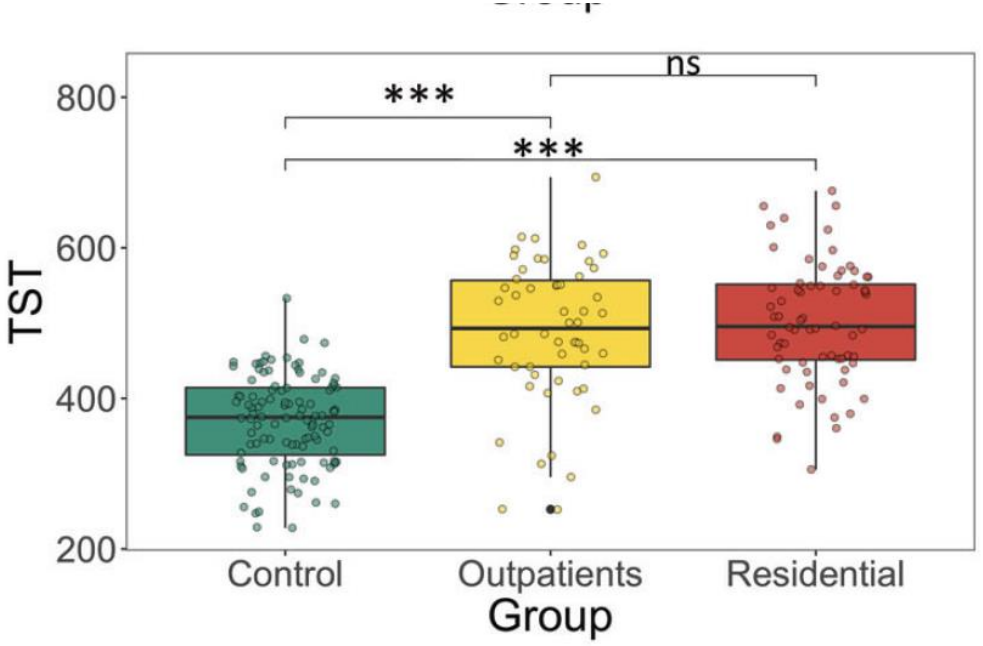


Physical Activity: Benefits

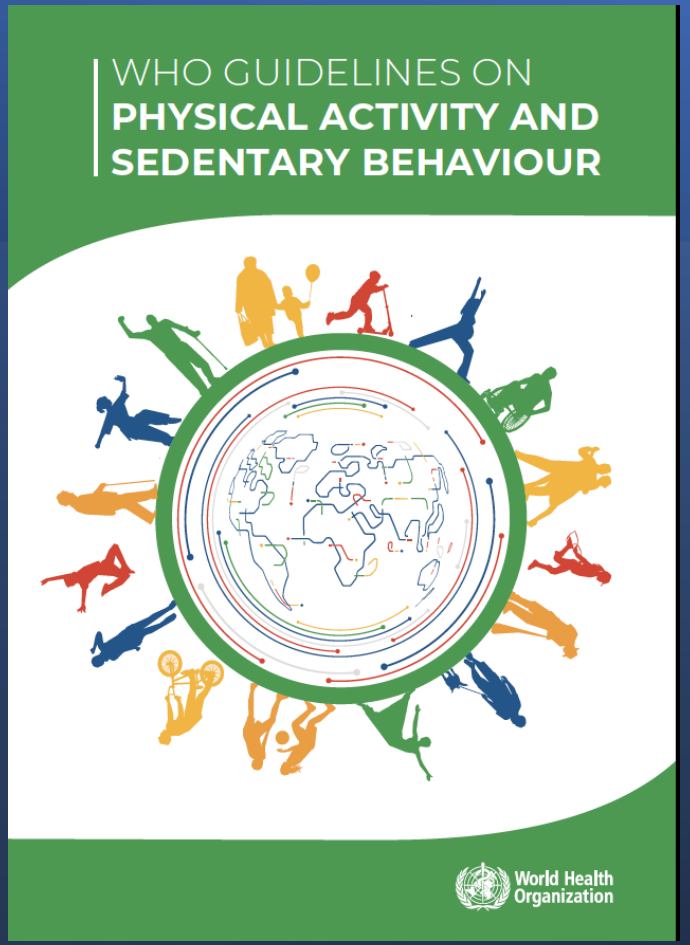
Strong evidence

- Early death
- Coronary artery disease
- Stroke
- High blood pressure
- Adverse lipid profile
- Type II Diabetes
- Metabolic syndrome
- Colon Cancer
- Breast Cancer
- Prevention of Wt Gain and to achieve weight loss
- Bone health in kids
- Function in older adults

- Moderate evidence
- Hip fracture, falls, bone density
- Lung cancer
- Endometrial cancer
- Maintaining wt loss
- Improved sleep quality

- Within weeks
- Increased cardiorespiratory fitness
- Increased muscular strength
- Decreased blood pressure
- Decreased depressive symptoms

2020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World Health
Organization

ADULTS
(aged 18–64 years)

In adults, physical activity confers benefits for the following health outcomes: improved all-cause mortality, cardiovascular disease mortality, incident hypertension, incident site-specific cancers,[1] incident type-2 diabetes, mental health (reduced symptoms of anxiety and depression); cognitive health, and sleep; measures of adiposity may also improve.

It is recommended that:

› **All adults should undertake regular physical activity.**

Strong recommendation, moderate certainty evidence

› **Adults should do at least 150–300 minutes of moderate-intensity aerobic physical activity; or at least 75–150 minutes of vigorous-intensity aerobic physical activity; or an equivalent combination of moderate- and vigorous-intensity activity throughout the week, for substantial health benefits.**

Strong recommendation, moderate certainty evidence

For additional health benefits:

› **Adults should also do muscle-strengthening activities at moderate or greater intensity that involve all major muscle groups on 2 or more days a week, as these provide additional health benefits.**

Strong recommendation, moderate certainty evidence

[1] *Site-specific cancers of: bladder, breast, colon, endometrial, oesophageal adenocarcinoma, gastric, and renal.*

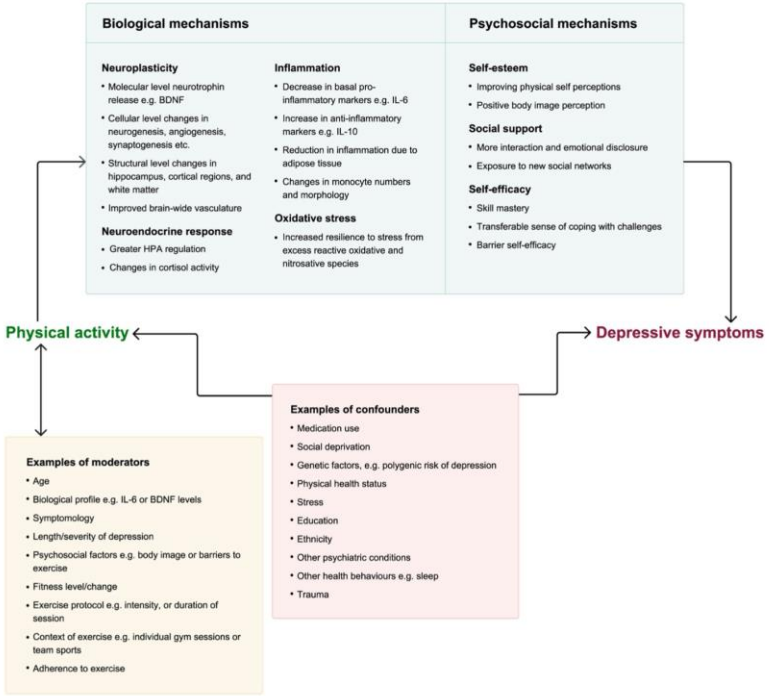

Fig. 1. Mechanisms, moderators, and confounders of the relationship between physical activity and depressive symptoms.

Principali neuromediatori coinvolti negli effetti dell'attività fisica:

1. **BDNF**
2. **Chinerunina → triptofano**
3. **Endorfine**
4. **Dopamina**
5. **Noradrenalina**
6. **Agrina**
7. **NF Light Chains**

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2016

Exercise Improves Clinical Symptoms, Quality of Life, Global Functioning, and Depression in Schizophrenia: A Systematic Review and Meta-analysis

Meenakshi Dauwan*[,1,2], Marieke J. H. Begemann[1], Sophie M. Heringa[1], and Iris E. Sommer[1]

[1]Department of Psychiatry, Brain Center Rudolf Magnus, University Medical Center Utrecht, Utrecht, The Netherlands; [2]Department of Clinical Neurophysiology and MEG Center, Neuroscience Campus, VU University Medical Center, Amsterdam, The Netherlands

*To whom correspondence should be addressed; University Medical Center Utrecht, Postbus 85500, 3508 GA Utrecht, The Netherlands; tel: 31-8-8755-7468, e-mail: m.dauwan-3@umcutrecht.nl

Background: **Physical exercise may be valuable for patients with schizophrenia spectrum disorders as it may have beneficial effect on clinical symptoms, quality of life and cognition. *Methods:* A systematic search was performed using PubMed (Medline), Embase, PsychInfo, and Cochrane Database of Systematic Reviews. Controlled and uncontrolled studies investigating the effect of any type of physical exercise interventions in schizophrenia spectrum disorders were included. Outcome measures were clinical symptoms, quality of life, global functioning, depression or cognition. Meta-analyses were performed using Comprehensive Meta-Analysis software. A random effects model was used to compute overall weighted effect sizes in Hedges' *g*. *Results:* Twenty-nine studies were included, examining 1109 patients. Exercise was superior to control conditions in improving total symptom severity ($k = 14$, $n = 719$: Hedges' $g = .39$, $P < .001$), positive ($k = 15$, $n = 715$: Hedges' $g = .32$, $P < .01$), negative ($k = 18$, $n = 854$: Hedges' $g = .49$, $P < .001$), and general ($k = 10$, $n = 475$: Hedges' $g = .27$, $P < .05$) symptoms, quality of life ($k = 11$, $n = 770$: Hedges' $g = .55$, $P < .001$), global functioning ($k = 5$, $n = 342$: Hedges' $g = .32$, $P < .01$), and depressive symptoms ($k = 7$, $n = 337$: Hedges' $g = .71$, $P < .001$). Yoga, specifically, improved the cognitive subdomain long-term memory ($k = 2$, $n = 184$: Hedges' $g = .32$, $P < .05$), while exercise in general or in any other form had no effect on cognition. *Conclusion:* Physical exercise is a robust add-on treatment for improving clinical symptoms, quality of life, global functioning, and depressive symptoms in patients with schizophrenia. The effect on cognition is not demonstrated, but may be present for yoga.**

Key words: psychopathology/functioning/cognition/yoga/aerobic exercise

Introduction

Schizophrenia, a severe psychiatric disorder, affects approximately 24 million people worldwide.[1] This disorder is characterized by (1) positive symptoms such as hallucinations and delusions, (2) negative symptoms including affective flattening, alogia and avolition, and (3) neurocognitive deficits including perception, memory, and attention, among others.[2] Negative and cognitive symptoms, emerging in the pre-psychotic stage, appear to be related.[3] Higher negative and cognitive symptoms are significantly associated with poorer functional outcome.[4,5] Treatment with antipsychotic drugs, applied as first line therapy, typically result in reduction in positive symptoms with minimal to no effects on negative and cognitive symptoms.[6] In addition, antipsychotics result in the side effects weight gain and metabolic syndrome.[7,8] Furthermore, reduced physical capacity in patients with schizophrenia is strongly related to negative and cognitive symptoms.[9,10] These risk factors are major contributors of cardiovascular diseases in schizophrenia which in turn is associated with 2- to 3-fold higher mortality rate compared to the general population.[11] Saha et al found an all-cause standardized mortality ratio of 2.58 showing an increase in mortality in these patients over the last decades.[12] Therefore, it is time to implement a therapy for patients with schizophrenia that decreases the negative symptoms and cognitive deficits, and also improves the functional and clinical outcome.

Physical inactivity has been described as the leading risk factor for global mortality.[13] The World Health Organization (WHO) 2009[14] reported that physical inactivity accounts for 27% of diabetes and 30% of ischemic heart diseases, whereas an active lifestyle reduces these risks, largely improving general health and wellness, and life expectancy.[14] Furthermore, physical activity in healthy aging populations is associated with improvement in cognitive functioning and depressive symptoms, delay in age-related cognitive decline and neurodegeneration.[15,16] On the brain level, exercise induces neurogenesis, modulates synaptic plasticity and increases several growth factors

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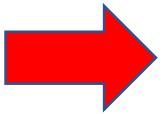
- **Durata media dell'intervento: 12 settimane.**
- **Tutti gli studi comprendevano AF svolta in gruppo e sotto supervisione.**



- **Programmi raccomandati di gruppo con supervisione <u>con sessioni di almeno 30' 3 volte alla settimana per un minimo di 12 settimane</u>.**

2015

Psychological Medicine, Page 1 of 19. © Cambridge University Press 2015
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REVIEW ARTICLE

A systematic review and meta-analysis of exercise interventions in schizophrenia patients

J. Firth[1]*, J. Cotter[1], R. Elliott[1,2], P. French[3,4] and A. R. Yung[1,5]

[1] *Institute of Brain, Behaviour and Mental Health, University of Manchester, UK*
[2] *Manchester Academic Health Sciences Centre, University of Manchester, UK*
[3] *Psychosis Research Unit, Greater Manchester West NHS Mental Health Trust, UK*
[4] *Institute of Psychology, Health and Society, The University of Liverpool, UK*
[5] *Orygen Youth Health Research Centre, University of Melbourne, Australia*

Background. The typically poor outcomes of schizophrenia could be improved through interventions that reduce cardiometabolic risk, negative symptoms and cognitive deficits; aspects of the illness which often go untreated. The present review and meta-analysis aimed to establish the effectiveness of exercise for improving both physical and mental health outcomes in schizophrenia patients.

Method. We conducted a systematic literature search to identify all studies that examined the physical or mental effects of exercise interventions in non-affective psychotic disorders. Of 1581 references, 20 eligible studies were identified. Data on study design, sample characteristics, outcomes and feasibility were extracted from all studies and systematically reviewed. Meta-analyses were also conducted on the physical and mental health outcomes of randomized controlled trials.

Results. Exercise interventions had no significant effect on body mass index, but can improve physical fitness and other cardiometabolic risk factors. Psychiatric symptoms were significantly reduced by interventions using around 90 min of moderate-to-vigorous exercise per week (standardized mean difference: 0.72, 95% confidence interval −1.14 to −0.29). This amount of exercise was also reported to significantly improve functioning, co-morbid disorders and neurocognition.

Conclusions. Interventions that implement a sufficient dose of exercise, in supervised or group settings, can be feasible and effective interventions for schizophrenia.

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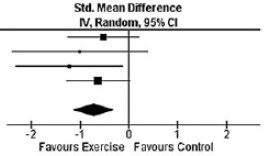
(*b*) Sensitivity Analysis: Total Symptoms

Study	Exercise Mean	SD	Total	Comparators Mean	SD	Total	Weight	Std. Mean Difference IV, Random, 95% CI
Acil 2008	-8.7	14.43	15	0.93	20.74	15	33.3%	-0.52 [-1.25, 0.21]
Beebe 2005	-8.25	11.46	4	4.66	11.73	6	9.2%	-1.00 [-2.39, 0.38]
Pajonk 2010	-6.1	9.6	8	8.4	12.6	8	14.8%	-1.22 [-2.32, -0.13]
Scheewe 2013a	-6.7	13.32	20	1.1	10.86	19	42.7%	-0.63 [-1.27, 0.02]
Total (95% CI)			47			48	100.0%	**-0.72 [-1.14, -0.29]**

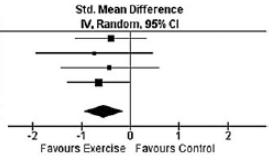
Heterogeneity: Tau² = 0.00; Chi² = 1.33, df = 3 (P = 0.72); I² = 0%
Test for overall effect: Z = 3.33 (P = 0.0009)



(*c*) Sensitivity Analysis: Positive Symptoms

Study	Exercise Mean	SD	Total	Control Mean	SD	Total	Weight	Std. Mean Difference IV, Random, 95% CI
Acil 2008	-7	11.3	15	-1	17.44	15	31.7%	-0.40 [-1.12, 0.33]
Beebe 2005	-2.75	3.53	6	0.66	4.88	6	11.8%	-0.74 [-1.93, 0.45]
Pajonk 2010	-1	2.6	8	0.8	5.1	8	16.8%	-0.42 [-1.41, 0.57]
Scheewe 2013a	-2.1	4.46	20	0.9	4.65	19	39.8%	-0.65 [-1.29, 0.00]
Total (95% CI)			49			48	100.0%	**-0.54 [-0.95, -0.13]**

Heterogeneity: Tau² = 0.00; Chi² = 0.42, df = 3 (P = 0.94); I² = 0%
Test for overall effect: Z = 2.60 (P = 0.009)



(*d*) Sensitivity Analysis: Negative Symptoms

Study	Exercise Mean	SD	Total	Control Mean	SD	Total	Weight	Std. Mean Difference IV, Random, 95% CI
Acil 2008	-10.4	16.7	15	2.86	20.09	15	21.6%	-0.70 [-1.44, 0.04]
Beebe 2005	-1.75	5.41	4	1.5	5.88	6	7.0%	-0.51 [-1.81, 0.78]
Gholipour 2012	-21	14.8	15	-17.5	23.5	30	30.7%	-0.16 [-0.78, 0.46]
Pajonk 2010	-2.8	4.7	8	0.9	5.7	8	11.5%	-0.67 [-1.69, 0.35]
Scheewe 2013a	-1.5	6.11	20	1.1	6.06	19	29.3%	-0.42 [-1.05, 0.22]
Total (95% CI)			62			78	100.0%	**-0.44 [-0.78, -0.09]**

Heterogeneity: Tau² = 0.00; Chi² = 1.44, df = 4 (P = 0.84); I² = 0%
Test for overall effect: Z = 2.49 (P = 0.01)

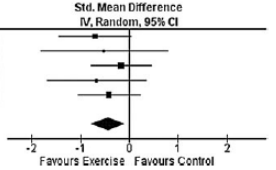


Fig. 3. Forest plots showing change in psychiatric symptoms in exercise and control conditions. 'Std. Mean Difference' indicates the effect size, with 95% confidence intervals (CIs). The Z value and associated *p* value indicate whether the effect size differs significantly from zero. The squares in the figure indicate the weight of the particular study in the meta-analysis. SD, Standard deviation; IV, inverse variance; df, degrees of freedom.

N=1.237.194 americani > 18 anni.
Chi faceva AF aveva il 43% in meno di giorni con salute mentale 'negativa' rispetto a chi faceva AF.

Association between physical exercise and mental health in 1·2 million individuals in the USA between 2011 and 2015: a cross-sectional study

Sammi R Chekroud, Ralitza Gueorguieva, Amanda B Zheutlin, Martin Paulus, Harlan M Krumholz, John H Krystal, Adam M Chekroud

Summary

Background Exercise is known to be associated with reduced risk of all-cause mortality, cardiovascular disease, stroke, and diabetes, but its association with mental health remains unclear. We aimed to examine the association between exercise and mental health burden in a large sample, and to better understand the influence of exercise type, frequency, duration, and intensity.

Methods In this cross-sectional study, we analysed data from 1 237 194 people aged 18 years or older in the USA from the 2011, 2013, and 2015 Centers for Disease Control and Prevention Behavioral Risk Factors Surveillance System survey. We compared the number of days of bad self-reported mental health between individuals who exercised and those who did not, using an exact non-parametric matching procedure to balance the two groups in terms of age, race, gender, marital status, income, education level, body-mass index category, self-reported physical health, and previous diagnosis of depression. We examined the effects of exercise type, duration, frequency, and intensity using regression methods adjusted for potential confounders, and did multiple sensitivity analyses.

Findings Individuals who exercised had 1·49 (43·2%) fewer days of poor mental health in the past month than individuals who did not exercise but were otherwise matched for several physical and sociodemographic characteristics ($W=7·42\times10^{10}$, $p<2·2\times10^{-16}$). All exercise types were associated with a lower mental health burden (minimum reduction of 11·8% and maximum reduction of 22·3%) than not exercising ($p<2·2\times10^{-16}$ for all exercise types). The largest associations were seen for popular team sports (22·3% lower), cycling (21·6% lower), and aerobic and gym activities (20·1% lower), as well as durations of 45 min and frequencies of three to five times per week.

Interpretation In a large US sample, physical exercise was significantly and meaningfully associated with self-reported mental health burden in the past month. More exercise was not always better. Differences as a function of exercise were large relative to other demographic variables such as education and income. Specific types, durations, and frequencies of exercise might be more effective clinical targets than others for reducing mental health burden, and merit interventional study.

Lancet Psychiatry 2018

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See Online/Comment http://dx.doi.org/10.1016/S2215-0366(18)30291-8

Oxford Centre for Human Brain Activity, Wellcome Centre for Integrative Neuroimaging, Department of Psychiatry, University of Oxford, Oxford, UK (S R Chekroud BA); Department of Biostatistics (Prof R Gueorguieva PhD), Section of Cardiovascular Medicine, Department of Internal Medicine (Prof H M Krumholz MD SM), School of Medicine (Prof R Gueorguieva, A M Chekroud PhD), and Department of Psychiatry (Prof J H Krystal MD, A M Chekroud), Yale University, New Haven, CT, USA; Massachusetts General Hospital, Boston, MA, USA (A B Zheutlin PhD); Laureate Institute for Brain Research, Tulsa, OK, USA

RESEARCH REPORT

A meta-review of "lifestyle psychiatry": the role of exercise, smoking, diet and sleep in the prevention and treatment of mental disorders

Joseph Firth[1,2], Marco Solmi[3], Robyn E. Wootton[4], Davy Vancampfort[5,6], Felipe B. Schuch[7], Erin Hoare[8], Simon Gilbody[9], John Torous[10], Scott B. Teasdale[11], Sarah E. Jackson[12], Lee Smith[13], Melissa Eaton[2], Felice N. Jacka[14], Nicola Veronese[15], Wolfgang Marx[14], Garcia Ashdown-Franks[16-18], Dan Siskind[19,20], Jerome Sarris[2,21], Simon Rosenbaum[11], André F. Carvalho[22,23], Brendon Stubbs[17,18]

[1]Division of Psychology and Mental Health, Faculty of Biology, Medicine & Health, University of Manchester, Manchester, UK; [2]NICM Health Research Institute, Western Sydney University, Westmead, NSW, Australia; [3]Department of Neurosciences, University of Padua, Padua, Italy; [4]MRC Integrative Epidemiology Unit, University of Bristol, Bristol, UK; [5]KU Leuven Department of Rehabilitation Sciences, Leuven, Belgium; [6]University Psychiatric Centre KU Leuven, Kortenberg, Belgium; [7]Department of Sports Methods and Techniques, Federal University of Santa Maria, Santa Maria, Brazil; [8]UKCRC Centre for Diet and Activity Research (CEDAR) and MRC Epidemiology Unit, University of Cambridge, Cambridge, UK; [9]Mental Health and Addictions Research Group, Department of Health Sciences, University of York, York, UK; [10]Department of Psychiatry, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, MA, USA; [11]School of Psychiatry, Faculty of Medicine, University of New South Wales, Sydney, NSW, Australia; [12]Department of Behavioural Science and Health, University College London, London, UK; [13]Cambridge Centre for Sport and Exercise Sciences, Anglia Ruskin University, Cambridge, UK; [14]Food & Mood Centre, IMPACT – Institute for Mental and Physical Health and Clinical Translation, School of Medicine, Deakin University, Geelong, VIC, Australia; [15]Geriatric Unit, Department of Internal Medicine and Geriatrics, University of Palermo, Palermo, Italy; [16]Department of Exercise Sciences, University of Toronto, Toronto, ON, Canada; [17]South London and Maudsley NHS Foundation Trust, London, UK; [18]Institute of Psychiatry, Psychology & Neuroscience, King's College London, London, UK; [19]Metro South Addiction and Mental Health Service, Brisbane, QLD, Australia; [20]School of Medicine, University of Queensland, Brisbane, QLD, Australia; [21]Department of Psychiatry, University of Melbourne, The Melbourne Clinic, Melbourne, VIC, Australia; [22]Centre for Addiction & Mental Health, Toronto, ON, Canada; [23]Department of Psychiatry, University of Toronto, Toronto, ON, Canada

There is increasing academic and clinical interest in how "lifestyle factors" traditionally associated with physical health may also relate to mental health and psychological well-being. In response, international and national health bodies are producing guidelines to address health behaviors in the prevention and treatment of mental illness. However, the current evidence for the causal role of lifestyle factors in the onset and prognosis of mental disorders is unclear. We performed a systematic meta-review of the top-tier evidence examining how physical activity, sleep, dietary patterns and tobacco smoking impact on the risk and treatment outcomes across a range of mental disorders. Results from 29 meta-analyses of prospective/cohort studies, 12 Mendelian randomization studies, two meta-reviews, and two meta-analyses of randomized controlled trials were synthesized to generate overviews of the evidence for targeting each of the specific lifestyle factors in the prevention and treatment of depression, anxiety and stress-related disorders, schizophrenia, bipolar disorder, and attention-deficit/hyperactivity disorder. Standout findings include: a) convergent evidence indicating the use of physical activity in primary prevention and clinical treatment across a spectrum of mental disorders; b) emerging evidence implicating tobacco smoking as a causal factor in onset of both common and severe mental illness; c) the need to clearly establish causal relations between dietary patterns and risk of mental illness, and how diet should be best addressed within mental health care; and d) poor sleep as a risk factor for mental illness, although with further research required to understand the complex, bidirectional relations and the benefits of non-pharmacological sleep-focused interventions. The potentially shared neurobiological pathways between multiple lifestyle factors and mental health are discussed, along with directions for future research, and recommendations for the implementation of these findings at public health and clinical service levels.

Physical Activity and Incident Depression: A Meta-Analysis of Prospective Cohort Studies

Felipe B. Schuch, Ph.D., Davy Vancampfort, Ph.D., Joseph Firth, Ph.D., Simon Rosenbaum, Ph.D., Philip B. Ward, Ph.D., Edson S. Silva, B.Sc., Mats Hallgren, Ph.D., Antonio Ponce De Leon, Ph.D., Andrea L. Dunn, Ph.D., Andrea C. Deslandes, Ph.D., Marcelo P. Fleck, Ph.D., Andre F. Carvalho, Ph.D., Brendon Stubbs, Ph.D.

Objective: The authors examined the prospective relationship between physical activity and incident depression and explored potential moderators.

Method: Prospective cohort studies evaluating incident depression were searched from database inception through Oct. 18, 2017, on PubMed, PsycINFO, Embase, and SPORTDiscus. Demographic and clinical data, data on physical activity and depression assessments, and odds ratios, relative risks, and hazard ratios with 95% confidence intervals were extracted. Random-effects meta-analyses were conducted, and the potential sources of heterogeneity were explored. Methodological quality was assessed using the Newcastle-Ottawa Scale.

Results: A total of 49 unique prospective studies (N=266,939; median proportion of males across studies, 47%) were followed up for 1,837,794 person-years. Compared with people with low levels of physical activity, those with high levels had lower odds of developing depression (adjusted odds ratio=0.83, 95% CI=0.79, 0.88; I^2=0.00). Furthermore, physical activity had a protective effect against the emergence of depression in youths (adjusted odds ratio=0.90, 95% CI=0.83, 0.98), in adults (adjusted odds ratio=0.78, 95% CI=0.70, 0.87), and in elderly persons (adjusted odds ratio=0.79, 95% CI=0.72, 0.86). Protective effects against depression were found across geographical regions, with adjusted odds ratios ranging from 0.65 to 0.84 in Asia, Europe, North America, and Oceania, and against increased incidence of positive screen for depressive symptoms (adjusted odds ratio=0.84, 95% CI=0.79, 0.89) or major depression diagnosis (adjusted odds ratio=0.86, 95% CI=0.75, 0.98). No moderators were identified. Results were consistent for unadjusted odds ratios and for adjusted and unadjusted relative risks/hazard ratios. Overall study quality was moderate to high (Newcastle-Ottawa Scale score, 6.3). Although significant publication bias was found, adjusting for this did not change the magnitude of the associations.

Conclusions: Available evidence supports the notion that physical activity can confer protection against the emergence of depression regardless of age and geographical region.

Am J Psychiatry 2018; 175:631–648; doi: 10.1176/appi.ajp.2018.17111194

JAMA Psychiatry | Original Investigation

Association Between Physical Activity and Risk of Depression
A Systematic Review and Meta-analysis

Journal of Neurology
https://doi.org/10.1007/s00415-019-09493-9

REVIEW

Physical exercise improves quality of life, depressive symptoms, and cognition across chronic brain disorders: a transdiagnostic systematic review and meta-analysis of randomized controlled trials

Meenakshi Dauwan[1,2,5] · Marieke J. H. Begemann[1] · Margot I. E. Slot[1] · Edwin H. M. Lee[3] · Philip Scheltens[4] · Iris E. C. Sommer[1,5,6]

Received: 19 March 2019 / Revised: 29 July 2019 / Accepted: 30 July 2019

Abstract
We performed a meta-analysis to synthesize evidence on the efficacy and safety of physical exercise as an add-on therapeutic intervention for quality of life (QoL), depressive symptoms and cognition across six chronic brain disorders: Alzheimer's disease, Huntington's disease, multiple sclerosis, Parkinson's disease, schizophrenia and unipolar depression. 122 studies (=k) (n=7231) were included. Exercise was superior to treatment as usual in improving QoL (k=64, n=4334, ES=0.40, p<0.0001), depressive symptoms (k=60, n=2909, ES=0.78, p<0.0001), the cognitive domains attention and working memory (k=21, n=1313, ES=0.24, p<0.009), executive functioning (k=14, n=977, ES=0.15, p=0.013), memory (k=12, n=994, ES=0.12, p=0.038) and psychomotor speed (k=16, n=896, ES=0.23, p=0.003). Meta-regression showed a dose–response effect for exercise time (min/week) on depressive symptoms (β=0.007, p=0.012). 69% of the studies that reported on safety, found no complications. Exercise is an efficacious and safe add-on therapeutic intervention showing a medium-sized effect on QoL and a large effect on mood in patients with chronic brain disorders, with a positive dose–response correlation. Exercise also improved several cognitive domains with small but significant effects.

Clinical Review & Education

JAMA Clinical Evidence Synopsis

Exercise for Depression

Gary Cooney, AB, MBChB; Kerry Dwan, PhD; Gillian Mead, FRCP

CLINICAL QUESTION Is exercise an effective treatment for depression?

BOTTOM LINE Exercise is associated with a greater reduction in depression symptoms compared with no treatment, placebo, or active control interventions, such as relaxation or meditation. However, analysis of high-quality studies alone suggests only small benefits.

Depression affects more than 121 million people worldwide.[1] Although depression is commonly treated with medications or psychological therapies, some consider exercise as an adjunct or substitute treatment. This JAMA Clinical Evidence Synopsis summarizes an updated Cochrane review[2] that assesses whether exercise is associated with improvements in depression.

Summary of Findings

Of the 39 trials that fulfilled inclusion criteria, 37 trials provided data for meta-analysis; 35 trials (1356 participants) compared exercise with no treatment or a "control intervention." Because different depression scales were used, standardized mean difference (SMD) was used to combine data. An SMD of 0.20 represents a small effect, 0.50 a moderate effect, and 0.80 a large effect.[3]

We converted SMD to the Beck Depression Inventory (BDI) score, using data from a study by Chalder and colleagues[4] and methods described in the Cochrane handbook.[3] The BDI, a self-rated depression scale, includes 21 items, each scored 0 to 3, giving a maximum score of 63. Scores below 10 are considered minimal depression, whereas scores above 30 indicate severe depression.[5]

Exercise was associated with a greater reduction in depression scores compared with control (35 trials; pooled SMD, −0.62 [95% CI, −0.81 to −0.42]). This represented a moderate effect, equivalent to a difference of approximately 5 BDI points. For the 16 studies reporting BDI, the mean difference was 4.76 BDI points (**Figure**). However, analyzing only the 6 trials with adequate allocation concealment, intention-to-treat analysis, and blinded outcome assessment (n = 464) showed no association of exercise with improved depression (SMD, −0.18 [95% CI, −0.47 to 0.11]; BDI, −1.71 [95% CI, −4.47 to 1.05]). Seven trials (n = 189) found no difference between exercise and psychological therapy (SMD, −0.03 [95% CI, −0.32 to 0.26]; BDI, −0.29 [95% CI, −3.04 to 2.47]). Four trials (n = 298) found no difference between exercise and antidepressant therapy (SMD, −0.11 [95% CI, −0.34 to 0.12]; BDI, −1.05 [95% CI, −3.23 to 1.14]). Subgroup analyses were conducted to examine the association between type of exercise and whether depression was diagnosed by a clinical interview or a depression scale threshold score. The SMD for aerobic exercise indicated a moderate clinical association (SMD, −0.55 [95% CI, −0.77 to −0.34]; BDI, −5.23 [95% CI, −7.32 to −3.23]). The SMD for resistance exercise (SMD, −1.03 [95% CI, −1.52 to −0.53]; BDI, −9.79 [95% CI, −14.44 to −3.71]) indicated a stronger association. However, aerobic and resistance exercise were not directly compared head-to-head.

There was also a moderate favorable association between exercise and reduction in depression scores in studies that reached a clinical diagnosis of depression by interview (SMD, −0.57 [95% CI, −0.81 to −0.32]; BDI, −5.42 [95% CI, −7.70 to −3.04]), as well as studies that reached a diagnosis by cutoff point on a scale (SMD, −0.67 [95% CI, −0.95 to −0.39]; BDI, −6.37 [95% CI, −9.03 to −3.71]). Studies with long-term follow-up (8 trials; n = 377; duration of follow-up, 4-26 mo) reported only a small favorable association (SMD, −0.33 [95% CI, −0.63 to −0.03]; BDI, −3.14 [95% CI, −5.99 to −0.29]). Only 7 trials reported adverse events. None reported an increase in adverse events associated with exercise.

Evidence Profile

No. of randomized clinical trials: 39

Study years: Published, 1979-2012; conducted, 1978-2010

No. of patients: 2326

Men: 637 (31%) **Women:** 1382 (68%); only 31 trials (2019 participants) reported sex

Age, mean range: 22-87.9 years

Settings: Community, outpatient, inpatient populations

Countries: Australia, Brazil, Canada, Denmark, Germany, Iran, Italy, New Zealand, Norway, Portugal, Russia, Thailand, United Kingdom, United States

Comparisons: Exercise vs no treatment or a "control intervention" (ie, placebo treatment or an active control treatment, such as meditation or relaxation); exercise vs antidepressants; exercise vs psychological therapies

Duration of intervention: 4-16 weeks

Primary outcomes: Clinical diagnosis of depression, Beck Depression Inventory score, Hamilton Rating Scale for Depression score, Geriatric Depression Scale score

Secondary outcomes: Treatment acceptability, quality of life, adverse events

Discussion

This meta-analysis suggests that exercise may have a moderate-sized favorable association with depression, but because of risk of bias, this association may be small. The optimal type, intensity, frequency, and duration of exercise for depression remain unclear.

‘LEZIONE’ 1

1. **Sia i pazienti ambulatoriali che quelli residenziali sono meno attivi fisicamente dei controlli sani.**
2. **I pazienti residenziali fanno minore attività fisica di quelli ambulatoriali.**
3. **I pazienti dormono più dei controlli.**
4. **Occorre promuovere programmi strutturati di attività fisica, e questo vale SOPRATTUTTO per pazienti giovani!!!!**

Patterns of antipsychotic prescription and accelerometer-based physical activity levels in people with schizophrenia spectrum disorders: a multicenter, prospective study

Vincenzo Oliva[a], Giuseppe Fanelli[a,b], Manuel Zamparini[c], Cristina Zarbo[c], Matteo Rocchetti[d,e], Letizia Casiraghi[d,e], Fabrizio Starace[f], Alessandra Martinelli[g,h], Alessandro Serretti[a], Giovanni de Girolamo[c] and the DiAPASon Consortium

Antipsychotic polypharmacy (APP) in patients with schizophrenia spectrum disorders (SSDs) is usually not recommended, though it is very common in clinical practice. Both APP and SSDs have been linked to worse health outcomes and decreased levels of physical activity, which in turn is an important risk factor for cardiovascular diseases and premature mortality. This real-world, observational study aimed to investigate antipsychotic prescribing patterns and physical activity in residential patients and outpatients with SSDs. A total of 620 patients and 114 healthy controls were recruited in 37 centers across Italy. Each participant underwent a comprehensive sociodemographic and clinical evaluation. Physical activity was monitored for seven consecutive days through accelerometer-based biosensors. High rates of APP were found in all patients, with residential patients receiving more APP than outpatients, probably because of greater psychopathological severity. Physical activity was lower in patients compared to controls. However, patients on APP showed trends of reduced sedentariness and higher levels of light physical activity than those in monopharmacy. Rehabilitation efforts in psychiatric residential treatment facilities were likely to result in improved physical activity performances in residential patients. Our findings may have important public health implications, as they indicate the importance of reducing APP and encouraging physical activity. *Int Clin Psychopharmacol* **XXX: 000–000**

International Clinical Psychopharmacology XXX, **XXX**:000–000

Keywords: actigraph, antipsychotics, monopharmacy, physical fitness, polypharmacy, psychiatric residential treatment facilities, psychosis, psychotropic drugs, rehabilitation, wearable accelerometer-based biosensor

[a]Department of Biomedical and Neuromotor Sciences, University of Bologna, Bologna, Italy, [b]Department of Human Genetics, Radboud University Medical Center, Donders Institute for Brain, Cognition and Behaviour, Nijmegen, the Netherlands, [c]Unit of Epidemiological and Evaluation Psychiatry, IRCCS Istituto Centro San Giovanni di Dio Fatebenefratelli, Brescia, [d]Department of Mental Health and Dependence, ASST of Pavia, [e]Department of Brain and Behavioral Sciences, University of Pavia, Pavia, [f]Department of Mental Health and Dependence, AUSL of Modena, Modena, [g]Department of Neurosciences, Biomedicine and Movement Sciences, University of Verona, Verona and [h]Unit of Clinical Psychiatry, IRCCS Istituto Centro San Giovanni di Dio Fatebenefratelli, Brescia, Italy

Correspondence to Alessandro Serretti, MD, PhD, Department of Biomedical and Neuromotor Sciences, University of Bologna, Viale Carlo Pepoli 5, 40123 Bologna, Italy
Tel: +39 051 658 4233; e-mail: alessandro.serretti@unibo.it

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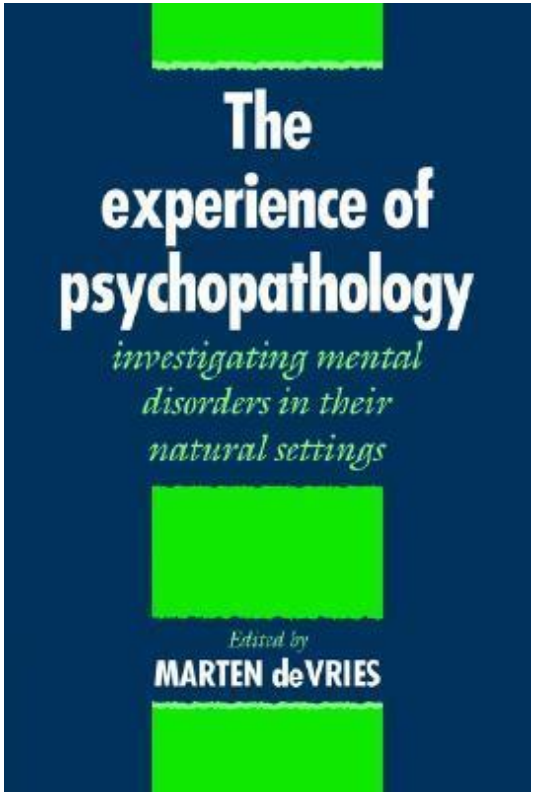
‘LEZIONE’ 2

Se si vuole favorire l’attività fisica, occorre ridurre in maniera significativa le politerapie!

Experience Sampling Method



1992

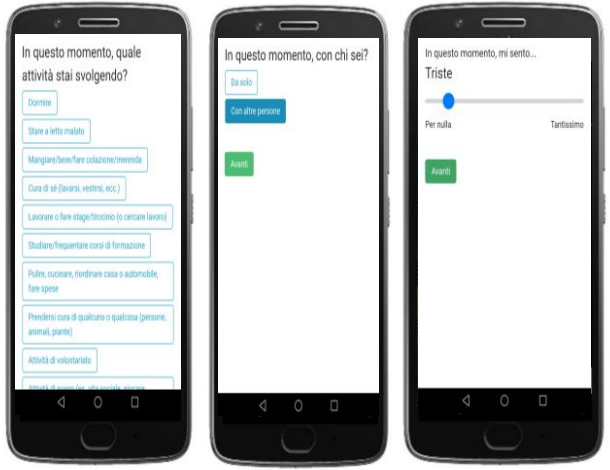
Dove sei alle ore 16:30?

Con chi sei?

Cosa stai facendo?

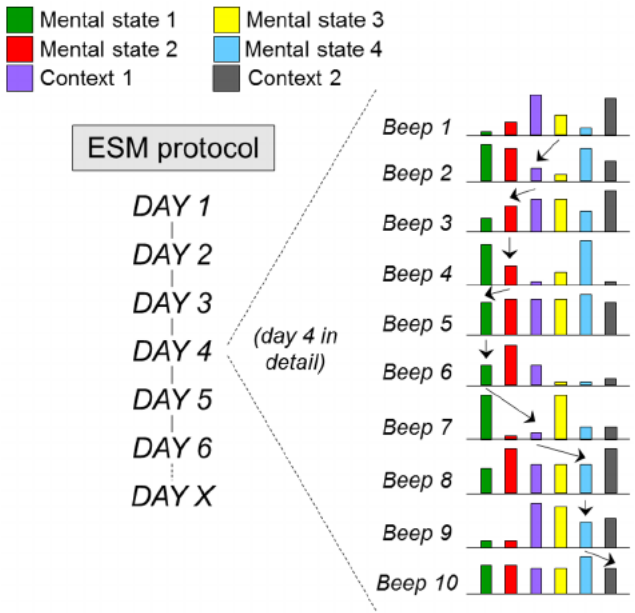
Quali sono le tue emozioni del momento?

27 settembre 2023 hr. 16:30



DIAPASON app

ESM: 8 volte al dì per una settimana (56 notifiche alla settimana a ciascun soggetto)



Original Paper

Comparing Adherence to the Experience Sampling Method Among Patients With Schizophrenia Spectrum Disorder and Unaffected Individuals: Observational Study From the Multicentric DiAPAson Project

Cristina Zarbo[1,2], PsyD, PhD; Manuel Zamparini[1], MStat; Olav Nielssen[3,4], MD; Letizia Casiraghi[5,6], PsyD, PhD; Matteo Rocchetti[5,6], MD, PhD; Fabrizio Starace[7], MD; Giovanni de Girolamo[1], MD; DiAPAson Collaborators[8]

[1]Unit of Epidemiological and Evaluation Psychiatry, IRCCS Istituto Centro San Giovanni di Dio Fatebenefratelli, Brescia, Italy
[2]Department of Psychology, University of Milano Bicocca, Milano, Italy
[3]MindSpot Clinic, Macquarie University, Sydney, Australia
[4]School of Psychological Sciences, Faculty of Medicine, Health and Human Sciences, Macquarie University, Sydney, Australia
[5]Department of Brain and Behavioural Sciences, University of Pavia, Pavia, Italy
[6]Department of Mental Health and Dependence, ASST of Pavia, Pavia, Italy
[7]Department of Mental Health and Dependence, AUSL of Modena, Modena, Italy
[8]see Acknowledgments

Corresponding Author:
Cristina Zarbo, PsyD, PhD
Unit of Epidemiological and Evaluation Psychiatry
IRCCS Istituto Centro San Giovanni di Dio Fatebenefratelli
Via Pilastroni 4
Brescia, 25125
Italy
Phone: 39 3896875449
Email: cristinazarbo@gmail.com

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Assessing adherence to and usability of Experience Sampling Method (ESM) and actigraph in patients with Schizophrenia Spectrum Disorder: A mixed-method study

Cristina Zarbo[a,*], Sara Agosta[b], Letizia Casiraghi[c,d], Antonio De Novellis[b], Emanuela Leuci[e], Giuseppina Paolillo[e], Matteo Rocchetti[c,d], Fabrizio Starace[b], Manuel Zamparini[a], Giovanni de Girolamo[a]

[a] Unit of Epidemiological and Evaluation Psychiatry, IRCCS Istituto Centro San Giovanni di Dio Fatebenefratelli, Brescia, Italy
[b] Department of Mental Health and Dependence, AUSL of Modena, Modena, Italy
[c] Department of Mental Health and Dependence, ASST of Pavia, Pavia, Italy
[d] Department of Brain and Behavioural Sciences, University of Pavia, Pavia, Italy
[e] UOL of Parma, Parma, Italy

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Compliance
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Mobile application
Physical activity
Mood
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ABSTRACT

The application of innovative technologies in psychiatry is promising, but the debate about its feasibility is not settled. Our aim was to investigate and compare adherence to and usability of 7-day monitoring with an Experience Sampling Method (ESM) and Actigraphy among a sample of individuals with a diagnosis of Schizophrenia Spectrum Disorders (SSD) and paired healthy controls. Twenty-two patients living in residential facilities (RFs), 20 outpatients and 36 controls were enrolled in this study as part of the DiAPAson project. Participants wore an actigraph and were evaluated for daily time use and mood with a smartphone-based ESM. Then, they completed questionnaires to assess the usability of the devices and were interviewed. Adherence was assessed as the percentage of time spent wearing actigraph and answering ESM notifications. Residential patients, compared to controls, showed significantly higher usability of the actigraph and lower adherence to both the actigraph and ESM. From the qualitative interviews, four high-order themes emerged: effects of monitoring, adherence and usability, emotions and mental states, and advice. Findings are promising for the application of these methodologies in such populations. The role of multidisciplinary staff in RFs is crucial for guaranteeing the realization of such projects.

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ORIGINAL ARTICLE

WILEY

Ecological monitoring of emotional intensity, variability, and instability in individuals with schizophrenia spectrum disorders: Results of a multicentre study

Cristina Zarbo[1] | Manuel Zamparini[2] | Alessandra Patrono[2,3] | Cosima Calini[4] | Philip D. Harvey[5] | Letizia Casiraghi[7,8] | Massimo Clerici[4] | Matteo Malvezzi[6] | Matteo Rocchetti[7,8] | Fabrizio Starace[9] | Giovanni de Girolamo[2] | on behalf of DiAPAson Collaborators

[1]Department of Psychology, University of Milano Bicocca, Milan, Italy
[2]Unit of Epidemiological and Evaluation Psychiatry, IRCCS Istituto Centro San Giovanni di Dio Fatebenefratelli, Brescia, Italy
[3]Department of Molecular and Translational Medicine, University of Brescia, Brescia, Italy
[4]Department of Medicine and Surgery, University of Milan Bicocca, Monza, Italy
[5]Department of Psychiatry and Behavioral Sciences, University of Miami Miller School of Medicine, Miami, Florida, USA
[6]Department of Clinical Sciences and Community Health, University of Milan, Milan, Italy
[7]Department of Brain and Behavioural Sciences, University of Pavia, Pavia, Italy
[8]Department of Mental Health and Dependence, ASST of Pavia, Pavia, Italy
[9]Department of Mental Health and Dependence, AUSL of Modena, Modena, Italy

Correspondence
Giovanni de Girolamo.
Email: gdegirolamo@fatebenefratelli.eu

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Abstract

Background: Evaluating emotional experiences in the life of people with Schizophrenia Spectrum Disorder (SSD) is fundamental for developing interventions aimed at promoting well-being in specific times and contexts. However, little is known about emotional variability in this population. In DiAPAson project, we evaluated between- and within-person differences in emotional intensity, variability, and instability between people with SSD and healthy controls, and the association with psychiatric severity and levels of functioning.

Methods: 102 individuals diagnosed with SSD (57 residential patients, 46 outpatients) and 112 healthy controls were thoroughly evaluated. Daily emotions were prospectively assessed with Experience Sampling Method eight times a day for a week. Statistical analyses included ANOVA, correlations, and generalized linear models.

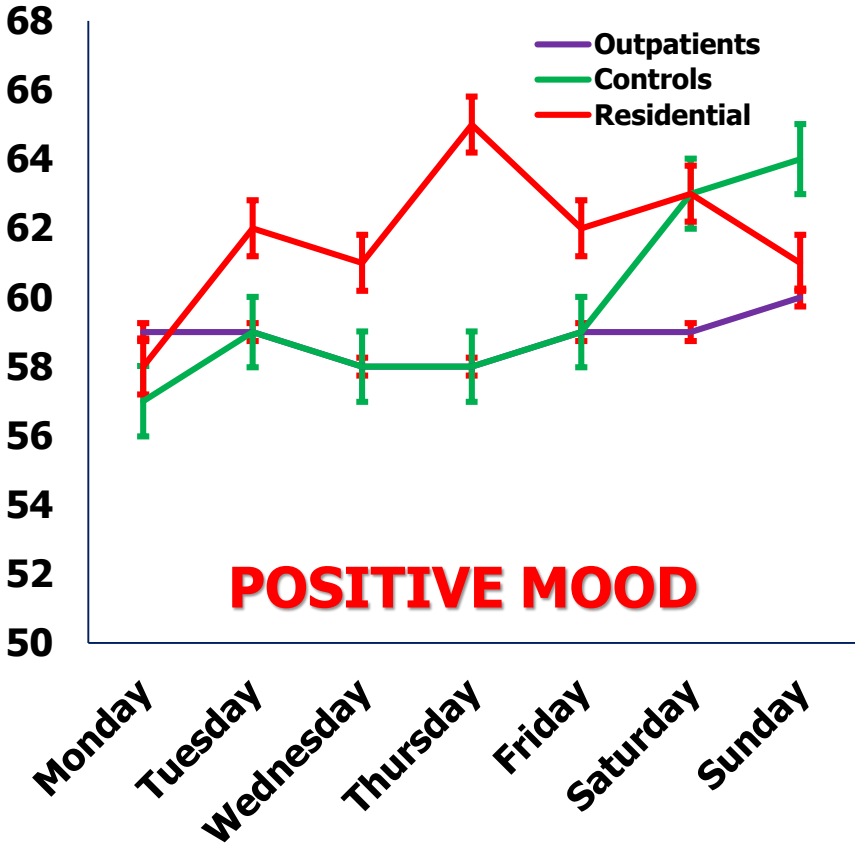
Results: Participants with SSD, and especially residential patients, had a higher intensity of negative emotions when compared to controls. Moreover, all people with SSD reported a greater between-person-variability of both positive and negative emotions and greater intra-variability of negative emotions than healthy controls. In addition, the emotion variability in people with SSD does not follow a linear or quadratic trend but is more "chaotic" if compared to controls.

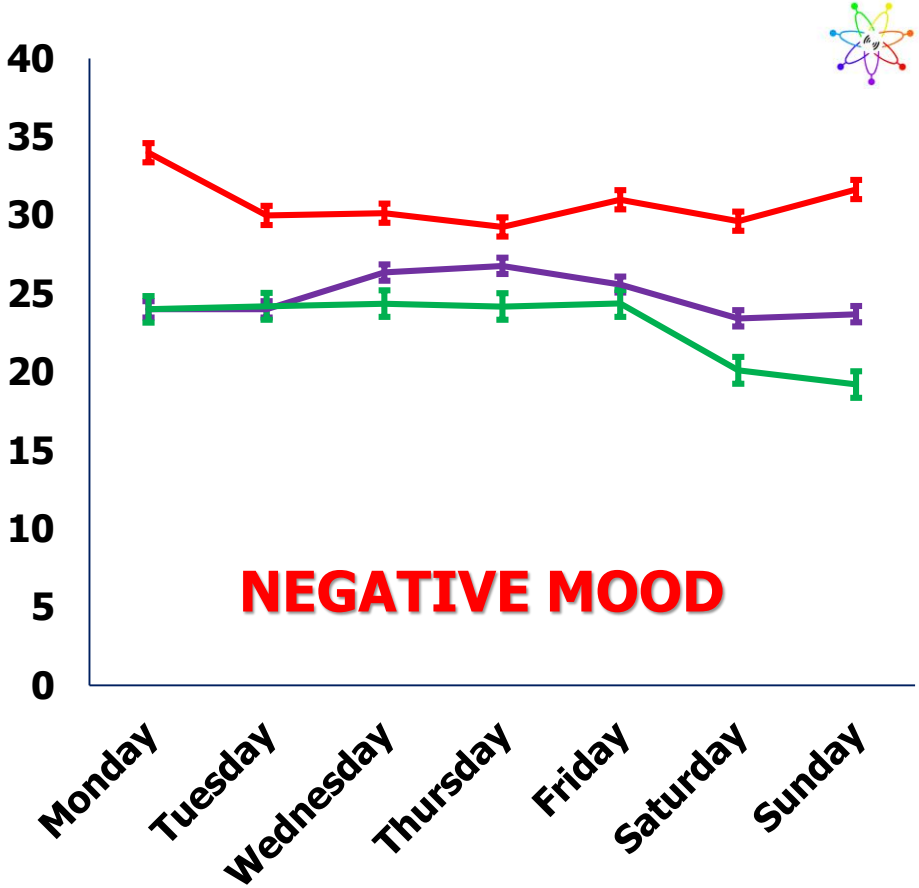
Conclusions: Adequate assessments of positive and negative emotional experiences and their time course in people with SSD can assist mental health professionals with well-being assessment, implementing targeted interventions through the identification of patterns, triggers, and potential predictors of emotional states.

DiAPAson Collaborators includes: Massimo Clerici (Università degli studi di Milano-Bicocca), Lorenzo Polizza (Dipartimento di Salute Mentale, AUSL di Parma), Roberto Placenti (Centro Sacro Cuore di Gesù Fatebenefratelli - San Colombano al Lambro, LO), Pierluigi Politi (Università degli Studi di Pavia; ASST di Pavia), Antonio Vita (Università degli Studi di Brescia), Stefano Zanolini (Dipartimento di Salute Mentale, Azienda ULSS 8 Berica).

Cristina Zarbo and Manuel Zamparini have joint first authorship.

MEAN MOOD INTENSITY RATINGS (0-100) DURING THE WEEK IN 3 GROUPS





‘LEZIONE’ 3

L’ESM consente di ‘fotografare’ il flusso delle emozioni in maniera dinamica ed accurata anche nei disturbi psicotici.

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Daily Time Use Among Individuals With Schizophrenia Spectrum Disorders and Unaffected Controls: Results From the DiAPAson Multicentric Project

Cristina Zarbo[1], Manuel Zamparini[2], Helen Killaspy[3], Valentina Baldini[4], Alessandra Patrono[2, 5], Matteo Malvezzi[6], Letizia Casiraghi[7], Matteo Rocchetti[7], Fabrizio Starace[8], Giovanni de Girolamo[2], and DiAPAson Collaborators

[1] Department of Psychology, University of Milano Bicocca

[2] Unit of Epidemiological and Evaluation Psychiatry, IRCCS Istituto Centro San Giovanni di Dio Fatebenefratelli

[3] Division of Psychiatry, University College London

[4] Department of Biomedical and Neuromotor Sciences, University of Bologna

[5] Department of Molecular and Translational Medicine, University of Brescia

[6] Department of Clinical Sciences and Community Health, University of Milan

[7] Department of Mental Health and Dependence, ASST of Pavia, Pavia, Italy

[8] Department of Mental Health and Dependence, AUSL of Modena, Modena, Italy

Objective: In the framework of daily time use, physical activity, and interpersonal relationships in patients with schizophrenia project, we aimed to investigate (a) within and between-group differences in daily time use of individuals with schizophrenia spectrum disorders (SSDs) and unaffected controls, stratifying them by age, sex, and employment status; (b) the associations between daily time use, the severity of psychiatric symptoms, and psychosocial functioning amongst those with SSD. *Method:* From October 2020 to October 2021, 306 outpatients and 312 individuals living in residential facilities (RFs) with SSD were recruited from 37 centers across Italy and compared on a measure of daily time use with 113 people unaffected by mental health problems. Statistical analyses included chi-squared tests, analysis of variance tests, *t* tests, Pearson's correlations, and nonparametric corresponding tests. *Results:* Individuals with SSD spent significantly more time in sedentary activities, leisure, and religious activities than unaffected controls, independent of age, sex, and employment status. Unaffected controls and outpatients spent more time engaged in productive activities than patients in RFs. Among the latter group, time spent in productive activities decreased significantly after 45 years of age, while time spent in self-care activities increased. Spending time engaged in sedentary activities was associated with greater severity of psychiatric symptoms and lower levels of functioning. *Conclusions and Implications for Practice:* This study provides a deep understanding of how individuals with SSD spend their time and how this is associated with the severity of their mental health problems. These findings highlight the need for proactive rehabilitation programs to promote productive occupation and social inclusion of people with SSD.

Schizophrenia

ARTICLE OPEN

Interplay between negative symptoms, time spent doing nothing, and negative emotions in patients with schizophrenia spectrum disorders: results from a 37-site study

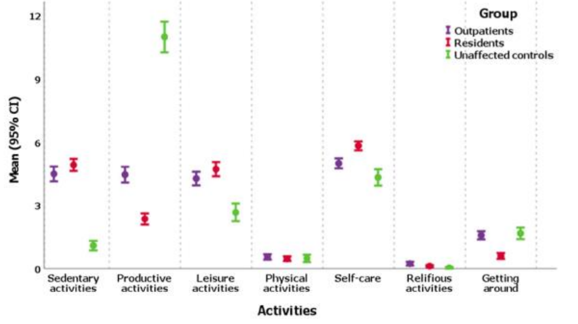

Figure 1

Between Groups Differences in Daily Time Activities

Note. CI = confidence interval. See the online article for the color version of this figure.

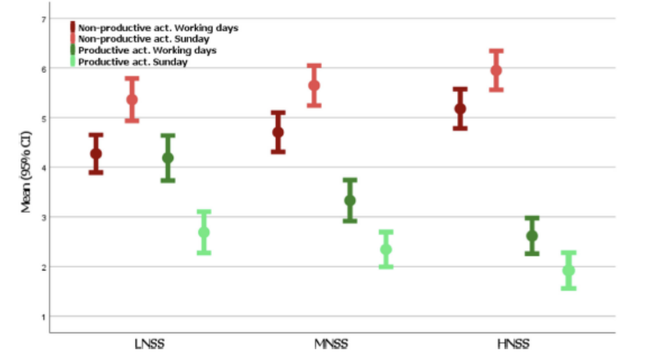

Fig. 1 Differences in occasion of non-productive activities during workdays and during sundays for different negative symptom severity groups. LNSS Low Negative Symptom Severity, MNSS Medium Negative Symptom Severity, HNSS High Negative Symptom Severity.

Prospettiva temporale	Punteggio
Passato-negativa	7
Passato-positiva	6
Presente-fatalistica	6
Presente-edonistica	6
Futuro	5

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Time perspective affects daily time use and daily functioning in individuals with Schizophrenia Spectrum Disorders: Results from the multicentric DiAPAson study

Cristina Zarbo [a,1], Maciej Stolarski [b,1], Manuel Zamparini [a], Stefano Damiani [c], Letizia Casiraghi [c,d], Matteo Rocchetti [c,d], Fabrizio Starace [e], Giovanni de Girolamo [a,*], on behalf of the DIAPASON collaborators

[a] Unit of Epidemiological and Evaluation Psychiatry, IRCCS Istituto Centro San Giovanni di Dio Fatebenefratelli, Brescia, Italy
[b] Faculty of Psychology, University of Warsaw, Poland
[c] Department of Brain and Behavioural Sciences, University of Pavia, Pavia, Italy
[d] Department of Mental Health and Dependence, ASST of Pavia, Pavia, Italy
[e] Department of Mental Health and Dependence, AUSL of Modena, Modena, Italy

ABSTRACT

Time perspective (TP) influences various aspects of human life. We aimed to explore the associations between TP, daily time use, and levels of functioning among 620 patients (313 residential patients and 307 outpatients) with a diagnosis of Schizophrenia Spectrum Disorders (SSD) recruited from 37 different centres in Italy. The Brief Psychiatric Rating Scale and the Specific Levels of Functioning (SLOF) were used to assess psychiatric symptoms severity and levels of functioning. Daily time use was assessed using an *ad hoc* paper and pencil Time Use Survey. The Zimbardo Time Perspective Inventory (ZTPI) was used to assess TP. Deviation from Balanced Time Perspective (DBTP-r) was used as an indicator of temporal imbalance. Results showed that the amount of time spent on non-productive activities (NPA) was positively predicted by DBTP-r (Exp(β): 1.36; *p* .003), and negatively predicted by the Past-Positive (Exp(β): 0.80; *p* .022), Present-Hedonistic (Exp(β): 0.77; *p* .008), and Future (Exp(β): 0.78; *p* .012) subscales. DBTP-r significantly negatively predicted SLOF outcomes (*p* .002), and daily time use, in particular the amount of time spent in NPA and Productive Activities (PA), mediated their association. Results suggested that rehabilitative programs for individuals with SSD should consider fostering a balanced time perspective to reduce inactivity, increase physical activity, and promote healthy daily functioning and autonomy.

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Time will tell: Associations between unbalanced time perspectives and symptom severity in individuals with schizophrenia spectrum disorders

Stefano Damiani [a,*], Cristina Zarbo [b], Maciej Stolarski [c], Manuel Zamparini [b], Letizia Casiraghi [a,d], Matteo Rocchetti [a,d], Fabrizio Starace [e], Paolo Fusar-Poli [a,f,g], Giovanni de Girolamo [b], DiAPAson Collaborators [1]

[a] Department of Brain and Behavioural Sciences, University of Pavia, Pavia, Italy
[b] Unit of Epidemiological and Evaluation Psychiatry, IRCCS Istituto Centro San Giovanni di Dio Fatebenefratelli, Brescia, Italy
[c] Faculty of Psychology, University of Warsaw, Poland
[d] Department of Mental Health and Dependence, ASST of Pavia, Pavia, Italy
[e] Department of Mental Health and Dependence, AUSL of Modena, Modena, Italy
[f] Early Psychosis: Interventions and Clinical-detection (EPIC) Lab, Department of Psychosis Studies, Institute of Psychiatry, Psychology & Neuroscience, King's College London, UK
[g] OASIS service, South London and Maudsley NHS Foundation Trust, London, UK

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Schizophrenia
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Psychosis
Time perspective
Psychopathology

ABSTRACT

Patients with schizophrenia spectrum disorder (SSD) experience disrupted temporality on the immediate time-scale. However, insufficient information is available for longer time frames, and the interaction of temporal perspectives with the clinical manifestations of SSD is unknown. We explored the association between unbalanced time perspectives and symptom severity. Thirty-seven Italian mental health services participating in the DiAPAson project recruited 620 patients with DSM-5 SSD (68 % males, mean age = 41.3 ± 9.5 years). Time perspective biases were measured using the Deviation from the Balanced Time Perspective-revisited (DBTP-r) indicator, based on Zimbardo Time Perspective Inventory (ZTPI) scores. Psychiatric symptoms were assessed using the Brief Psychiatric Rating Scale (BPRS) and Brief Negative Symptoms Scale (BNSS). Preliminary analyses examined the associations between ZTPI/DBTP-r and BPRS/BNSS total scores. In secondary analyses, we first tested the associations between the ZTPI/DBTP-r and BPRS/BNSS subscales and then compared ZTPI differences between patients with and without hallucinations, delusions, and conceptual disorganisation. Statistical significance was set at Holm-Bonferroni corrected $p < 0.05$. Low-to-moderate positive correlations were found between the DBTP-r and BPRS/BNSS total scores ($r = 0.29/0.22$). The strongest associations were between DBTP-r/ZTPI_Past-Negative and anxiety/depression ($r = 0.34/0.36$), followed by DBTP-r/ZTPI_Present-Fatalistic with thought disturbances ($r = 0.22/0.20$). DBTP-r was associated with BNSS anhedonia and avolition ($r = 0.21/0.24$). DBTP-r was higher in patients with hallucinations (ES = 0.391) and conceptual disorganisation (ES = 0.397) than in those without these symptoms. Unbalanced time perspective was positively associated with the severity of primary and secondary SSD features. These findings provide a rationale for empirical tests focused on balancing time perspectives in patients with SSD.

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Alliance in Individual Psychotherapy

Adam O. Horvath
Simon Fraser University

A. C. Del Re
University of Wisconsin–Madison

Christoph Flückiger
Universität Bern and University of Wisconsin-Madison

Dianne Symonds
Kwantlen Polytechnic University

This article reports on a research synthesis of the relation between alliance and the outcomes of individual psychotherapy. Included were over 200 research reports based on 190 independent data sources, covering more than 14,000 treatments. Research involving 5 or more adult participants receiving genuine (as opposed to analogue) treatments, where the author(s) referred to one of the independent variables as "alliance," "therapeutic alliance," "helping alliance," or "working alliance" were the inclusion criteria. All analyses were done using the assumptions of a random model. The overall aggregate relation between the alliance and treatment outcome (adjusted for sample size and non independence of outcome measures) was $r = .275$ ($k = 190$); the 95% confidence interval for this value was .25–.30. The statistical probability associated with the aggregated relation between alliance and outcome is $p < .0001$. The data collected for this meta-analysis were quite variable (heterogeneous). Potential variables such as assessment perspectives (client, therapist, observer), publication source, types of assessment methods and time of assessment were explored.

Keywords: therapeutic alliance, psychotherapy relationship, working alliance, meta-analysis, psychotherapy outcome

WORKING ALLIANCE INVENTORY (WAI-P) SHORT FORM[1]

ISTRUZIONI

Le presentiamo una serie di quesiti che provano a definire alcuni aspetti del rapporto con il suo terapeuta. Mentre legge i quesiti inserisca mentalmente il nome del/la suo/a terapeuta al posto dello spazio lasciato libero nel testo.
Utilizzando la scala a 7 punti di seguito riportata, indichi, cerchiando il numero, il grado con cui ciascun item descrive ciò che lei pensa.

Questo questionario è strettamente personale: né al suo terapeuta né alla struttura dove ha luogo la terapia verranno comunicate le sue risposte. Mi raccomando, risponda ad ogni quesito senza pensarci troppo: ciò che conta sono le sue prime impressioni.
Si ricordi inoltre di rispondere a tutti i quesiti. *Grazie per la collaborazione.*

1 = MAI
2 = RARAMENTE
3 = OGNI TANTO
4 = QUALCHE VOLTA
5 = SPESSO
6 = MOLTO SPESSO
7 = SEMPRE

1. ..... e io siamo d'accordo sulle cose di cui ho bisogno in terapia per migliorare la mia situazione.	1	2	3	4	5	6	7
2. Ciò che sto facendo in terapia mi dà la possibilità di guardare in modo diverso i miei problemi.	1	2	3	4	5	6	7
3. Credo di piacere a	1	2	3	4	5	6	7
4. ..... non capisce ciò che io sto cercando di ottenere dalla terapia.	1	2	3	4	5	6	7
5. Ho fiducia nelle capacità di ..... nell'aiutarmi.	1	2	3	4	5	6	7
6. ..... e io siamo impegnati in uno sforzo comune per raggiungere obiettivi concordati	1	2	3	4	5	6	7
7. Sento che ..... mi apprezza.	1	2	3	4	5	6	7
8. Siamo d'accordo sulle cose su cui è importante che io lavori.	1	2	3	4	5	6	7
9. ..... e io ci fidiamo l'uno dell'altro.	1	2	3	4	5	6	7
10. ..... e io abbiamo idee differenti su quali sono i miei reali problemi.	1	2	3	4	5	6	7
11. Abbiamo stabilito un buon livello di comprensione reciproca sul tipo di cambiamenti che sarebbero giusti per me.	1	2	3	4	5	6	7
12. Credo che la strada intrapresa per risolvere i miei problemi sia quella giusta.	1	2	3	4	5	6	7

[1]Modulo da compilare a cura del paziente.
Versione italiana a cura di Vittorio Lingiardi e Ludovica Filippucci.

ALLEANZA TERAPEUTICA VALUTATA DAL PAZIENTE (WAI-P)

- Minore ospedalizzazione (<1 anno)
- Miglior funzionamento psicosociale

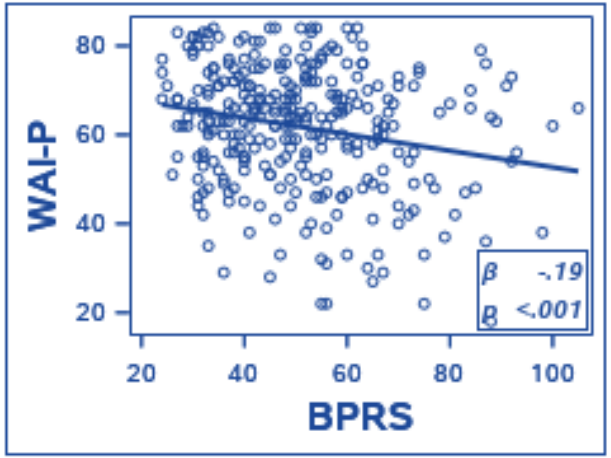
- Maggiore scolarità
- Maggior durata di permanenza in SR
- Maggiore gravità psicopatologica

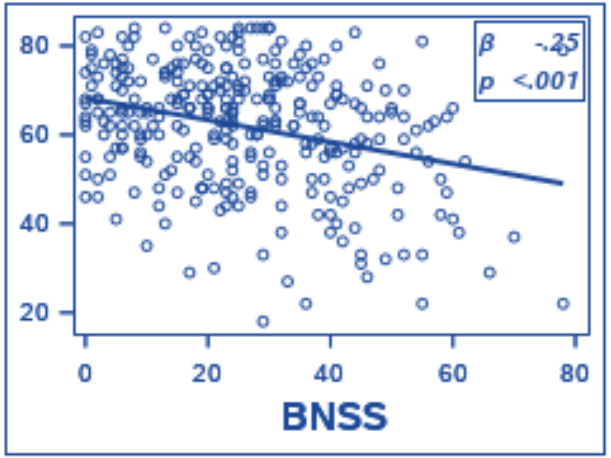
ALLEANZA TERAPEUTICA VALUTATA DALLO STAFF (WAI-T)

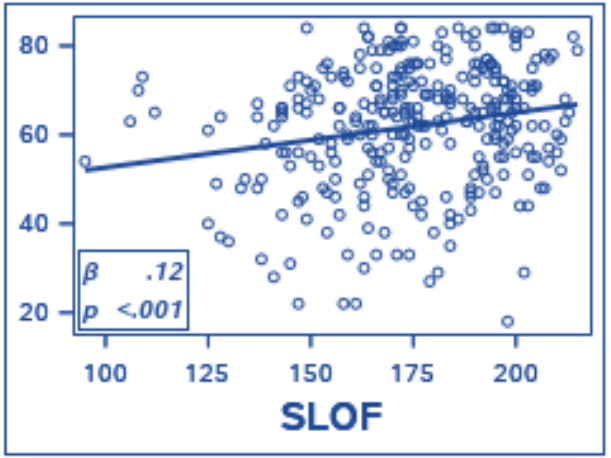
- Miglior funzionamento psicosociale

- Maggiore gravità psicopatologica

Punteggio WAI-P e correlazione con i punteggi a BPRS, BNSS e SLOF







La maggiore gravità, valutata con BPRS e BNSS, correla negativamente con i punteggi WAI-P (BPRS β=-0.19, p<.001; BNSS β=-0.25, p<.001). Per contro, il livello di funzionamento psicosociale valutato con la SLOF correla positivamente con i punteggi WAI-P (β=0.12, p<.001).

Table 4. User-rated (CAN-P) and staff-rated (CAN-S) domains unmet needs as predictors of activities and momentary mood (negative and positive affect) as measured with ESM

	Dependent variables							
Predictors*	Non-productive activities	Productive activities	Leisure activities	Physical activities	Self-care	Religious activities	Positive affect	Negative affect
User-rated (CAN-P)								
Basic	0.07 (−0.16; 0.30)	−0.17 (−0.39; 0.06)	0 (−0.22; 0.23)	−0.03 (−0.26; 0.20)	0.01 (−0.22; 0.24)	0.03 (−0.20; 0.26)	−0.02 (−0.26; 0.21)	−0.05 (−0.28; 0.18)
Social	−0.01 (−0.28; 0.27)	−0.25 (−0.52; 0.01)	**−0.29* (−0.56; −0.03)**	−0.25 (−0.51; 0.02)	−0.11 (−0.38; 0.17)	−0.22 (−0.49; 0.05)	−0.26 (−0.53; 0.01)	0.08 (−0.20; 0.35)
Functioning	**0.27** (0.08; 0.47)**	−0.09 (−0.31; 0.12)	−0.06 (−0.27; 0.15)	−0.15 (−0.35; 0.06)	0.01 (−0.20; 0.22)	−0.13 (−0.34; 0.08)	−0.16 (−0.37; 0.05)	0.20 (−0.01; 0.41)
Health	0.14 (−0.06; 0.34)	−0.13 (−0.33; 0.07)	**−0.22* (−0.41; −0.03)**	−0.13 (−0.33; 0.07)	0.05 (−0.16; 0.25)	−0.09 (−0.29; 0.11)	**−0.41*** (−0.59; −0.24)**	**0.38*** (0.21; 0.56)**
Services	0.17 (−0.10; 0.44)	0.10 (−0.17; 0.37)	**−0.28* (−0.54; −0.02)**	0.07 (−0.20; 0.34)	0.02 (−0.26; 0.30)	0.09 (−0.18; 0.37)	−0.15 (−0.91; 0.25)	0.04 (−0.23; 0.31)
Total	0.23 (−0.01; 0.46)	−0.21 (−0.44; 0.03)	**−0.29* (−0.52; −0.07)**	−0.19 (−0.43; 0.04)	0 (−0.24; 0.25)	−0.14 (−0.38; 0.10)	**−0.40*** (−0.62; −0.18)**	**0.29* (0.07; 0.52)**
Staff-rated (CAN-S)								
Basic	0.07 (−0.16; 0.30)	−0.03 (−0.46; 0.40)	**−0.41* (−0.82; −0.01)**	0.26 (−0.16; 0.67)	0.10 (−0.33; 0.53)	**0.45* (0.04; 0.86)**	−0.21 (−0.64; 0.22)	0.19 (−0.23; 0.62)
Social	0.13 (−0.16; 0.41)	−0.14 (−0.43; 0.15)	−0.04 (−0.33; 0.24)	−0.09 (−0.37; 0.20)	0.07 (−0.22; 0.36)	−0.08 (−0.37; 0.21)	−0.12 (−0.41; 0.17)	0.22 (−0.06; 0.50)
Functioning	**0.39* (0.04; 0.73)**	0.13 (−0.23; 0.49)	−0.16 (−0.51; 0.19)	0.20 (−0.16; 0.55)	0.02 (−0.34; 0.38)	0.18 (−0.18; 0.53)	−0.25 (−0.60; 0.11)	0.21 (−0.14; 0.57)
Health	0.20 (−0.10; 0.50)	−0.17 (−0.47; 0.14)	**−0.33* (−0.62; −0.04)**	−0.11 (−0.42; 0.19)	0.27 (−0.03; 0.57)	−0.06 (−0.37; 0.25)	**−0.32* (−0.62; −0.02)**	**0.39** (0.10; 0.68)**
Services	−0.32 (−0.97; 0.32)	−0.18 (−0.83; 0.47)	−0.43 (−1.06; 0.21)	0.25 (−0.39; 0.90)	0.26 (−0.39; 0.91)	0.34 (−0.30; 0.99)	0.25 (−0.41; 0.90)	0.02 (−0.62; 0.67)
Total	0.08 (−0.03; 0.19)	−0.04 (−0.15; 0.07)	**−0.11* (−0.22; −0.01)**	0.02 (−0.10; 0.13)	0.06 (−0.05; 0.18)	0.04 (−0.07; 0.15)	−0.09 (−0.20; 0.02)	**0.12* (0.01; 0.23)**

A linear regression, adjusted for age, sex and BPRS (standardised coefficients), was undergone. Bold values denote statistical significance at $^{*}p < 0.05$ $^{**}p < 0.01$ $^{***}p < 0.001$ level.

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Original Article

Needs for care of residents with schizophrenia spectrum disorders and association with daily activities and mood monitored with experience sampling method: the DIAPASON study

Alessandra Martinelli[1], Miriam D'Addazio[2], Manuel Zamparini[2], Graham Thornicroft[3], Gabriele Torino[4], Cristina Zarbo[2], Matteo Rocchetti[5], Fabrizio Starace[6], Letizia Casiraghi[5], Mirella Ruggeri[7], Giovanni de Girolamo[2] and the DiAPASon Collaborators*

[1]Unit of Clinical Psychiatry, IRCCS Istituto Centro San Giovanni di Dio Fatebenefratelli, Brescia, Italy; [2]Unit of Epidemiological and Evaluation Psychiatry, IRCCS Istituto Centro San Giovanni di Dio Fatebenefratelli, Brescia, Italy; [3]Centre for Global Mental Health and Centre for Implementation Science, Institute of Psychiatry, Psychology and Neuroscience, King's College London, London, UK; [4]Department of Psychology, Clinical Psychology, Catholic University of the Sacred Heart, Milan, Italy; [5]Department of Mental Health and Dependence, ASST of Pavia, Pavia, Italy; [6]Department of Mental Health and Dependence, AUSL of Modena, Modena, Italy and [7]Section of Psychiatry, Verona Hospital Trust, AOUI, Verona, Italy

Abstract

Aims. Care needs represent an essential paradigm in planning residential facility (RF) interventions. However, possible disagreements between users and staff are critical issues in service delivery. The Experience Sampling Method (ESM) tracks experiences in the real world and real time. This study aimed to evaluate the care needs of patients with schizophrenia spectrum disorder (SSD) in RFs and its association with daily activities and mood monitored using the ESM.

Methods. As part of the DIAPASON project, 313 residents with SSD were recruited from 99 Italian RFs. Sociodemographic and clinical characteristics were recorded. Care needs, the severity of symptomatology and negative symptoms were assessed. Fifty-six residents were also assessed for 7 consecutive days using the mobile ESM. Descriptive, agreement, predictor and moderator analyses were conducted.

Results. The staff rated a higher number of total and met needs than service users ($p < 0.001$). Only a slight agreement between users and staff on unmet needs was found in self-care ($k = 0.106$) and information ($k = 0.100$) needs, while a moderate agreement was found in accommodation ($k = 0.484$), food ($k = 0.406$), childcare ($k = 0.530$), physical health ($k = 0.470$), telephone ($k = 0.458$) and transport ($k = 0.425$) needs. Older age (-0.15; $p < 0.01$), longer SSD diagnosis (-0.16; $p < 0.01$), higher collaboration (-0.16; $p < 0.01$) and lower symptomatology (-0.16; $p < 0.01$) decreased the number of unmet needs, while being a female (0.27; $p < 0.05$) and a shorter length of stay in an RF (0.54; $p < 0.001$) increased the number of unmet needs. A higher number of unmet needs was associated with a lower amount of time spent in leisure activities or reporting a positive mood: on the contrary, more unmet needs were associated with a greater amount of time spent in religious or non-productive activities. The associations between unmet needs rated by staff and users and momentary mood as assessed using the ESM were not moderated by the severity of symptomatology.

Conclusions. Although care needs are fundamental in planning residential activities aimed at recovery-oriented rehabilitation, RF interventions did not fully meet users' needs, and some disagreements on unmet needs between users and staff were reported. Further efforts are necessary to overcome Italian RF limits in delivering rehabilitative interventions defined by real users' needs to facilitate users' productivity and progress towards personal recovery.

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Author for correspondence:
Giovanni de Girolamo,
E-mail: gdegirolamo@fatebenefratelli.eu

Introduction

The concept of mental health need has been suggested as a vital paradigm in planning mental health service interventions (Lasalvia *et al*., 2000) because it has direct treatment implications. Different definitions of mental health need have been suggested (Ruggeri *et al*., 2004), such as the public mental health need, assessed to provide services, programmes and staff to address this need, or the need for treatment of patients in specific mental health settings (e.g. a patient discharged from a psychiatric hospitalisation or receiving community psychiatric treatment). Furthermore, different assessment tools have been developed (Lasalvia *et al*., 2007; Campion *et al*., 2017; Mazzaia, 2018; Norman *et al*., 2018; Reisinger *et al*., 2021). In this study, we focus

‘LEZIONE’ 4

- Una maggiore gravità è associata a maggiori difficoltà nell’alleanza terapeutica.

- I bisogni insoddisfatti sono correlati alle emozioni negative riferite dai pazienti in tempo reale.

IL PROGETTO DIAPASON: UN ESEMPIO DI RICERCA ALL'INTERNO DEL SSN

- Coordinating centres: IRCCS Fatebenefratelli, Brescia (G. de Girolamo, C. Zarbo, A. Martinelli, G.B. Tura), DSMDP, AUSL di Modena (F. Starace), DSMD, ASST di Pavia (M. Rocchetti, L. Casiraghi, P. Politi). Participating centres: DSM ASL Ancona (M. Mari, S. Impicci, A. Zoppi, G.P. Gargiulo, P. D'Elia); RF Passaggi Srl-Oricola, Aquila (A. Bellotta, F. Jacoponi, A. Maurizi); DSM ULSS 8 Berica, Arzignano, Vicenza (S. Zanolini, I. Rodolfile), DSM, ASL Bari (D. Semisa, V. Latorre, G. Nappi); DSMD, ASST Bergamo Ovest (E. Monzani, S. Fenaroli); DSMD, ASST Spedali Civili, Brescia (A. Vita, S. Barlati); Fatebenefratelli, Cernusco sul Naviglio & San Colombano al Lambro (G.M. Giobbio, D. Di Cosimo, D. Rigamonti, R. Bussi, R. Placenti); DSMD, ASST Cremona (F. Spinogatti, G. Giordano, I. Rossoni); DSMD, ASST Rhodense, Garbagnate (M. Toscano, C. Rovera); DSM, ASL 3 Genova (L. Ghio, M. Tosato, D. Malacarne, L. Lattanzi, M. Guglielmi, S. Sanavio, S. Patti); RF CREST 'La Perla', Grumello del Monte, Bergamo (S. Zizolfi, S. Brambilla, L. Rancati); DSMD, ASST Lodi (G. Cerveri, C. Cibra, E. Pionetti, V. Cuman); RF Centro Ippocrate CRA Macchiareddu, Cagliari (B. Piccicacchi, C. Schiavo, A. Muntoni); DSMD, ASST Melegnano and Martesana, Melegnano (F. Durbano, A. Di Gregorio, E. Rametta, L. Fussi, L. Donatini, V. Porcelluzzi, V. Masseroni, G. Modola); RF Fondazione Castellini ONLUS, Melegnano, Milano (A. De Giovanni, A. Cicceri); DSMD, ASST Monza (M. Clerici, G. Crespi, R. Pessina, M. Santorelli, C. Calini); DSM Napoli 2 Nord (A. Cuciniello, M.G. Foia, C. D'Anna, R. Verrone); RF Fondazione Giuseppe Costantino, Pavia (M. Marina); DSM, ASL Pescara (V. Di Michele); DSMD, AUSL Parma (G. Paulillo, E. Leuci, L. Pelizza); DSM, USL Toscana Centro, Prato (G. Cardamone, G. D'Anna, T. Vannucchi, L. Tatini, M. Spadafora); DSM, ASL Roma1 (G. Ducci, A. Maone, B. Rufelli, F. Savoretti, T. Poliseno); Fatebenefratelli Beata Vergine Consolata, San Maurizio Canavese (F. De Dominicis, M.E. Boero); DSM, ASL Teramo (P. Giosuè); DSM, ASL Città di Torino (G. Gallino, F. Facchini, M. Porro, M.C. Vespucci); RF Progetto Du Parc, Torino (J. Orticola, N. Rossetto); DSM, APSS Trento, Rovereto (M. Goglio, F. Lucchi); DSM, ULSS 2 Marca Trevigiana, Treviso (A. Brega); RF Le Vele ONLUS, Trezzo sull'Adda e Vaprio D'Adda, Milano (A. Pozzi, L. Colasuonno, M. Roncalli, E. Bonetti); DSM, ASUITS Trieste (A. Rippa, A. Norbedo, R. Mezzina); DSM, AOUI Verona (M. Ruggeri); University of Verona, Department of Neurosciences (S. Pogliaghi); RF CTRP Associazione Don Giuseppe Girelli, Verona (T. Signoretti); RF CREST, Vinago, Varese (C.M. Dentali, M. Minotto, F. Barboni).