OFFICIAL JOURNAL OF
THE ITALIAN SOCIETY OF PSYCHOPATHOLOGY

Journal of PSYCHOPATHOLOGY

Editor in Chief
Alessandro Rossi

Eating Disorders
Sexual Behavior
Clinical Phenomenology
Psychotherapy

Cited in:
EMBASE - Excerpta Medica Database • Index Copernicus
PsycINFO • SCOPUS • Google Scholar
Emerging Sources Citation Index (ESCI), a new edition of Web of Science

PACINI EDITORE MEDICINA

VOL. 28
JUNE 2022
2

www.jpsychopathol.it

OFFICIAL JOURNAL OF
THE ITALIAN SOCIETY OF PSYCHOPATHOLOGY

Journal of PSYCHOPATHOLOGY

Eating Disorders
Sexual Behavior
Clinical Phenomenology
Psychotherapy

www.jpsychopathol.it

Cited in:
EMBASE - Excerpta Medica Database • Index Copernicus
PsycINFO • SCOPUS • Google Scholar
Emerging Sources Citation Index (ESCI), a new edition of Web of Science

Editorial and Scientific Secretariat: Valentina Barberi, Pacini Editore Srl, Via Gherardesca 1, 56121 Pisa •
Tel. 050 3130376 • Fax 050 3130300 • journal@jpsychopathol.it

Publisher: Pacini Editore Srl, Via Gherardesca 1, 56121 Pisa •
www.pacinimedicina.it

PACINI EDITORE MEDICINA

VOL. 28
JUNE 2022
2

Contents

Original articles

Psychopathology of sexual behavior

Assessment and instruments in psychopathology

JOURNAL OF PSYCHOPATHOLOGY 2022;28:47-52
DOI: 10.36148/2284-0249-453

Original article

Resistant or not resistant depression: that is the question

Raffaella Zanardi[1,2], Francesco Attanasio[2], Valentina Fazio[2], Melania Maccario[2], Cristina Colombo[1,2]

[1] IRCCS San Raffaele Scientific Institute, Department of Clinical Neurosciences, Mood Disorder Unit, Milan, Italy; [2] University Vita-Salute San Raffaele, Department of Clinical Neurosciences, Milan, Italy

SUMMARY

Objectives

Depression is still a leading cause of worldwide disability, and its management remains a major public health challenge. According to the most used criteria, treatment-resistant depression (TRD) is defined as an inadequate response to different classes of antidepressants administered at adequate dose and duration. However, such an assumption is not globally shared in clinical practice, and the treatment strategies for TRD are still largely empirical.
In the present study, we have sought to extend and deepen the evidence on TRD, focusing on the difficulty of its correct identification and classification, causing misdiagnosis, ineffective treatment strategies, and lack of specific guidelines for the management of TRD.

Methods

Over 12 months, 200 consecutively admitted depressed inpatients at the Mood Disorders Unit of San Raffaele Hospital in Milan were recruited. On the day of admission, according to clinical and anamnestic backgrounds, patients were classified as resistant or non-resistant, based on the staging system by Thase and Rush and the definition of TRD by Souery and colleagues. Every patient was treated with adequate pharmacological approaches and underwent a two-months follow-up after discharge. Clinical and sociodemographic variables were collected during hospitalization and follow-up.

Results

At the admission 27% of the sample displayed anamnestic drug resistance characteristics, meeting the TRD definition criteria. The resistant group differed from the responder one for older age at the admission ($p = 0.015$), more severe episodes and less psychotic features ($p < 0.001$). Analyzing the drug-specific remission rates throughout the whole sample, we observed no remission difference between drug classes (SSRI 78.20% vs SNRI 63.16% vs TCA 69.23%, $p = 0.215$). We also found no difference in remission rates between groups when treated with SSRI (non-resistant 79.03% vs resistant 75.00%, $p = 0.728$) and SNRI (non-resistant 68.18% vs resistant 56.25%, $p = 0.452$). The groups globally reached symptomatic remission in 77.88 and 59.52% of cases respectively ($p = 0.022$).

Conclusions

Studying a depressed population in mood disorders center it was possible to observe that 60% of patients categorized as treatment-resistant revealed a response to pharmacotherapies, often reaching a complete symptomatic remission using first-line treatments. This result reveals how the diagnosis of resistance could be often inaccurate and the actual pharmacoresistance prevalence much lower than what is usually shown by literature data.

Key words: depression, major depressive disorder, bipolar disorder, treatment resistant depression, TRD, antidepressant, remission, follow-up

Received: December 27, 2021
Accepted: January 30, 2022

Correspondence
Raffaella Zanardi
IRCCS San Raffaele Scientific Institute, Department of Clinical Neurosciences, Mood Disorder Unit, via Olgettina 60, 20132 Milan, Italy. Tel.: +39 02 26433250.
E-mail: zanardi.raffaella@hsr.it

How to cite this article: Zanardi R, Attanasio F, Fazio V, et al. Resistant or not resistant depression: that is the question. Journal of Psychopathology 2022;28:47-52. https://doi.org/10.36148/2284-0249-453

Introduction

Despite the incessant progress in research on mental disorders and the rapid evolution of pharmacologic therapies that occurred in the last decades, the management of patients with depression remains a major pub-

lic health challenge [1]. Depression represents a leading cause of disability worldwide and a major contributor to the overall global burden of disease remains to date [2,3].
Since the early nineties, clinical trials have shown how only half of the depressed patients respond to first-line antidepressant monotherapy, with about one-third of depressed patients will not achieve complete remission even after multiple pharmacological trials, putting the concept of Treatment-resistant depression (TRD) in the center of psychiatric research [4-6].
Because of its manifold nature, different clinical trials have used different criteria to define and describe depressed patients who show a poor response to treatment. Through the years, over 20 different TRD definitions with specific requirements (e.g., the number of trials, dosage, duration, and types of molecules) have been created and a consensus on its definition, diffusion, treatment protocols, and outcomes is lacking in the psychiatric community to date [7,8].
In clinical practice, the inability to correctly identify and classify patients with treatment-resistant depression results in misdiagnosis, ineffective treatment strategies and contributes to the lack of guidelines for the management of TRD.
Literature, often discordantly, has identified many predictors of non-response. Those characteristics are correlated with a poor outcome but do not necessarily define TRD, since these features are usually analyzed as predictors of resistance to just a single antidepressant treatment. For example, some depressive subtypes, as atypical and psychotic depression, have been usually associated with poor outcomes [9]. A number of other psychiatric variables have been identified as indicators for nonresponse to antidepressants, they may include personality disorders, anxiety comorbidities and substances or alcohol use disorder [10-12]. Medical comorbidity, delay in initiating treatment, older age and female gender are also described as major predictors of resistance [13-17]. Some of the most commonly accepted staging definitions in use today imply the failure of an antidepressant class switch as a predictor of non-response. However, such an assumption is not shared by part of the current literature [8,18-23].
As a matter of fact, the lack of precise and evidence-based guidelines for the management of treatment-resistant depression contributes to explaining why the treatment strategies for TRD are largely empirical, to date [24].
Through the great turnout of depressed patients at our tertiary referral Mood Disorders Center, we have sought to extend and deepen the evidence on this topic. We analyzed data from a 12-month period of bipolar and unipolar inpatients, focusing on subjects with histories of resistance, to explore correlations between clinical characteristics, drug resistance, different treatment strategies and remission over time.
To conduct this study, and to interpret and compare our result with the previous data available in the literature, we needed a unique operational definition of TRD. According to the most used criteria, TRD is defined by an inadequate response during the current episode to at least two trials of different classes of antidepressant at adequate doses and duration (corresponding to stage 2 of the Thase and Rush staging system for TRD, and the TRD definition proposed by Souery et al. in 1999) [8,18].

Materials and methods

As the main goal of our study was to evaluate TRD features in a realistic depressed population, we designed the present as a prospective and naturalistic study. It was conducted over a 12-month period at the Mood Disorders Unit of San Raffaele Hospital in Milan.
The inclusion criteria were > 17 years of age, fulfilling the Diagnostic and Statistical Manual of Mental Disorders 5th edition (DSM-5) criteria for Bipolar Disorder type I or II (depressive episode) or Major Depressive Disorder, moderate or severe acute depressive episode according to *Hamilton Depression Rating Scale 21 items (HDRS-21) scores ≥ 18 at the admission.* We excluded patients with diagnosis of schizophrenia, other psychotic disorders, intellectual disability, or neurological comorbidity.
From May 2020 to April 2021, 200 consecutively admitted depressed inpatients were recruited.
During hospitalization, the presenting complaint, past medical and family history were collected in detail by a psychiatrist through daily clinical interviews.
We collected socio-demographic, clinical data, and cumulative rates of lifetime episodes of illness (mood episodes: depressive, mixed and manic). As binary variables, we assessed the presence or absence of personality disorders, active Alcohol or Substances Use Disorder and symptoms remission 2 months after discharge.
On the day of admission, according to clinical and anamnestic backgrounds, patients were assigned to a group:

- non-resistant (n = 146): responders in past episodes (if any), with no characteristics of resistance in the current episode;
- resistant (n = 54): subjects with inadequate response during the current episode to at least two trials of different classes of antidepressant at adequate doses and duration.

Personality disorders were assessed through SCID-5 for Personality Disorders (SCID-5-PD). The severity of depressive symptoms and remission over time were weekly assessed through HDRS-21.

According to clinical judgments all patients were treated with adequate pharmacological approaches, following during hospitalization an individualized rehabilitation program.
Every patient underwent follow-up visits up to two months after discharge.
The study, approved by the Ethical Committee of the Hospital, was conducted in accordance with the Declaration of Helsinki. Written informed consent was obtained from all participants.

Statistical analyses

To investigate group differences in clinical and socio-demographic variables, compare treatments during hospitalization and drug-specific remission rates over time, we performed a Mann-Whitney U test and Chi-Squared test for continuous and categorical variables, respectively. When the value in any of the cells of a contingency table was below 5, we used Fisher's exact test. Normality was checked by the Shapiro-Wilk normality test.
All statistical analyzes were performed using JASP (Version 0.14.1) Computer software; charts and tables were generated by JASP or Microsoft EXCEL [25,26].

Results

Over 12 months, a total of 200 unipolar and bipolar depressed inpatients were included in the present study (mean age 59.76 ± 12.10 years; age range 24-82 years; gender (female/male), 134/66; unipolar/bipolar depression, 73/127).
On the day of admission, we stratified the sample for resistance to treatment: 27% of the sample displayed anamnestic drug resistance characteristics, meeting the criteria of TRD definition: inadequate response during the current episode to at least two trials of different classes of antidepressant at adequate doses and duration.
Clinical and socio-demographic data of the two groups are displayed and compared in Table I. The only socio-demographic variable that differs (by Mann-Whitney U test) between groups was the age of admission: the non-resistant group was younger than the resistant one (non-resistant 58.58 ± 11.73 *vs* resistant 62.98 ± 12.61 years; p = 0.015).
Evaluating the severity and presence of psychotic features of the depressive episode we found by chi-square test a statistically significant difference between groups. *Non-resistant group*: moderate 110 subjects (75.34%), severe 19 subjects (13.01%), severe with psychotic features 17 subjects (11.64%) *vs resistant group*: moderate 33 subjects (61.11%), severe 19 subjects (35.19%), severe with psychotic features 2 subjects (3.70%), p < 0.001.
The two groups differed by chi-squared test (p = 0.003) in the treatment received during hospitalization: the *non-resistant group* was treated mainly with SSRI (86 patients, 64.18%), 25 patients (18.66%) with SNRI, 23 patients (17.16%) with TCA; in the *resistant group* 21 patients (40.39%) where treated with SSRI, 22 patients (42.31%) with SNRI, 9 patients (17.31%) with TCA.
The two groups of patients achieved and maintained by chi-squared test a different remission rate at two months after the discharge: non-resistant 88 patients (77.88%) vs resistant 25 patients (59.52%), p = 0.022.
Analyzing the drug-specific remission rates throughout the sample, we found no difference between drug classes (SSRI 78.20% *vs* SNRI 63.16% *vs* TCA 69.23%, p = 0.215 by chi-squared test). We also found no difference in drug-specific remission rates between groups when treated with SSRI (non-resistant 49 remitters, 79.03% *vs* resistant 12 remitters, 75.00%, p = 0.728 by chi-squared test) and SNRI (non-resistant 15 remitters, 68.18% *vs* resistant

TABLE I. *Clinical and socio-demographic data. * Chi-Squared test ** Mann-Whitney U test.*

	Non-resistant (n = 146)	Resistant (n = 54)	P-value
Diagnosis (DMR/BD)	89/57	38/16	0.220*
Age, y	58.58 ± 11.73	62.98 ± 12.61	0.015**
Episodes of illness, n	3.64 ± 2.04	4.02 ± 1.92	0.130**
Personality disorders	32.19%	18.52%	0.057*
Alcohol abuse	6.85%	3.70%	0.406*
Substance abuse	4.80%	3.70%	0.741*
Episode type:			< 0.001*
moderate	110 (75.34%)	33 (61.11%)	
severe	19 (13.01%)	19 (35.19%)	
with psychotic features	17 (11.64%)	2 (3.70%)	

9 remitters, 56.25%, p = 0.452 by chi-squared test). Statistically significant differences in remission rates between groups were achieved by the patients treated with TCA (non-resistant 15 remitters, 83.33% *vs* resistant 3 remitters, 37.50%, p = 0.027 by Fisher's exact test).

Discussion

On the day of admission, 27% of our sample displayed pharmacoresistant characteristics, a percentage is in line with the most reliable literature on the topic that reported about 25-30% [4-6].

Stratifying the sample for anamnestic resistance to treatment, we identified two groups of patients: *non-resistant* and *resistant.* The groups appeared similar in diagnosis distribution, gender, lifetime episodes of illness, alcohol and substance abuse, presence of personality disorders as if these clinical and socio-demographic characteristics would be unrelated to the definition of TRD. The literature about this topic is mostly controversial, it lists several characteristics as correlates for a worse outcome following a depressive episode, but not necessarily defining TRD [9-17].

Conversely, we found a correlation between the age of the subjects and resistance to treatments. This is in accordance with great literature which highlights older age as one of the major risk factors for the development of TRD (because of poor medical health, brain atrophy and cognitive impairment, loneliness, retirement, financial problems, losses, poly-therapies) [14-17].

We also observed a relationship between the severity of a depressive episode and the presence of pharmacoresistance: greater severity, causing functional impairment, was related to decreased responsiveness to treatment [27].

Although many studies consider psychotic features as a specific risk factor for poor response to treatment [28], in our sample we found that the few patients who displayed psychotic symptoms during the depressive episode belonged mostly to the *non-resistant* group; as if psychotic manifestations could be a sign of *endogenous depression*, which, unlike *reactive depression*, it is usually unrelated to stressful environmental factors and personality disorders, therefore more responsive to pharmacotherapy alone.

Non-resistant and *resistant groups* during the hospitalization received by clinical judgment different treatment strategies (*the non-resistant group* was mostly treated with first-line pharmacotherapies: choice of SSRI for 64.18% of *non-resistant vs* 40.39% of *resistant*), reaching remission of symptoms in 77.88 and 59.52% of cases, respectively. Notable was the finding that no outcome differences emerged between different drug classes, studying the whole sample. This finding is concordant with a previous report of Souery et al. [8], that showed how switching antidepressant classes does not improve remission rate in TRD.

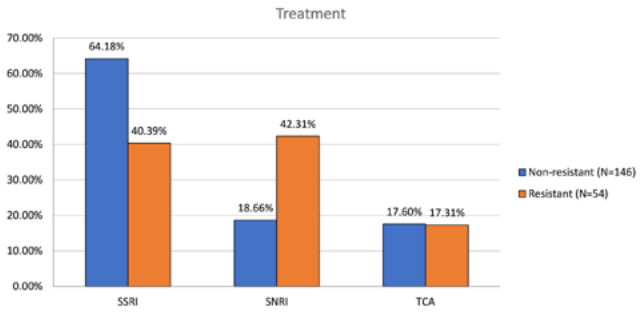

FIGURE 1. *Treatment received during hospitalization, p = 0.003.*

We tried to go deeper into this topic, stratifying the sample for resistance to treatment, we analyzed the drug-specific remission rates between groups: no differences in outcome at 2 months after discharge was found between resistant and non-resistant patients when treated with SSRI or SNRI. Conversely, statistically significant differences in remission rates between groups were achieved by the patients treated with TCA: *non-resistant* patients reached a much higher remission rate than *resistant* ones, more than 80% *versus* less than 40%.

The results suggest that TCAs are chosen by clinical judgment in the most complex and difficult-to-treat cases, moreover extensive literature shows how atypical depression and specific symptoms as psychomotor agitation, and anxiety may show a poor response to TCAs [9,29,30]. Regarding the *non-resistant* group, if com-

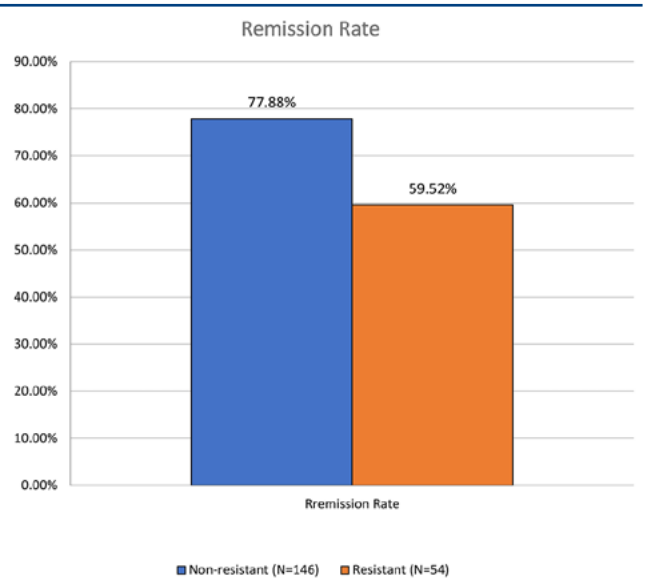

FIGURE 2. *Remission rate between groups at the end of the 2-months follow-up, p = 0.022.*

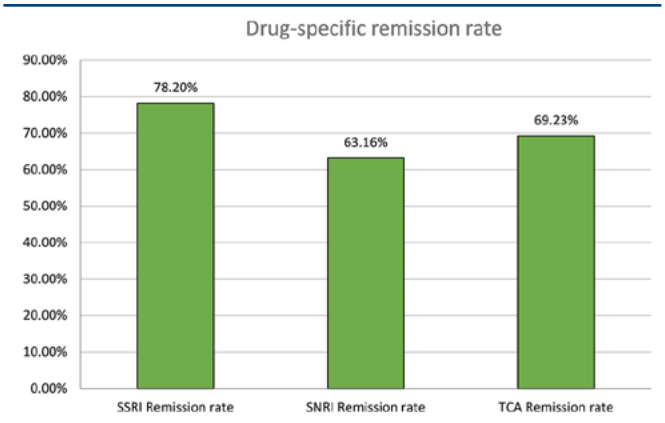

FIGURE 3. *Drug-specific remission rate in the whole sample, p = 0.215.*

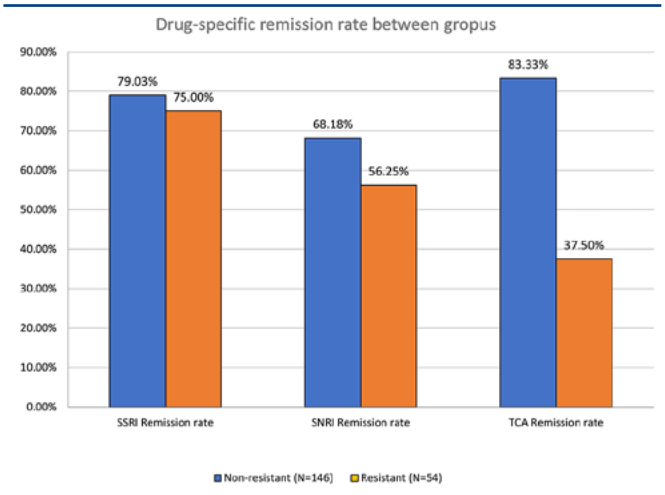

FIGURE 4. *Drug-specific remission rate between groups, SSRI p = 0.728; SNRI p = 0.452; TCA p = 0.027.*

pared to other drug classes, TCAs reached the highest remission rate, but without statistical significance.
Our finding could have many practical consequences in the clinical management of depressed patients, both for resistant and non-resistant, inasmuch it shows the effectiveness of different pharmacotherapies lines in relation to pharmacoresistance characteristics. Notably, first-line treatments appeared to be equally effective in both groups, ensuring globally the higher remission rate.
As a matter of fact, the management of TRD in our unit already considers, whenever possible, the use of first-line treatments: in this study, we treated about 40% of resistant patients with SSRIs obtaining the same or better remission rate than what described in the literature [4-6,24].
Finally, it was very interesting to observe how almost 60% of patients who displayed anamnestic drug resistance characteristics on the day of admission obtained clinical remission throughout the study. It revealed that the diagnosis of resistance could be often inaccurate, since the actual percentage of drug resistance in that group was 40.48% indeed, much lower than what is usually shown by literature data [4-6].

Conclusions

We studied a depressed population with a diagnosis of unipolar and bipolar disorder in a mood disorder and we observed that about 60% of patients categorized as treatment-resistant revealed a response to pharmacotherapies, often reaching a complete symptomatic remission using first-line antidepressant treatments.
Analyzing the drug-specific remission rates we found no difference between groups when treated with SSRI and SNRI, and a higher remission rate in the responder group just when treated with TCA.
It is probably limiting to consider TRD as a unique subtype of depression, and therefore the use of staging models could be useful to better characterize and improve the homogeneity of future studies. Anyway, most accepted staging definitions in use today appear to be misleading in the clinical practice because they do not appear to be predictive of response and may guide clinicians towards more complex therapeutic lines without an actual outcome improvement.

Acknowledgements

None.

Conflict of interest statement

The Authors declare no conflict of interest.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Authors' contributions

All the Authors contributed to the design, the draft and the analysis of the work. All authors revised the work and and approved the final manuscript.

Ethical consideration

This study was approved by the Institutional Ethics Committee (IRCCS San Raffaele Hospital, Milan, Italy) (protocol number 10-06-SO).
The research was conducted ethically, with all study procedures being performed in accordance with the requirements of the World Medical Association's Declaration of Helsinki. Written informed consent was obtained from each participant/patient for study participation and data publication.

References

1. McCombs JS, Nichol MB. Pharmacy-enforced outpatient drug treatment protocols: a case study of Medi-Cal restrictions for cefaclor. Ann Pharmacother 1993;27:155-161. https://doi.org/10.1177/106002809302700203
2. Institute of Health Metrics and Evaluation. Global Health Data Exchange (GHDx).
3. Evans-Lacko S, Aguilar-Gaxiola S, Al-Hamzawi A, et al. Socio-economic variations in the mental health treatment gap for people with anxiety, mood, and substance use disorders: results from the WHO World Mental Health (WMH) surveys. Psychol Med 2018;48:1560-1571. https://doi.org/10.1017/S0033291717003336
4. Depression Guideline Panel. Clinical practice guideline. Number 5. Depression in primary care, Vol. 1. Detection and diagnosis: U.S. Department of Health and Human Services, Public Health Service, Agency for Health Care Policy and Research 1993. Rockville, MD: AHCPR Publication No. 93-0550.
5. Thase ME, Rush AJ. Treatment-resistant depression. In: Bloom FE, Kupfer DJ, Eds. Psychopharmacology: the fourth generation of progress. New York: Raven Press 1995, pp. 1081-1098.
6. Nierenberg AA, Amsterdam JD. Treatment-resistant depression: definition and treatment approaches. J Clin Psychiatry 1990;51:39-47. PMID: 2112132.
7. Souery D, Van der Auwera K. The multiple facets of treatment-resistant depression. CNS Spectr 2004;9:803-807. https://doi.org/10.1017/s1092852900002224
8. Souery D, Amsterdam J, de Montigny C, et al. Treatment resistant depression: methodological overview and operational criteria. Eur Neuropsychopharmacol 1999;9:83-91. https://doi.org/10.1016/s0924-977x(98)00004-2
9. Thase ME, Carpenter L, Kupfer DJ, et al. Clinical significance of reversed vegetative subtypes of recurrent major depression. Psychopharmacol Bull 1991;27:17-22. PMID: 1862201.
10. Thase ME. The role of Axis II comorbidity in the management of patients with treatment-resistant depression. Psychiatr Clin North Am 1996;19:287-309. https://doi.org/10.1016/s0193-953x(05)70289-6
11. Fava M, Bouffides E, Pava JA, et al. Personality disorder comorbidity with major depression and response to fluoxetine treatment. Psychother Psychosom 1994;62:160-167. https://doi.org/10.1159/000288918
12. Nunes EV, Deliyannides D, Donovan S, et al. The management of treatment resistance in depressed patients with substance use disorders. Psychiatr Clin North Am 1996;19:311-327. https://doi.org/10.1016/s0193-953x(05)70290-2
13. O'Reardon JP, Amsterdam JD. Medical disorders upferand treatment-resistant depression. In: Amsterdam JD, Hornig M, Nierenberg AA, Eds. Treatment-resistant mood disorders. New York: Cambridge University Press 2001, pp. 405-429.
14. Alexopoulos GS, Katz IR, Reynolds CF, et al. Pharmacotherapy of depression in older patients: a summary of the expert consensus guidelines. J Psychiatr Pract 2001;7:361-376. https://doi.org/10.1097/00131746-200111000-00003
15. Zanardi R, Poletti S, Prestifilippo D, et al. Transcranial direct current stimulation: a novel approach in the treatment of vascular depression. Brain Stimul 2020;13:1559-1565. https://doi.org/10.1016/j.brs.2020.08.013
16. Paykel ES, Prusoff BA, Klerman GL, et al. Clinical response to amitriptyline among depressed women. J Nerv Ment Dis 1973;156:149-165. https://doi.org/10.1097/00005053-197303000-00001
17. Keller MB, Lavori PW, Rice J, et al. The persistent risk of chronicity in recurrent episodes of nonbipolar major depressive disorder: a prospective follow-up. Am J Psychiatry 1986;143:24-28.
18. Thase ME, Rush AJ. When at first you don't succeed: sequential strategies for antidepressant nonresponders. J Clin Psychiatry 1997;58(Suppl 13):23-29. PMID: 9402916.
19. Rush AJ, Fava M, Wisniewski SR, et al.; STAR*D Investigators Group. Sequenced treatment alternatives to relieve depression (STAR*D): rationale and design. Control Clin Trials 2004;25:119-142. https://doi.org/10.1016/s0197-2456(03)00112-0
20. Sackeim HA, Prudic J, Devanand DP, et al. The impact of medication resistance and continuation pharmacotherapy on relapse following response to electroconvulsive therapy in major depression. J Clin Psychopharmacol 1990;10:96-104. https://doi.org/10.1097/00004714-199004000-00004
21. Fekadu A, Wooderson S, Donaldson C, et al. A multidimensional tool to quantify treatment resistance in depression: the Maudsley staging method. J Clin Psychiatry 2009;70:177-184. https://doi.org/10.4088/jcp.08m04309
22. Fava M. Diagnosis and definition of treatment-resistant depression. Biol Psychiatry 2003;53:649-659. https://doi.org/10.1016/s0006-3223(03)00231-2
23. Souery D, Papakostas GI, Trivedi MH. Treatment-resistant depression. J Clin Psychiatry 2006;67(Suppl 6):16-22. PMID: 16848672.
24. Pandarakalam JP. Challenges of treatment-resistant depression. Psychiatria Danubina 2018;30:273-284. https://doi.org/10.24869/psyd.2018.273
25. JASP Team, 2020. JASP (Version 0.14.1) [Computer software]
26. Microsoft Corporation, 2018. Microsoft Excel.
27. Rosenbaum JF, Fava M, Nierenberg AA, et al. Treatment-resistant mood disorders. In: Glenn O, Ed. Treatment of psychiatric diseases. Washington DC: American Psychiatric Press 2001, pp. 1307-1383.
28. Parker G, Roy K, Hadzi-Pavlovic D, et al. Psychotic (delusional) depression: a meta-analysis of physical treatments. J Affect Disord 1992;24:17-24. https://doi.org/10.1016/0165-0327(92)90056-c
29. Kupfer DJ, Spiker DG. Refractory depression: prediction of non-response by clinical indicators. J Clin Psychiatry 1981;42:307-312. PMID: 7251567.
30. Nelson JC, Charney DS. The symptoms of major depressive illness. Am J Psychiatry 1981;138:1-13. https://doi.org/10.1176/ajp.138.1.1

JOURNAL OF PSYCHOPATHOLOGY 2022;28:53-60
DOI: 10.36148/2284-0249-454

Original article

Suicide prevention. Knowledge of WHO guidelines and collaboration between media and mental health professionals in Italy

Giacinto D'Urso

Doctor of Psychology, Formia (LT), Italy

SUMMARY

Objectives

In the framework of the measures defined by the World Health Organisation (WHO) to contain and reduce suicide mortality rates, the need to improve training of professionals employed in the media sector is highlighted so as to ensure media coverage of suicide cases in line with the guidelines issued in 2017.

The objective of this study is to observe whether in Italy:

1. *media professionals are informed about WHO guidelines, the role they can play in suicide prevention, and their willingness to collaborate with mental health professionals to ensure better media coverage of suicide cases;*
2. *mental health professionals are able to communicate suicide and direct the work of media professionals towards the implementation of WHO recommendations.*

Methods

An online survey, hosted by the google.it platform (https://www.google.it/intl/it/forms/about/), was prepared and the link to the questionnaire was disseminated through social networks in Italy (Facebook and LinkedIn). In order to orient the selection correctly, such survey was shared in "closed professional groups" only (e.g. journalists, psychologists, psychiatrists, etc.). Participants were able to join the initiative from October 2021 to March 2022 and anonymously answer questions online, on a voluntary basis. At the end of the survey, 170 people (70 media professionals and 100 mental health professionals) had successfully completed the questionnaire.

Results

The analysis of data collected with the present study confirms that, even in Italy, knowledge of the 2017 WHO guidelines is not optimal. There is a need for greater collaboration between media and mental health professionals, although the latter do not feel ready to support an interview on the topic of suicide. Also, specific training is needed to deal more competently with this social and health issue, bringing it within the framework of WHO guidelines.

Conclusions

In conclusion, it is desirable to implement agreed strategies at international level, to enhance knowledge of the 2017 WHO guidelines and their uniform application worldwide. In this framework, it is necessary to identify solutions that, through a virtuous cycle of training and deployment, allow to reinforce and update the background of media and mental health professionals, facilitate their collaboration and valorise their role as "public health actors".

Key words: suicide, media, papageno effect, werther effect, journalism, WHO

Received: January 29, 2022
Accepted: April 19, 2022

Correspondence
Giacinto D'Urso
Doctor of Psychology, Formia (LT), Italy.
E-mail: giacintodurso@gmail.com

How to cite this article: D'Urso G. Suicide prevention. Knowledge of WHO guidelines and collaboration between media and mental health professionals in Italy. Journal of Psychopathology 2022;28:53-60. https://doi.org/10.36148/2284-0249-454

Introduction

Suicide is a worldwide phenomenon [1] that affects the whole of society, with a significant impact on public opinion, families and communities. It is a deliberate act by which an individual decides to take his or her own life, and it is a choice, often unpredictable and with complex motivations, that underlies a situation in which a life of great pain is experienced. Such

suffering is structured in a very complex way because it has a multidimensional and multidetermined nature. It can have an organic origin (i.e. the consequence of a disability or a pathology), but nonetheless it can be the product of the interaction of a series of variables of a psychosocial nature that tend to induce people to adopt addictive behaviours [2-4] (e.g. drug and alcohol abuse) which over time, end up limiting their psychophysical well-being and, consequently, the quality of their mental health.

According to the World Health Organisation (WHO), in 2019 more than 700,000 people committed suicide worldwide, with an incidence of 1 case per 100 deaths [5]. The National Institute of Statistics reported that the mortality rate for suicide in Italy, in the period 2015-2017, was 6 per 100 thousand residents (lower than the European average of 11 per 100 thousand). This rate increases with age, from 0.7 in the very young (up to 19 years of age) to 10.5 in the elderly, with values 4 times higher in males than in females. In the 20-34 age group, suicide is a significant cause of death (12% of deaths) [6]. As this is a significant public health problem [7], WHO has recognized the need for urgent action and has issued guidelines that set targets to be met by 2030 [8], urging nations to take the necessary action to contain and reduce mortality rates. As part of the measures defined, the need to improve the training of media professionals is reiterated, in order to ensure media coverage of suicide cases, in line with the measures issued in 2017 [9]. In this respect, WHO indicates that responsible reporting should provide accurate information about where to seek help, educate the public about the facts of suicide and its prevention, without spreading myths, and report stories on how to cope with life stressors or suicidal thoughts and how to get help. Likewise, particular caution should be applied when reporting celebrity suicides or when interviewing bereaved family or friends, for media professionals themselves may be affected by stories about suicide. In addition, it is important not to place stories about suicide prominently or to unduly repeat such stories; also, it is advisable not to use sensational headlines and language which emphasizes, normalizes or presents suicide as a constructive solution to problems, nor to explicitly describe the method used, provide details about the site/location or publish photographs, video footage or digital media links.

The application of these measures is considered extremely important because the media is recognized as having the capacity to influence suicidal behaviour [10] through a "media contagion" [11] which makes adolescents and young adults particularly vulnerable [12], as they are more prone to identification [13,14] or imitation [15], as well as being more susceptible to difficulties in managing emotions [16] and complicated situations. In such circumstances, emotional congruence [17] with one or more events recounted in the media, especially if related to a celebrity or influencer, may lead an individual to consider suicide as the appropriate solution to problems, and thus to decide to end his or her own life voluntarily, choosing to emulate the previously observed or learned method of suicide. This phenomenon is known as the "Werther effect" [18]. To give an example, in the five months following Robin Williams' death, evidence indicated that the rate of suicides committed in a way similar to that used by the well-known actor, increased by 32% [19].

The media can also have a protective function through the "Papageno effect" [20] if the media coverage of a suicide is based on a narrative, free from banalisation or sensationalism and allows to balance the need to know about the existence of a critical event with the need to give guidance on how to deal with stress or suicide-related thoughts and how to get help. This provides an experience that increases the propensity to support, seek help and respect life, factors which are believed to limit the risk of a similar event occurring [21]. For example, in Vienna in 1987, the number of committed suicides in the underground decreased by 80% after the media were asked to deal with the subject more cautiously [22]. Similarly, on the occasion of the death of Nirvana lead singer Kurt Cobain, American newspapers and television stations were very careful in their coverage of the event, avoiding the use of the word 'suicide' in their headlines. This helped to prevent emulation or prompting more people to take their own lives in the Seattle area where the frontman lived [23].

In general, therefore, it is possible that individuals are affected by media content and that their mental health status may vary in relation to the quality of information provided by the media [24]. This is possible through a collective, multifaceted and rapidly changing process, which, due to complex variables, cannot be reduced to a simple binary evaluation of a "good" or "bad" nature [25]. The multiplicity of national guidelines and the different level of knowledge of the 2017 WHO recommendations by information providers, has led to conflicting results and often not in line with the stated requirements. For this reason, a part of the scientific literature is leaning towards the need for a global and interdisciplinary strategy which, through training and collaboration between professionals (e.g. journalists, psychologists and psychiatrists, etc.), enables suicide-related events to be treated with an approach that limits the "Werther effect" and promotes the "Papageno effect" [26]. In this regard, it has been verified that better media coverage could be achieved by developing public communication skills of psychiatrists and psychologists, who are the most sought-after target group by journalists during their in-

vestigations. For that matter, a recent survey [27] found that training designed for mental health professionals would contribute:

1. to raise awareness of the effects of suicide related communication;
2. to concretely help journalists to better implement WHO recommendations.

The objective of this study is to find out whether in Italy:

1. media professionals (journalists and public information officers) are familiar with WHO guidelines, the role they can play in suicide prevention, as well as their willingness to collaborate with mental health professionals to ensure better media coverage of suicide cases;
2. mental health professionals (psychologists, psychiatrists and psychotherapists) are able to communicate suicide and direct the work of media professionals towards the implementation of WHO recommendations.

Methods

The study was conducted using a questionnaire hosted by the google.it platform (https://www.google.it/intl/it/forms/about/). The link to the survey was disseminated through social networks in Italy (Facebook and LinkedIn). In order to orient the selection correctly, it was decided to share the questionnaire in "closed professional groups" only (e.g. journalists, psychologists, psychiatrists, etc.). Participants were able to join and answer the questions anonymously and on a voluntary basis. Those who decided to take part in the initiative were informed in advance about the purpose of the study and gave consent to their participation and data processing. The settings used to organize the collection of responses made it possible to automatically exclude duplicate participation.

Results

The questionnaire was available online from October 2021 to March 2022 and was completed by 170 subjects (70 media professionals and 100 mental health professionals).

Results related to media professionals

The personal data of participants in the "media professionals" category are shown in Table I.

Many professionals have indicated the need for specific training in order to report on a suicide (57.1%).

An important number of participants stated that they had not had the opportunity to deal with suicides (48.6%), but have the experience to report on such an event (62.9%). In fact, they are aware that a suicide case could have emotional consequences for those who read or listen to the news, and for those who edit it (overall 75.8% of the answers); also, they believe that the media have a role to play in the prevention of suicide (80%). Nevertheless, the majority of respondents (68.6%) have never participated in an awareness-raising campaign on the phenomenon of suicide, although they would like to take part in such initiatives.

TABLE I. *Personal data of "media professionals".*

Media professionals (70 persons)	Age
Men: **45.7%**	18-30: **4.3%**
Women: **54.3%**	31-40: **32.9%**
	Older than 40: **62.9%**

WHO guidelines are not adequately known by 54.3% of the participants. However, it is remarkable that there is a broad agreement on the need to apply this recommendation in the practice of their profession (68.6%). For this reason, there is particular interest in learning more about the phenomenon of suicide by contacting psychiatrists (34.3%) or psychologists (37.1%). To date, the suicide of a famous person and details of where or how the death occurred (51.4%) is still believed to merit the front page of a newspaper, but at the same time, there is an emerging conviction that it is also necessary to provide readers/listeners with directions to seek help and support (71.4%).

Results related to mental health professionals

The personal data of those who participated in the "mental health professionals" category are shown in Table II.

Nearly all participants reported that they consider training in suicidology to be necessary for their profession

TABLE II. *Personal data of "mental health professionals".*

Mental health professionals (100 persons)	Age	Profession
Men: **36%**	22-30: **28%**	Psychologist: **48%**
Women: **64%**	31-40 **24%**	Psychiatrist: **28%**
	41-50 **29%**	Psychotherapist: **24%**
	Older than 50 **19%**	

(93%). As a matter of fact, more than half of the professionals (53%) had faced at least one case of suicide. In spite of this, 68% of the participants never took part in campaigns to raise awareness of the phenomenon of suicide, although they would like to join such initiatives. Similarly, it is largely agreed that public information officers should be supported by mental health professionals to report on a suicide case (98%). However, most of the answers provided by these professionals show that they are not aware of WHO's recommendations to the media on the subject of suicide (69%), they are not informed about the "Werther effect" nor "Papageno effect" (53%), and that they do not feel ready to be interviewed on the topic of suicide (79%). It is probably for these reasons that they have not cooperated with the media (97%), although 42% of them are willing to do so.

Discussion

The analysis of the data collected confirmed that in Italy there is no widespread knowledge of the 2017 WHO guidelines within the two professional groups (media and mental health professionals) that took part in the survey. Nevertheless, most media professionals are aware of the fact that the reporting of suicide can cause emotional distress in those who learn or disseminate the news and that this necessitates guidance on how to seek help or support. There is, also, a need for greater collaboration between mental health professionals and the media, but the majority of those who practice health care are not well enough prepared to communicate suicide and direct the work of media professionals towards the implementation of WHO recommendations.

Therefore, there is an emerging need for training which will enable media professionals to be able to ensure proper media coverage of a suicide event and mental health professionals to have a better understanding of the phenomenon of suicide, as well as to have the possibility to interact with journalists, in order to guide their media activities in line with the guidelines issued by WHO.

The surveys examined outline a scenario in which the lack of a clear line of conduct and the different level of knowledge of WHO recommendations by media and mental health professionals, make it more difficult to pursue the required standards.

Though, it is interesting to highlight that most of the participants (media and mental health professionals) would like to take part in suicide awareness campaigns and believe that there is a need for collaboration between the two professional groups. This would improve the quality of public information on mental health issues [28], thus contributing to an increase in the protective function of the media (Papageno effect). Such a course of action would undeniably have a positive impact on psychosocial well-being and would promote a better quality of life, because proper media coverage can limit the social stigma [29] that leads individuals not to request help [30] and to conceal their suffering [31], gradually losing confidence in themselves and in their ability to conduct a normal life to the point of deciding to take their own life. It is certainly desirable, therefore, to initiate shared strategies at international level to improve knowledge of the 2017 WHO guidelines and their uniform application throughout the world. Indeed, in the era of globalization, better management of information and critical events is absolutely necessary to prevent and reduce the emotional contagion that can lead a person to decide to end his or her own life. In this perspective, it is advisable to devise training programs for journalists and mental health professionals that will extend the opportunities for collaboration. In this sense, the Mini Media Training project, described by Walter et al., 2021, is particularly promising. It provides a short media training session with the aim of increasing the capacity of psychiatrists to contribute professionally in interviews.

Professional boards can play a strategic role by initiating concerted initiatives that facilitate better training of students/trainees as well as continuous updating of professionals in the field of mental health and journalism, providing them the opportunity to improve their professional technical background and to play a decisive role in the prevention of deaths by suicide in the course of their work

Limitations and future direction

As far as I am concerned, this study is the first initiative undertaken in Italy to monitor the level of knowledge of the 2017 WHO guidelines, the awareness of the role media can play in suicide prevention, and the suitable conditions for effective collaboration between media and mental health professionals to improve media coverage of critical events.

However, there are limitations related to the size of the sample used, which was entirely selected online. It is also possible that, even though a media or mental health professional has a social media account, they spend little time reviewing its content; as a result, they were less likely to be able to apply for participation in the survey. In addition, although the sample of professionals who took part in the tests is believed to be representative of the population practicing a profession in the field of mental well-being in Italy, the majority of participants were female, and just under half of psychiatrists do not have a significant experience of suicide (less than 2 cases during their career). A "selection bias" is therefore possible.

Future studies should use a large and representative sample, including webmasters or moderators of blogs and administrators of social media groups, as suicide-

related content is also frequent on the web [32] and on social media [33]. Moreover, it is desirable to personally interview psychiatrists, psychologists and psychotherapists in order to directly collect their experiences, and verify through role plays, their ability to interact with the media and direct their work towards the implementation of WHO recommendations.

Conclusions

The analysis of the data collected with the present study confirms that in Italy there is not an optimal knowledge of the 2017 WHO guidelines. There is a need for greater collaboration between media and mental health professionals, although the latter do not feel ready to support an interview on the topic of suicide and are not well prepared to direct the work of media professionals towards the implementation of WHO recommendations. Future studies are desirable to monitor a larger sample (also through face-to-face interviews) and to propose solutions that, through a virtuous cycle of training and employment, will improve the background of these professionals and enhance their role as "public health actors" [34].

Data availability statement

Data supporting the conclusions of this article have been aggregated and presented in percentage terms. Raw information should be requested from the author who will decide whether to make it available.

Acknowledgements

The Author is grateful to Dr. Claudia Colaninno for the support given to this publication.

Conflict of interest statement

The Author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Funding

This is an independent study which has received no public or private funding.

Ethical consideration

Participants gave their informed consent to participate in this study. Participation in the survey took place anonymously through the completion of an online questionnaire. In no way is it possible to trace the answers back to the persons who provided them.

References

1 Bachmann S. Epidemiology of suicide and the psychiatric perspective. Int J Environ Res Public Health 2018;15:1425. https://doi.org/10.3390/ijerph15071425

2 Carter G, Milner A, McGill K, et al. Predicting suicidal behaviours using clinical instruments: systematic review and meta-analysis of positive predictive values for risk scales. Br J Psychiatry 2017;210:387-395. https://doi.org/10.1192/bjp.bp.116.182717

3 Kielan A, Jaworski M, Mosiołek A, et al. Factors related to the level of depression and suicidal behavior among men with diagnosed depression, physically ill men, and healthy men. Front Psychiatry 2021;12:644097. https://doi.org/10.3389/fpsyt.2021.644097

4 Adawi M, Chen W, Bragazzi NL, et al. Suicidal behavior in fibromyalgia patients: rates and determinants of suicide ideation, risk, suicide, and suicidal attempts – a systematic review of the literature and meta-analysis of over 390,000 fibromyalgia patients. Front Psychiatry 2021;12:629417. https://doi.org/10.3389/fpsyt.2021.629417

5 World Health Organization (2021), One in 100 deaths is by suicide. WHO guidance to help the world reach the target of reducing suicide rate by 1/3 by 2030, 17 giugno 2021 (https://www.who.int/news/item/17-06-2021-one-in-100-deaths-is-by-suicide).

6 Istituto Nazionale di Statistica. La salute mentale nelle varie fasi della vita, 2018. (www.istat.it/it/files//2018/07/Report_Salute_mentale.pdf).

7 Domaradzki, Jan. The werther effect, the papageno effect or no effect? A literature review. Int J Environ Res Public Health 2021;18:2396. https://doi.org/10.3390/ijerph18052396

8 World Health Organization. LIVE LIFE: an implementation guide for suicide prevention in countries, 2021 (https://www.who.int/publications/i/item/9789240026629).

9 World Health Organization. Preventing suicide: a resource for media professionals, update 2017. Geneva, World Health Organization (https://apps.who.int/iris/bitstream/handle/10665/258814/WHO-MSD-MER-17.5-eng.pdf?sequence=1).

10 Niederkrotenthaler T, Braun M, Pirkis J, et al. Association between suicide reporting in the media and suicide: systematic review and meta-analysis. Bmj 2020;368:m575. https://doi.org/10.1136/bmj.m575

11 Gould M, Jamieson P, Romer D. Media contagion and suicide among the young. Am Behav Scient 2003;46:1269-1284. https://doi.org/10.1177/0002764202250670

12 Leon SL, Cloutier P, BéLair MA, et al. Media coverage of youth suicides and its impact on paediatric mental health emergency department presentations. Health Policy 2014;10:97-107.

13 Niederkrotenthaler T, Till B, Kapusta ND, et al. Copycat effects after media reports on suicide: a population-based ecologic study. Soc Sci Med 2009;69:1085-1090.

14 Niederkrotenthaler T, Stack S. Media and suicide. International perspectives on research, theory, and policy. New York, NY: Routledge 2017.

15 Stack, S. Suicide in the media: a quantitative review of studies based on nonfictional stories. Suicide Life Threat Behav 2005;35:121-133. https://doi.org/10.1521/suli.35.2.121.62877

16 Wolff J, Thompson E, Thomas S, et al. Emotion dysregulation and non-suicidal self-injury: a systematic review and meta-analysis. Eur Psychiatry 2019;59:25-36. https://doi.org/10.1016/j.eurpsy.2019.03.004

17 Na K, Garrett RK, Slater MD. Rumor acceptance during public health crises: testing the emotional congruence hypothesis. J Health Commun 2018;23:791-799. https://doi.org/10.1080/10810730.2018.1527877

18 Notredame CE, Pauwels N, Walter M, et al. Media coverage of suicide: from the epidemiological observations to prevention av-

enues. Presse Med 2015;44:1243-1250. https://doi.org/10.1016/j.lpm.2015.07.018

19 Fink DS, Santaella-Tenorio J, Keyes KM. Increase in suicides the months after the death of Robin Williams in the US. PLoS One 2018;13:e0191405. https://doi.org/10.1371/journal.pone.0191405

20 Niederkrotenthaler T, Voracek M, Herberth A, et al. Role of media reports in completed and prevented suicide – werther versus papageno effects. Br J Psychiatry 2010;197:234-243. https://doi.org/10.1192/bjp.bp.109.074633

21 Miklin S, Mueller AS, Abrutyn S, et al. What does it mean to be exposed to suicide? Suicide exposure, suicide risk, and the importance of meaning-making. Soc Sci Med 2019;233:21-27. https://doi.org/10.1016/j.socscimed.2019.05.019

22 Etzersdorfer E, Sonneck G. Preventing suicide by influencing mass-media reporting. The Viennese experience 1980-1996. Arch Suicide Res 1998;4:67-74. https://doi.org/10.1023/A:1009691903261

23 Jobes DA, Berman AL, O'Carroll PW, et al. The Kurt Cobain suicide crisis: perspectives from research, public health, and the news media. Suicide Life Threat Behav 1996;26:260-269; discussion 269-271. PMID: 8897665.

24 Scherr S, Steinleitner A. Zwischen dem werther- und papageno-effect (between werther and papageno effects). Nervenarzt 2015;86:557-565. https://doi.org/10.1007/s00115-015-4260-6

25 Bell J, Westoby C. Suicide exposure in a polymediated age. Front Psychol 2021;12:694280. https://doi.org/10.3389/fpsyg.2021.694280

26 Duncan S, Luce A. Teaching responsible suicide reporting (RSR): using storytelling as a pedagogy to advance media reporting of suicide. J Educ 2020;9:18-31.

27 Walter K, Wathelet M, Valdenaire S, et al. A short media training session is effective in reinforcing psychiatrists' communication skills about suicide. Front Psychol 2021;12:733691. https://doi.org/10.3389/fpsyg.2021.733691

28 Barasino O, Laurent A, Charrel CL. Journalistes, psychiatres: les voix de la Communication, 2016 (https://www.f2rsmpsy.fr/100-journalistes-psychiatres-voix-communication.html).

29 Sheehan LL, Corrigan PW, Al-Khouja MA, et al. Stakeholder perspectives on the stigma of suicide attempt survivors. Crisis 2017;38:73-81. https://doi.org/10.1027/0227-5910/a000413

30 Shah I, Khalily MT, Ahmad I, et al. Impact of conventional beliefs and social stigma on attitude towards access to mental health services in Pakistan. Commun Mental Health J 2019;55:527-533. https://doi.org/10.1007/s10597-018-0310-4

31 Austin A, Craig SL, D'Souza S, et al. Suicidality among transgender youth: elucidating the role of interpersonal risk factors. J Interpers Violence 2022;37:NP2696-NP2718. https://doi.org/10.1177/0886260520915554

32 Mészáros G, Győri D, Horváth LO, et al. Nonsuicidal self-injury: its associations with pathological internet use and psychopathology among adolescents. Front Psychiatry 2020;11:814. https://doi.org/10.3389/fpsyt.2020.00814

33 Bell J, Kasket E. The spectacle of suicide on social media: an exploration of spectacular death and spectacular grief. Paper presented at the Death online research Symposium, København, 2021.

34 Notredame CE, Pauwels N, Vaiva G, et al. Can we consider the journalist an actor in suicide prevention? L'encephale 2016;42:448-452. https://doi.org/10.1016/j.encep.2015.12.024

Appendix

Media professionals

1. How old are you?
   - 18-30.
   - 31-40.
   - older than 40.
2. You are…
   - Man.
   - Woman.
3. Have you dealt with suicides in your profession?
   - Yes, once.
   - Yes, more than once.
   - No, never.
4. Do you think you have the necessary experience to report a suicide case?
   - Yes.
   - No.
5. Do you think that specific training is needed to report a suicide case?
   - Yes.
   - No;
   - I don't know
6. Does the suicide of a famous person deserve the front page of a newspaper and details of where and how the death occurred?
   - Yes.
   - No.
7. In your experience, in the case of suicide, is it necessary to use sensationalist language or to give directions for help and support?
   - Sensationalist language.
   - Indications for asking for help.
   - both precedents.
   - I don't know.
8. If you have to deal with a suicide case, you would need to find out more about the phenomenon by contacting
   - Psychologists.
   - Psychiatrists.
   - None of the above, I report on an event.
9. Do you know the recommendations on suicide that the World Health Organisation has addressed to the media?
   - Yes.
   - No.
10. Do you think it is right to apply the recommendations of the World Health Organisation in the practice of your profession?
    - Yes.
    - No.
    - I don't know.
11. Do you think that the mass media have a role in preventing suicide?
    - Yes.
    - No.
    - I don't know.
12. Have you ever participated in a campaign to raise awareness of the phenomenon of suicide?
    - Yes.
    - No, I would like to.
    - No, I don't care.

13. In your opinion a case of suicide could have emotional consequences
    - Yes, for professionals reporting the news.
    - Yes, for those reading or listening to the news.
    - Yes, for the public/readers and media professionals.
    - No, it is only news.
    - I don't know.

Mental health professionals

1. You are…
    - Man.
    - Woman.
2. How old are you?
    - 22-30.
    - 31-40.
    - 41-50.
    - older than 50.
3. What is your profession?
    - Psychologists.
    - Psychiatrists.
    - Psychotherapist.
4. Do you consider specific training in suicidology useful for your profession?
    - Yes.
    - No.
5. Have you dealt with suicides in your profession?
    - Yes, once.
    - Yes, more than once.
    - No, never.
6. Have you ever participated in a campaign to raise awareness of the phenomenon of suicide?
    - Yes.
    - No, I would like to.
    - No, I don't care.
7. Do you think it is necessary for a public information officer to use the support of a health professional to report a case of suicide?
    - Yes.
    - No.
8. In the course of your profession, have you worked with public information and communication officers on the topic of suicide?
    - Yes.
    - No.
    - No, I would be willing to do it.
9. Do you think you could face an interview on the topic of suicide?
    - Yes.
    - No.
10. Do you know the Werther effect and the Papageno effect resulting from a report of a suicide?
    - Yes.
    - No.
11. Do you know the recommendations on suicide that the World Health Organisation has addressed to the media?
    - Yes.
    - No.

JOURNAL OF PSYCHOPATHOLOGY 2022;28:61-67
DOI: 10.36148/2284-0249-460

Original article

Substance use among psychiatric patients hospitalized in a psychiatric unit in Southern Italy: an observational study

Francesca Giannini, Giuliano Anastasi, Giovanni Pietro Barillà, Giuseppe Merante, Miriam Sirianni, Michele Gabriele Rossi

Psychiatric Unit, Lamezia Terme Hospital, Department of Mental Health and Pathological Addiction Services, ASP (Provincial Health Authority) Catanzaro, Italy

SUMMARY

Aim

The primary aim of the study was to observe the prevalence of drug use in psychiatric patients admitted to a psychiatric unit. The secondary aim was to observe any correlation between substance use and the sociodemographic and clinical characteristics of the sample group.

Methods

Retrospective descriptive study with proactive sampling. Based on the election criteria, the survey was conducted on subjects admitted to a Psychiatric unit of a hospital in Southern Italy between January 2021 and December 2021. The data was obtained through toxicological examination of urine, collected in January 2022 and subsequently analysed using SPSS software.

Results

The sample consists of 68 persons. Most of the participants tested positive for at least one substance. The substances most used were benzodiazepines, followed by cannabis and, to a lesser extent, cocaine and methadone. A fair percentage proved simultaneously positive for two substances. Individuals with bipolar and psychotic disorders appeared to be the major users.

Conclusions

Substance use among psychiatric patients is a phenomenon also present in Southern Italy. Substance use can have a negative impact on the well-being of patients with psychopathologies, on their clinical course and on the functionality of health care organizations. This phenomenon is particularly challenging for the National Health System and the Mental Health Network in Italy. Enhancing integration between psychiatric services and addiction services, introducing innovative dedicated operating units and offering specific training courses addressed to health professionals could be useful strategies for improving the well-being of these patients and their clinical-care management.

Key words: dual diagnosis, substance-related disorders, mental disorders, substance abuse detection, mental health

Received: March 15, 2022
Accepted: April 20, 2022

Correspondence
Francesca Giannini
Psychiatric Unit, Lamezia Terme Hospital, via Sen. A. Perugini, 88046 Lamezia Terme (CZ), Italy. E-mail: ffrancescagiannini@yahoo.it

How to cite this article: Giannini F, Anastasi G, Barillà GP, et al. Substance use among psychiatric patients hospitalized in a psychiatric unit in Southern Italy: an observational study. Journal of Psychopathology 2022;28:61-67. https://doi.org/10.36148/2284-0249-460

Introduction

Dual diagnosis (DD) is defined by the World Health Organization (WHO) as "the concurrence in the same individual of a psychoactive substance use disorder and another psychiatric disorder" [1]. This phenomenon appears to be widespread on the international panorama [2] and in the European framework [3], as shown by studies on large populations that attest to the concomitant presence of substance use disorder (SUD) and mental disorder in almost 8 million people [4]. The risk of incurring DD is increased by various factors, including genetic vulnerabilities [5], environmental factors such as stress [6] or trauma [7], and socio-demographic characteristics

such as sex, age, occupational status and cultural level, social class and familiarity with substance abuse [8-10]. Moreover, mental disorders themselves can also represent a risk factor for the development of a SUD [11], given that individuals with a mental disorder could use the substances as self-medication [12]. Among the mental disorders commonly found to coexist with a SUD we see: depressive disorders [13], bipolar disorders [14], anxiety disorders [15], personality disorders [16] and psychotic disorders [17].

It is therefore clear that DD is a significant problem in the world health panorama, both because the two disorders can influence each other – with the mental disorder that can lead to an SUD [11] and an SUD that can cause the mental disorder to develop or worsen [18,19] –, and because the dual diagnosis brings with it a series of complications, such as reduced compliance and self-care, increased risk of suicide, risky and violent behaviour [20-22] and hospitalizations [23], leading to difficulties in clinical-care management and critical issues in both medical treatment and nursing care [24,25]. Furthermore, in Italy, unlike other countries, the diagnostic-therapeutic-assistance course of patients with DD is usually split between addiction services and psychiatric services, with shared but separate interventions [26], and this in itself leads to further complications.

Various studies of the phenomenon have been conducted so far in Italy, but none have been carried out on a population of acute psychiatric patients hospitalized in a unit in Southern Italy. We postulate that substance use is widespread in this context as well, with a greater prevalence of the abuse of substances used as medication, such as benzodiazepines, or that are easily available, such as cannabis [27].

Materials and methods

Aim

1. to observe the prevalence of drug use in psychiatric patients hospitalized in a psychiatry unit in Southern Italy;
2. to observe any correlation between substance use and the socio-demographic and clinical characteristics of the sample group.

Study design

The study design employed was retrospective descriptive.

Research tools

The data was obtained through documentary sources: clinical reports obtained from the toxicological examination of urine the patients' urine (drug-tests). The tests, carried out on a urine sample, analyses patient positivity or negativity to the following substances: benzodiazepines (BZD), cannabis (CBD), cocaine (COC), methadone (MTD), opiates (OPI), amphetamines (AMP) and methamphetamines (MDMA).

Data collection

The data was collected in January 2022. During this period, the necessary documentation was obtained through the hospital's computer system, including the set of reports of the drug tests conducted on patients admitted to the psychiatric unit over a period of one year, from January 2021 to December 2021.

Data analysis

The data was organized in a database and analysed using version 27.0 of the SPSS statistical software. Mean and standard deviation were calculated for the continuous variables, whereas absolute and relative frequencies were calculated for the ordinal variables and expressed as percentages. The groups were identified using socio-demographic and clinical characteristics (gender, age, marital status, level of education and discharge diagnosis), and statistical significance tests (Chi-squared) were conducted to compare the responses obtained. The significance level was set at 5% ($p \leq 0.05$).

Sample group

The study sample group was selected by proactive sampling. The following election criteria were applied to the participants:

- inclusion criteria: adults with psychopathology, hospitalized in the psychiatry unit, susceptible to su bstance abuse conduct;
- exclusion criteria: none.

Results

68 participants were included in the study based on the election criteria. The sample was largely made up of men (64.7%) and had an average age of almost 36 years. Most of the participants were single (77.9%), had a high school (42.6%) or middle school (41.2%) diploma and suffered from psychotic disorders (52.9%). Regarding the use of substances, almost all of the sample group tested positive for at least one substance (88.2%), but by excluding BZD the percentage was significantly reduced (20.6%). BZDs are indeed the most used (85.3%), followed by CBD (17.6%), COC and MTD (1.5%). No participant tested positive for OPI, AMP and MDMA. However, part of the sample (17.6%) was simultaneously positive for two substances, of which at least one was BZD. (Tab. I)

No statistically significant differences emerged from the comparative analysis between groups, but there was a higher level of positivity to the various substances among patients with bipolar and psychotic disorders. (Tab. II)

TABLE I. *Summary of the results.*

	Answers	N/D	%	Mean ± SD (min – max)
Gender	Men	44	64.7	-
	Women	24	35.3	
Age	19/-29;	19	27.9	35.62 ± 10.65 (19-61)
	30/-39;	26	38.2	
	40/-49;	17	25.0	
	≥ 50	6	8.8	
Marital status	Single	53	77.9	-
	Married	9	13.2	
	Divorced or separated	5	7.4	
	Missing	1	1.5	
Instruction	Primary school diploma	2	2.9	-
	Middle School graduation	28	41.2	
	High school graduation	29	42.6	
	Degree or higher	8	11.8	
	Missing	1	1.5	
Pathology	Bipolar disorders	20	29.4	-
	Depressive disorders	5	7.4	
	Personality disorders	3	4.4	
	Psychotic disorders	36	52.9	
	Addiction disorders	4	5.9	
Benzodiazepines (BZD)	Positive	58	85.3	-
	Negatives	2	2.9	
	Missing	8	11.8	
Cannabis (CBD)	Positive	12	17.6	-
	Negatives	49	72.1	
	Missing	7	10.3	
Cocaine (COC)	Positive	1	1.5	-
	Negatives	67	98.5	
	Missing	0	0	
Methadone (MTD)	Positive	1	1.5	-
	Negatives	55	80.9	
	Missing	12	17.6	
Opiates (OPI)	Positive	0	0	-
	Negatives	58	85.3	
	Missing	10	14.7	
Amphetamines (AMP)	Positive	0	0	-
	Negatives	66	97.1	
	Missing	2	2.9	

TABLE I.

	Answers	N/D	%	Mean ± SD (min – max)
Methamphetamine (MDMA)	Positive	0	0	-
	Negatives	62	91.2	
	Missing	6	8.8	
Use of at least one substance	Yes	60	88.2	-
	No	8	11.8	
Use of at least one substance (excluding BZD)	Yes	14	20.6	-
	No	54	79.4	
Use of two substances (BZD + other)	Yes	12	17.6	-
	No	56	82.4	

TABLE II. *Diagnosis and substance positivity.*

Disorders	BZD		CBD		COC		MTD		At least 1 substance		At least 1 sub. (excl. BZD)		2 sub. (BZD + other)	
	N/D	%	N/D	%	N/D	%	N/D	%	N/D	%	N/D	%	N/D	%
Bipolar	18	31.0	5	41.7	1	100	1	100	18	30.0	7	50.0	7	58.3
Depressive	4	6.9	0	-	0	-	0	-	4	6.7	0	-	0	-
Personality	3	5.2	0	-	0	-	0	-	3	5.0	0	-	0	-
Psychotic	30	51.7	6	50.0	0	-	0	-	32	53.3	6	42.9	4	33.3
Addiction	3	5.2	1	8.3	0	-	0	-	3	5.0	1	7.1	1	8.3

Discussion

The primary aim of the study was to observe the prevalence of drug use in psychiatric subjects hospitalized in a psychiatry unit in Southern Italy.

The results of the study confirmed the initial hypothesis, showing that almost all of the sample group tested positive for at least one substance of those analysed (88.2%), but it is significant that by excluding BZD, the percentage was significantly reduced (20.6%). BZDs appear to be, as supposed, the substance most used by the sample group (85.3%), and this data was in line with literature, which observes that BZDs are becoming the most frequent forms of SUD in DD [4], probably due to the tendency of subjects to self-medicate through the substance use [12,20,27]. The second most used substance in the sample was CBD (17.6%), although at lower rates than observed in other studies [28,29]. On the other hand, the percentages of COC and MTD use appeared negligible (1.5%).

The secondary aim of the study was to observe any correlation between substance use and the sociodemographic and clinical characteristics of the sample group. Although no statistically significant differences emerged in the comparative analysis between groups, and although bipolar and psychotic subjects represented the majority of the sample (29.4 and 52.9%, respectively), it is interesting to observe that these participants were, among all, the most positive to substance use. Respectively, the bipolar group was on the whole positive for BZD, CBD, COC and MTD, while the psychotic group was positive for BZD and CBD. It is important to note that these two types of patient showed the highest simultaneous positivity to two substances emerges, i.e. BDZ or other (bipolar disorders 58.3%, psychotic disorders 33.3%).

In summary, the substances most used in the sample were BZD and CBD, and the major users appeared to be bipolar and psychotic patients. This trend appears to be generally in line with literature, both – as has been said – for BZD and CBD.

Going into more detail, the problematic consumption of CBD in effect appears much higher among subjects suffering from psychopathologies, including psychotic and personality disorders, compared to the general population [30-32], to the point of affecting about one in four individuals, who will therefore live with a DD due to the coexist-

ence of a cannabis use disorder (CUD) and a psychiatric pathology [33]. It is important to emphasise that the use of CBD in this population can involve various complications such as: decreased clinical and functional recovery, relapses, longer hospitalizations and impaired daily life activities, in addition to an increased risk of suicide and the development of bipolar disorders [34-39].

Clinical experience also demonstrates that substance abusers with psychiatric comorbidity have more frequent access to Emergency Care Unit, higher rates of hospitalization and a more significant prevalence of suicide when compared to substance abusers without psychiatric disorders. They also show high-risk behaviours that lead to medical complications, such as HIV or HCV infections, social implications, like being unemployed or homeless, and violent and criminal behaviours. Clinical practice demonstrates that the two conditions are mutually connected, leading to a poor prognosis for both, if not simultaneously treated [40].

Limitations of the study

A purposive sampling method was applied, which may have introduced selection biases. Moreover, the study sample was of limited size, which could impede the generalizability of the results. Lastly, addiction to substances such as alcohol and nicotine was not assessed.

Conclusions

The results of this study, albeit with the above limitations, showed that the use of substances among patients with a psychiatric disorder is a phenomenon also present in Southern Italy.

Psychiatric subjects who use substances are likely to run into a series of complications capable of negatively affecting their well-being and the clinical-care course. Furthermore, in the case of hospitalized patients, the impact that their management could have on healthcare personnel and on the functioning of healthcare organizations, in terms of service efficiency and effectiveness, well-being of operators and costs, cannot be overlooked.

In light of this, it is clear that double diagnosis represents a criticality for the National Health System and for the Mental Health Network in Italy. However, this complexity could be interpreted as a challenge for improving the performance and service delivered to this particular population.

These patients, defined in the literature as multi-problematic [41], indeed require a different clinical and care approach to the kind usually addressed to subjects only suffering a single psychopathology. To this end, intensifying integration between psychiatric services and addiction services could be useful or, again, to consider the introduction, at national level, of innovative operating units specifically dedicated to the treatment of dual diagnosis patients, by virtue of their peculiarity. It could also be convenient to offer specific training courses, such as ongoing medical training addressed to the health professionals most involved in managing these patients (doctors and nurses), to provide them with skills, knowledge and abilities that can be used in the care and treatment of dual diagnosis patients, improving the outcomes and the well-being of the operators.

Further studies could be conducted in the future on the diffusion of the phenomenon among hospitalized psychiatric patients in Italy, also investigating the use of more common substances such as alcohol and nicotine, in order to increase the knowledge available on the subject.

Acknowledgements

We would like to thank our patients.

Conflict of interest statement

The Authors declare no conflict of interest.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Authors' contributions

All Authors contributed to the manuscript, read and approved the final version of it.

Ethical consideration

The research was conducted ethically, with all study procedures being performed in accordance with the requirements of the World Medical Association's Declaration of Helsinki.

The data was collected and processed in respect of privacy and anonymously. The data will remain confidential.

References

1 World Health Organization. Lexicon of alcohol and drug terms 1944.

2 Kessler RC. The epidemiology of dual diagnosis. Biol Psychiatry 2004;56:730-737. https://doi.org/10.1016/j.biopsych.2004.06.034

3 Torrens M, Mestre-Pintó JI, Montanari L, et al. Dual diagnosis: an european perspective. Patología dual: una perspectiva europea. Adicciones 2017;29:3-5. https://doi.org/10.20882/adicciones.933

4 Center for Behavioral Health Statistics and Quality. Behavioral health trends in the United States: results from the 2014 National Survey on drug use and health. HHS Publication No. SMA 15-4927, NSDUH Series H-50. 2015

5 Cerdá M, Sagdeo A, Johnson J, et al. Genetic and environmental influences on psychiatric comorbidity: a systematic review. J Affect Disord 2010;126:14-38. https://doi.org/10.1016/j.jad.2009.11.006

6 Norman SB, Myers US, Wilkins KC, et al. Review of biological mechanisms and pharmacological treatments of comorbid PTSD and substance use disorder. Neuropharmacology 2012;62:542-551. https://doi.org/10.1016/j.neuropharm.2011.04.032

7 Berenz EC, Coffey SF. Treatment of co-occurring posttraumatic stress disorder and substance use disorders. Curr Psychiatry Rep 2012;14:469-477. https://doi.org/10.1007/s11920-012-0300-0

8 Miquel L, Roncero C, López-Ortiz C, et al. Diferencias de género epidemiológicas y diagnósticas según eje I en pacientes con Patología dual epidemiological and diagnostic axis i gender differences in dual diagnosis patients. Adicciones 2011;23:165-172.

9 Ringen PA, Melle I, Birkenaes AB, et al. Illicit drug use in patients with psychotic disorders compared with that in the general population: a cross-sectional study. Acta Psychiatr Scand 2008;117:133-138. https://doi.org/10.1111/j.1600-0447.2007.01135.x

10 Jiménez-Castro L, Raventós-Vorst H, Escamilla M. Substance use disorder and schizophrenia: prevalence and sociodemographic characteristics in the Latin American population. Actas Esp Psiquiatr 2011;39:123-130.

11 Baigent M. Managing patients with dual diagnosis in psychiatric practice. Curr Opin Psychiatry 2012;25:201-205. https://doi.org/10.1097/YCO.0b013e3283523d3d

12 Santucci K. Psychiatric disease and drug abuse. Curr Opin Pediatr 2012;24:233-237. https://doi.org/10.1097/MOP.0b013e3283504fbf

13 Tirado Muñoz J, Farré A, Mestre-Pintó J, et al. Dual diagnosis in depression: treatment recommendations. Patología dual en depresión: recomendaciones en el tratamiento. Adicciones 2018;30:66-76. https://doi.org/10.20882/adicciones.868

14 Messer T, Lammers G, Müller-Siecheneder F, et al. Substance abuse in patients with bipolar disorder: a systematic review and meta-analysis. Psychiatry Res 2017;253:338-350. https://doi.org/10.1016/j.psychres.2017.02.067

15 Marmorstein NR. Anxiety disorders and substance use disorders: different associations by anxiety disorder. J Anxiety Disord 2012;26:88-94. https://doi.org/10.1016/j.janxdis.2011.09.005

16 Euler S, Sollberger D, Bader K, et al. Persönlichkeitsstörungen und Sucht: systematische literaturübersicht zu epidemiologie, verlauf und behandlung a systematic review of personality disorders and addiction: epidemiology, course and treatment. Fortschr Neurol Psychiatr 2015;83:544-554. https://doi.org/10.1055/s-0041-107984

17 Hunt GE, Large MM, Cleary M, et al. Prevalence of comorbid substance use in schizophrenia spectrum disorders in community and clinical settings, 1990-2017: systematic review and meta-analysis. Drug Alcohol Depend 2018;191:234-258. https://doi.org/10.1016/j.drugalcdep.2018.07.011

18 Ross S, Peselow E. Co-occurring psychotic and addictive disorders: neurobiology and diagnosis. Clin Neuropharmacol 2012;35:235-243. https://doi.org/10.1097/WNF.0b013e318261e193

19 Benaiges I, Prat G, Adan A. Neuropsychological aspects of dual diagnosis. Curr Drug Abuse Rev 2010;3:175-188. https://doi.org/10.2174/1874473711003030175

20 Buckley PF, Brown ES. Prevalence and consequences of dual diagnosis. J Clin Psychiatry 2006;67:e01. https://doi.org/10.4088/jcp.0706e01

21 Maremmani AG, Rugani F, Bacciardi S, et al. Does dual diagnosis affect violence and moderate/superficial self-harm in heroin addiction at treatment entry? J Addict Med 2014;8:116-122. https://doi.org/10.1097/ADM.0000000000000019

22 Latt N, Jurd S, Tennant C, et al. Alcohol and substance use by patients with psychosis presenting to an emergency department: changing patterns. Australas Psychiatry 2011;19:354-359. https://doi.org/10.3109/10398562.2011.579971

23 Adams MW. Comorbidity of mental health and substance misuse problems: a review of workers' reported attitudes and perceptions. J Psychiatr Ment Health Nurs 2008;15:101-108. https://doi.org/10.1111/j.1365-2850.2007.01210.x

24 Antai-Otong D, Theis K, Patrick DD. Dual diagnosis: coexisting substance use disorders and psychiatric disorders. Nurs Clin North Am 2016;51:237-247. https://doi.org/10.1016/j.cnur.2016.01.007

25 Iudici A, Girolimetto R, Volponi G, et al. Dual diagnosis and application problems in the use of the construct: a review of literature. J Nerv Ment Dis 2020;208:181-189. https://doi.org/10.1097/NMD.0000000000001092

26 Giampieri E, Alamia A, Galimberti GL, et al. "Dual diagnosis" and use of healthcare resources in psychiatric care services. The experience of Monza and Brianza. J Psychopathol 2013;19:199-207.

27 Osservatorio europeo delle droghe e delle tossicodipendenze. Relazione europea sulla droga 2021: tendenze e sviluppi, Ufficio delle pubblicazioni dell'Unione europea, Lussemburgo 2021.

28 Green B, Young R, Kavanagh D. Cannabis use and misuse prevalence among people with psychosis. Br J Psychiatry 2005;187:306-313. https://doi.org/10.1192/bjp.187.4.306

29 Arias F, Szerman N, Vega P, et al. Abuse or dependence on cannabis and other psychiatric disorders. Madrid study on dual pathology prevalence. Actas Esp Psiquiatr 2013;41:122-129.

30 Buckner JD, Schmidt NB, Lang AR, et al. Specificity of social anxiety disorder as a risk factor for alcohol and cannabis dependence. J Psychiatr Res 2008;42:230-239. https://doi.org/10.1016/j.jpsychires.2007.01.002

31 Charilaou P, Agnihotri K, Garcia P, et al. Trends of Cannabis use disorder in the inpatient: 2002 to 2011. Am J Med 2017;130:678-687.e7. https://doi.org/10.1016/j.amjmed.2016.12.035

32 Lev-Ran S, Le Foll B, McKenzie K, et al. Cannabis use and cannabis use disorders among individuals with mental illness. Compr Psychiatry 2013;54:589-598. https://doi.org/10.1016/j.comppsych.2012.12.021

33 Koskinen J, Löhönen J, Koponen H, et al. Rate of cannabis use disorders in clinical samples of patients with schizophrenia: a meta-analysis. Schizophr Bull 2010;36:1115-1130. https://doi.org/10.1093/schbul/sbp031

34 Strakowski SM, Del Bello MP, Fleck DE, et al. Effects of co-occurring cannabis use disorders on the course of bipolar disorder after a first hospitalization for mania. Arch Gen Psychiatry 2007;64:57-64. https://doi.org/10.1001/archpsyc.64.1.57

35 Zorrilla I, Aguado J, Haro JM, et al. Cannabis and bipolar disorder: does quitting cannabis use during manic/mixed episode

improve clinical/functional outcomes? Acta Psychiatr Scand 2015;131:100-110. https://doi.org/10.1111/acps.12366

36 Schoeler T, Monk A, Sami MB, et al. Continued versus discontinued cannabis use in patients with psychosis: a systematic review and meta-analysis. Lancet Psychiatry 2016;3:215-225. https://doi.org/10.1016/S2215-0366(15)00363-6

37 Bartoli F, Lev-Ran S, Crocamo C, et. al. The interplay between cannabis use and suicidal behaviours: epidemiological overview, psychopathological and clinical models. J Psychopathol 2018;24:180-186.

38 Østergaard MLD, Nordentoft M, Hjorthøj C. Associations between substance use disorders and suicide or suicide attempts in people with mental illness: a Danish nation-wide, prospective, register-based study of patients diagnosed with schizophrenia, bipolar disorder, unipolar depression or personality disorder. Addiction 2017;112:1250-1259. https://doi.org/10.1111/add.13788

39 Van Laar M, van Dorsselaer S, Monshouwer K, et al. Does cannabis use predict the first incidence of mood and anxiety disorders in the adult population? Addiction 2007;102:1251-1260. https://doi.org/10.1111/j.1360-0443.2007.01875.x

40 San L, Arranz B, Arrojo M, et al. Clinical guideline for the treatment of dual pathology in the adult population. Adicciones 2016;28:3-5. https://doi.org/10.20882/adicciones.784

41 Verde L, Moccia E, Riccio M, et al. Oltre la doppia diagnosi: la gestione del paziente multiproblematico nel servizio per le tossicodipendenze. Case management e lavoro di rete in un caso clinico. Mission 2010;31:19-24.

JOURNAL OF PSYCHOPATHOLOGY 2022;28:68-74
DOI: 10.36148/2284-0249-458

Original article

A dimensional approach to the psychopathology of migrants: a cross-sectional matched sample study

Corinna Pancheri, Valentina Roselli, Riccardo Serra, Roberta Giordani, Valentina Magliocchetti, Liliana Todini, Annalisa Maraone, Massimo Pasquini, Lorenzo Tarsitani, Massimo Biondi

Department of Human Neuroscience, Sapienza University of Rome, Rome, Italy

SUMMARY

Objectives

Moving to a foreign country, whether out of necessity, seeking refuge, opportunity or mere curiosity, makes the individual more vulnerable to mental disorders. Even in the same conditions, many factors contribute to make migrants more susceptible to this risk than the natives. Among many, these include linguistic and cultural differences. Unfortunately, these differences lead to a higher frequency of 'not otherwise specified' diagnoses in this part of the population. This limitation can lead to greater difficulties in therapeutic choices and epidemiological assessments. This study aims to enhance the clinician's resources by testing a trans-diagnostic, dimensional, psychopathological approach in the assessment of a group of migrants and a control group of natives referred to a psychiatric outpatient service.

Methods

The two groups of patients were matched for gender, age, categorical diagnosis and level of clinical severity. The SVARAD scale was used for the dimensional assessment, diagnoses were assigned according to DSM IV-TR criteria.

Results

A total of n = 224 patients, including cases (n = 112) and controls (n = 112), were recruited and agreed to participate in the study. The dimensions somatization, obsessiveness, and activation showed a significant difference between groups (p = .018; .011; .004, respectively). Given the same degree of severity and the same diagnosis, migrants with mental disorders showed less activation and greater somatization.

Conclusions

Cross-cultural aspects and language differences, as well as the same social status of "migrant", are certainly implicated in these differences. By taking these dimensional aspects into account, clinicians could achieve greater precision in the diagnostic process and determine a significant change in the care of this risk group.

Key words: migration, dimensional psychopathology, somatization, activation

Received: April 5, 2022
Accepted: May 2, 2022

Correspondence
Lorenzo Tarsitani
Department of Human Neuroscience, Sapienza University of Rome, Viale dell'Università 30, 00185 Rome, Italy.
E-mail: lorenzo.tarsitani@uniroma1.it

How to cite this article: Pancheri C, Roselli V, Serra R, et al. A dimensional approach to the psychopathology of migrants, a cross-sectional matched sample study. Journal of Psychopathology 2022;28:68-74. https://doi.org/10.36148/2284-0249-458

Introduction

Migration represents a highly meaningful life event and is related to a higher risk of poor mental health outcomes [1]. Incidence of severe mental conditions is higher in migrant populations and ethnic minorities as compared to natives and ethnic majorities, especially with regard to psychotic spectrum disorders [2-6]. Differently, no conclusive evidence proves the same with regard to mood disorders with prevalence rates for migrants in some cases lower than in the host country [7] and, in others, higher [8]. On the other hand, post-traumatic symptoms and distress are frequent, especially in

asylum seekers and refugees [9]. Beyond the categorical diagnosis, diagnostic tools developed in western countries may not be sufficient to detect specific aspects and symptoms of psychological problems in people grown in different cultural contexts [10]. As a result, there is a tendency in the clinical practice to mis-diagnose and overuse the "Not Otherwise Specified" (NOS) specification in migrant patients with blurred symptomatology that are, perhaps, not entirely understood through the language of classical taxonomic diagnostics [11,12]. A precise, transdiagnostic analysis is necessary in order to understand the psychopathology of such heterogeneous population [13]. Existing literature describing psychopathological characteristics of migrant populations often analyzed non-clinical populations [14-18]. Among research focusing on a dimensional analysis of mental distress, the *sadness* dimension is reported higher in migrants than in natives in some studies [19], and equal in the two groups in others [20-22]. The *aggressiveness* dimension has been reported as higher in asylum-seeking migrants exposed to conflict and persecution [23,24] little research has investigated this in refugees. In the current study, we examined the mediating role of emotion dysregulation in the relationship between refugee experiences, trauma and living difficulties, while internalized anger results higher in the non-clinical migrant population regardless of the trauma suffered as compared to natives [25,26]. *Somatization* is congruously reported as higher in the migrant population than in natives across studies [27-29] leading to the consideration of this dimension as a strongly transdiagnostic entity [13].

The exploration of psychopathological dimensions, beyond categorical diagnoses, can be useful for better understanding of mental disorders. This is especially true for migrant populations where cultural background influences the manifestations of the underling disorder. Although some research on a dimensional perspective on migrants' mental health exists, research on clinical populations is scant and inconclusive. Therefore, aims of this study are (1) to explore the psychopathology of a sample of migrants affected by a mental disorder from a dimensional perspective and (2) compare results with a control group of Italian natives with paired categorical diagnoses and severity of illness.

Methods

Sample

All migrants consecutively admitted to the migration psychiatry out-patient service from 2015 to 2018 were presented the study and recruited after giving their written informed consent. Inclusion criteria was being a "migrant" (defined as the one who migrated, that is a process of displacement from one country to another, regardless of distance and causes [30]. A control group of paired Italian natives was recruited between 2011 and 2017 in the out-patients service of General Psychopharmacology. Exclusion criteria were: (1) having any intellectual disabilities (2) presence of severe neurological diseases; (3) presence of severe medical conditions; (4) age < 18 years or > 80 years. The study design was reviewed and approved for ethical aspects by the Institutional Review Board of the Department of Neurology and Psychiatry, Sapienza University of Rome.

Instruments and procedure

Enrolled patients underwent a psychiatric examination including the collection of socio-demographic and anamnestic data. Migrants were also administered an ad hoc questionnaire for the collection of socio-demographic and migratory variables This questionnaire aims at collecting the pre-migratory variables (age, country of origin, marital status, level of education, profession before migration), migratory (the date of departure, the reason for the migration) and post-migratory (the date of arrival in Italy, the length of stay, the presence of family members in Italy, the post-migration profession and the presence of under-employment). All patients were diagnosed according to the DSM-IV-TR criteria [31].

The Scale for Rapid Dimensional Evaluation (SVARAD) was used for the dimensional evaluation of patients' psychopathology [32]. The SVARAD is a hetero-administered five-points scale consisting of 10 items (apprehension/fear, sadness/demoralization, anger/aggressiveness, obsessiveness, apathy, impulsivity, reality distortion, disorganized thought, somatic concern/somatization, activation). Each item is given a score from 0 to 4 (0 = absent; 1 = mild; 2 = moderate; 3 = severe; 4 = extreme) for a total maximum of 40 points. The scale provides a validated, simple and rapid tool for dimensional evaluation of patients. It has shown good psychometric characteristics in clinical settings similar to that of the present study [32]

The Brief Psychiatric Rating Scale (BPRS-E) was used to assess the presence of symptoms and their severity [33]. BPRS-E is one of the most widely used tools for assessing type, severity and change over time of psychiatric symptoms.

Data analysis

The pairing between the two groups was carried out considering an order of hierarchical priority of the variables: (1) gender; (2) categorical diagnosis according to DSM IV-TR [31]; (3) the psychopathological severity level calculated on the total SVARAD score (range of ± 4 points); (4) age (range of ± 10 years).

Data were analyzed using IBM SPSS statistical software (version 24.0). Descriptive statistical methods were used to trace the main socio-demographic and epide-

miological characteristics of the subjects, such as: age, sex, level of education, country of origin, profession before migration, profession after migration, length of stay in Italy, presence of under-employment and presence of family members in Italy. These data were presented in terms of proportion of the total of the sample, evaluating means and standard deviations. An ANOVA test was performed to calculate the significant differences between migrants and natives regarding age and SVARAD and BPRS total scores. We performed an exploratory analysis of the SVARAD differences between the two groups (migrants and natives) using the non-parametric U test of Mann-Whitney for independent samples. The correlations between quantitative variables (SVARAD items) were calculated with the Pearson correlation test with two tails (two-tailed).

Results

Descriptive statistics

A total of 112 migrant patients and 112 matched controls were included in the analysis. A total of 15 migrant patients were excluded due to lack of paired match. Table I shows the main socio-demographic variables of the group of migrants included in the study compared with the group of natives and the group of migrants excluded due to lack of pairing. The excluded group is younger, with a lower level of education and with a shorter length of stay in Italy than the sample included in the study.

Most migrants arrived in Italy for economic reasons, with a mean length of stay in Italy rather high with great variability between cases (103.3 ± 104.3 months). The control group shows a higher mean age and a higher level of education than the included group of migrants ($p = .007$). Most migrant patients reported not being under-employed and having family members in Italy. The largest group (25%) comes from Eastern European countries (mostly Romania, Moldavia and Albania), followed by the South-Saharan Africa group (23%, mostly Senegal, Cameroon and Gambia), the South Asians (17%, mostly Bangladesh and Sri Lanka), the Central and South Americans (10%, mostly Peru), the Middle East (9%), the North-Saharan Africans (9%), the South-East Asians (3%), the oriental Asians (2 patients from China) and the North American countries (2 patients).

Psychopathological analysis

BPRS-E and SVARAD mean total scores did not show significant differences between groups (SVARAD $p = .446$; BPRS $p = .785$). As shown in Table II the SVARAD dimensional scales showed between groups differences regarding *obsessiveness* ($p = .018$), *somatization* ($p = .011$) and *activation* ($p = .004$). No significant differences were found with respect to the other items.

The correlation analysis between the SVARAD items of the whole group, highlighted the presence a positive correlation between anger/aggression and activation ($R2 = 0.171$, $p < .001$) and impulsiveness and activation ($R2 = 0.219$; $p < .001$), while a negative correlation was found between sadness/demoralization and activation ($R2 = -0.002$; $p = .033$), and anger/aggressiveness and somatization ($R2 = -0.02$; $p = .036$).

Discussion

In this article we present results from a cross-sectional case-control study comparing a group of migrants and a group of natives both affected by a mental health condition. The migrant group showed higher scores in *somatization* and lower scores in *activation* and *obsessiveness* compared to matched native patients. Female migrants had a lower score in *aggressiveness* and *impulsivity* compared to males. Having a family member in Italy was related to lower *aggressiveness* and higher *apathy* scores.

The coupling carried out between the 112 migrants and the 112 native controls, led to homogeneous results regarding diagnosis and severity of the condition. Indeed, the most frequent diagnosis were “NOS” across groups, underlining a similar ‘classification uncertainty’ of the symptomatology. Although age was a (low priority) criterion for matching subjects of this study, migrant patients were younger than natives. This is in line with the general trend of the catchment area of our outpatient services.

In line with literature on the subject, the migrant group showed higher *somatization* compared to their native counterpart [13, 27-29]. Patients’ *somatization* seems in relation to the presence of somatic symptoms with no organic component (e.g., pain) rather than to obsessive hypochondriac concerns about one’s health and has been related to pre-migratory trauma and lack of social support [34]. Compared to western countries, non-western countries show lower somatization [35]. Our results are probably related to the cultural root of the sample studied and to the skill in language. Ability in spoken language and understanding of the local culture is critical in receiving specific, proper help and lack of this ability can lead to complications in the migrants’ relation with potential sources of help [36]. Rather than a symptom leading to a specific DSM diagnosis, *somatization* should be interpreted as an idiom to express mental distress or as legitimate and codified communication patterns to express suffering [34,37-39].

Activation was directly correlated to *aggressiveness* and *impulsivity* and resulted lower among migrant patients. The environment in which an individual grows modu-

TABLE I. *Socio-demographic characteristics of immigrants and native patients.*

Socio-demographic variables	Categories	Included migrants N = 112 N (%)	Natives N = 112 N (%)
Age		38.0 (± 12.0) y	42.71 (± 13.7) y (p = .007**)
Gender	M	70 (61.9)	70 (61.9)
	F	42 (37.5)	42 (37.5)
Instruction	None	8 (7.1)	1 (0.9)
	Compulsory school	46 (41.1)	33 (29.5)
	High school/degree	58 (51.8)	78 (87.4)
Marital status	Unmarried	50 (44.6)	-
	Married	35 (31.3)	-
	Cohabitant	8 (7.1)	-
	Divorced	16 (14.3)	-
	Widow	3 (2.7)	-
Occupation before migration	Student	14 (12.5)	-
	Farmer	2 (1.8)	-
	Labour	13 (11.6)	-
	Employee	20 (17.9)	-
	Self employed	9 (8)	-
	Odd-job	6 (5.4)	-
	Housewife	1 (0.9)	-
	Unemployed	35 (31.3)	-
	Missing data	12 (10.7)	-
Occupation after migration	Student	5 (4.5)	-
	Labour	2 (1.8)	-
	Employee	26 (23.2)	-
	Odd-job	19 (17)	-
	Housewife	2 (1.8)	-
	Unemployed	49 (43.7)	-
	Missing data	9 (8)	-
Length of stay in Italy (months)		103.3 (± 104.3) min: 1; max: 480	-
Reason for migration	Economic	92 (82.1)	-
	Forced (refugee/asylum seekers)	20 (17.9)	-
Post-migration under-employment	Yes	38 (35.8)	-
	No	68 (64.1)	-
Family members in Italy	Yes	53 (55.8)	-
	No	42 (44.2)	-

TABLE II. *SVARAD items means and standard deviations with statistical analysis of the differences (Mann-Whitney U-test).*

Group		Apprehension/fear	Sadness	Anger/aggressiveness	Obsessiveness	Apathy	Impulsivity	Reality distortion	Thought disorganiz.	Somatization	Activation
Natives	Mean	1.77	1.27	.87	.28	1.20	.65	.63	.22	.82	.81
	SD	.910	.958	.991	.713	1.106	.946	1.107	.654	1.050	.844
Migrants	Mean	1.58	1.45	.71	.07	1.16	.50	.74	.29	1.11	.49
	SD	.706	.837	.866	.259	.954	.723	1.072	.767	.971	.658
Differences	U	5494.500	6944.500	5780.000	5624.000	6300,000	5940.500	6703.000	6541.500	7434.000	4990.500
	p	.083	.143	.270	.018*	.952	.432	.295	.379	.011*	.004**

** . significance level at 0.01; * . significance level at 0.05.*
SVARAD: Scale for Rapid Dimensional Evaluation

lates evaluation and reaction to emotional events [40]. Our group of migrant patients showed low scores in these dimensions, outlining an internalizing profile. On the other hand, individualistic societies such as Europe, generally accept the externalization of anger and distress as a form of individuals´ independence and freedom of self-expression [41]. Collectivist cultures (as in many non-Western countries) often discourage externalization as a form of detachment from the group/society [41,42]. This hypothesis is in line with studies on non-clinical populations reporting lower levels of aggression in migrants than natives and the correlation between collectivism and reduced aggressiveness [25,26].

Overall, migrant patients tend to internalize their suffering and distress leading to higher somatization and lower activation, as opposed to native patients who tend to externalize their suffering leading to higher activation and lower somatization.

Limits

First, the sample of cases was composed of individuals with different original cultures united as a group by the act only of migration. Therefore, the high heterogeneity might limit generalizability of the results. Second, our study did not assess the actual presence of language barriers. Indeed, many patients speak Italian fluently, some can speak a language also operators can speak (e.g. English or French) some instead come to the clinic accompanied by a linguistic mediator. Therefore, we cannot test the language hypothesis. Another limitation is the diagnosis itself. We decided to have a focus on NOS diagnoses, which is obviously related to a degree of bias in the study.

Conclusions

Same categorical diagnosis can have very different outcomes in response to the same treatment protocols, especially if not well specified [43]. A dimensional approach, in addition to the categorical one, offers some insight in the expression of psychopathology in migrants, which can more hardly fit in usual diagnostic categorizations. Clinicians should take culturally derived differences in expression of psychiatric conditions into account in the process of diagnosing and prescribing therapy to migrant patients.

Acknowledgements

None.

Conflict of interest

The Authors declare no conflict of interest.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Authors' contributions

CP was the main investigator and was involved in every aspect of the research; VR collaborated in the data gathering, clinical managment of patients and conceptualization of the research; RS contributed in the conceptualization of the research and the writing of the manuscript; RG collaborated in the data collection and the clinical managment of patients; VM collaborated in the data collection and managment of the dataset; LT collaborated as a consultant in every phase of the research; AM supervised the final version of the manuscript; MP helped in the conceptualization of the research and supervision of the final version of the manuscript; LT collaborated in the conceptualization, clinical managment of patients and writing of the manuscript; MB supervised in each phase of the research and contributed to the final version of the manuscript.

Ethical consideration

This study was approved by the Institutional Ethics Committee (Sapienza University of Rome) (being a retrospective chart review not including instruments outside our standard clinical anssesment, we received approval by the Institutional Review Board of the Department of Neurology and Psychiatry, Sapienza University of Rome).

The research was conducted ethically, with all study procedures being performed in accordance with the requirements of the World Medical Association's Declaration of Helsinki.

Written informed consent was obtained from each participant/patient for study participation and data publication.

References

1. McKay L, Macintyre S, Ellaway A. Migration and health: a review of the international literature 2003.
2. Cantor-Graae E, Selten JP. Schizophrenia and migration: a meta-analysis and review. Am J Psychiatry 2005;162:12-24. https://doi.org/10.1176/appi.ajp.162.1.12
3. Coid JW, Kirkbride JB, Barker D, et al. Raised incidence rates of all psychoses among migrant groups: findings from the East London first episode psychosis study. Arch Gen Psychiatry 2008;65:1250-1258. https://doi.org/10.1001/archpsyc.65.11.1250
4. Dykxhoorn J, Kirkbride JB. Psychoses sans frontieres: towards an interdisciplinary understanding of psychosis risk amongst migrants and their descendants. Epidemiol Psychiatr Sci 2019;28:146-152. https://doi.org/10.1017/S2045796018000501
5. King M, Coker E, Leavey G, et al. Incidence of psychotic illness in London: comparison of ethnic groups. BMJ 1994;309:1115-1119. https://doi.org/10.1136/bmj.309.6962.1115
6. Morgan C, Dazzan P, Morgan K, et al. First episode psychosis and ethnicity: initial findings from the AESOP study. World Psychiatry 2006;5:40-46.
7. Swinnen SG, Selten JP. Mood disorders and migration: meta-analysis. Br J Psychiatry 2007;190:6-10. https://doi.org/10.1192/bjp.bp.105.020800
8. Pignon B, Geoffroy PA, Thomas P, et al. Prevalence and clinical severity of mood disorders among first-, second- and third-generation migrants. J Affect Disord 2017;210:174-180. https://doi.org/10.1016/j.jad.2016.12.039
9. Nose M, Tarsitani L, Tedeschi F, et al. Association of traumatic events with levels of psychological distress and depressive symptoms in male asylum seekers and refugees resettled in Italy. BMC Psychiatry 2020;20:576. https://doi.org/10.1186/s12888-020-02988-0
10. Kirmayer LJ, Young A, Robbins JM. Symptom attribution in cultural perspective. Can J Psychiatry 1994;39:584-595. https://doi.org/10.1177/070674379403901002
11. Charalabaki E, Bauwens F, Stefos G, et al. Immigration and psychopathology: a clinical study. Eur Psychiatry 1995;10:237-244. https://doi.org/10.1016/0924-9338(96)80300-2
12. First MB, Rebello TJ, Keeley JW, et al. Do mental health professionals use diagnostic classifications the way we think they do? A global survey. World Psychiatry 2018;17:187-195. https://doi.org/10.1002/wps.20525
13. Braca M, Berardi D, Mencacci E, et al. Understanding psychopathology in migrants: a mixed categorical-dimensional approach. Int J Soc Psychiatry 2014;60:243-253. https://doi.org/10.1177/0020764013484237
14. Birman D, Tran N. Psychological distress and adjustment of Vietnamese refugees in the United States: association with pre- and postmigration factors. Am J Orthopsychiatry 2008;78:109-120. https://doi.org/10.1037/0002-9432.78.1.109
15. Dobricki M, Komproe IH, de Jong JT, et al. Adjustment disorders after severe life-events in four post-conflict settings. Soc Psychiatry Psychiatr Epidemiol 2010;45:39-46. https://doi.org/10.1007/s00127-009-0039-z
16. Nickerson A, Bryant RA, Steel Z, et al. The impact of fear for family on mental health in a resettled Iraqi refugee community. J Psychiatr Res 2010;44:229-235. https://doi.org/10.1016/j.jpsychires.2009.08.006
17. Porter M, Haslam N. Predisplacement and postdisplacement factors associated with mental health of refugees and internally displaced persons: a meta-analysis. JAMA 2005;294:602-612. https://doi.org/10.1001/jama.294.5.602
18. Tarricone I, Stivanello E, Poggi F, et al. Ethnic variation in the prevalence of depression and anxiety in primary care: a systematic review and meta-analysis. Psychiatry Res 2012;195:91-106. https://doi.org/10.1016/j.psychres.2011.05.020
19. Perez-Ramirez F, Garcia-Garcia I, Caparros-Gonzalez RA, et al. Psychological assessment among immigrant and Spanish women during the post-partum period in Spain. J Reprod Infant Psychol 2017;35:159-171. https://doi.org/10.1080/02646838.2016.1246709
20. Bhugra D. Cultural identities and cultural congruency: a new model for evaluating mental distress in immigrants. Acta Psychiatr Scand 2005;111:84-93. https://doi.org/10.1111/j.1600-0447.2004.00454.x
21. Foo SQ, Tam WW, Ho CS, et al. Prevalence of depression among migrants: a systematic review and meta-analysis. Int J Environ Res Public Health 2018;15. https://doi.org/10.3390/ijerph15091986
22. Veling W, Selten JP, Mackenbach JP, et al. Symptoms at first contact for psychotic disorder: comparison between native Dutch and ethnic minorities. Schizophr Res 2007;95:30-38. https://doi.org/10.1016/j.schres.2007.06.024
23. Brooks R, Silove D, Steel Z, et al. Explosive anger in post-conflict Timor Leste: interaction of socio-economic disadvantage and past human rights-related trauma. J Affect Disord 2011;131:268-276. https://doi.org/10.1016/j.jad.2010.12.020
24. Nickerson A, Bryant RA, Schnyder U, et al.

Emotion dysregulation mediates the relationship between trauma exposure, post-migration living difficulties and psychological outcomes in traumatized refugees. J Affect Disord 2015;173:185-192. https://doi.org/10.1016/j.jad.2014.10.043

25 Bagdasarov Z, Edmondson CB. Cultural framework, anger expression, and health status in Russian immigrant women in the United States. Health Care Women Int 2013;34:169-189. https://doi.org/10.1080/07399332.2012.655386

26 Kremer TR, Sutton K, Kremer KP. Immigrant youth have significantly lower rates of externalizing behavior than native-born americans: differences by region of birth. J Immigr Minor Health 2019;21:716-722. https://doi.org/10.1007/s10903-018-0786-6

27 Betancourt TS, Newnham EA, Birman D, et al. Comparing trauma exposure, mental health needs, and service utilization across clinical samples of refugee, immigrant, and U.S. Origin Children. J Trauma Stress 2017;30:209-218. https://doi.org/10.1002/jts.22186

28 Bragazzi NL, Puente GD, Natta WM. Somatic perception, cultural differences and immigration: results from administration of the Modified Somatic Perception Questionnaire (MSPQ) to a sample of immigrants. Psychol Res Behav Manag 2014;7:161-166. https://doi.org/10.2147/PRBM.S55393

29 Molsa M, Tiilikainen M, Punamaki RL. Usage of healthcare services and preference for mental healthcare among older Somali immigrants in Finland. Ethn Health 2019;24:607-622. https://doi.org/10.1080/13557858.2017.1346182

30 International Organization for Migration: International migration law. Geneva, Switzerland: International Organization for Migration 2004.

31 American Psychiatric Association: Electronic DSM-IV-TR plus. 1.0. ed. Washington D.C.: American Psychiatric Association 2000, p. 1. CD-ROM.

32 Biondi M, Gaetano P, Pasquini M, et al. The SVARAD scale for rapid dimensional assessment: development and applications in research. In: Biondi M, Pasquini M, Picardi A, Eds. Cham Dimensional Psychopathology. New York, NY: Springer International Publishing 2018, pp. 1-28.

33 Roncone R, Ventura J, Impallomeni M, et al. Reliability of an italian standardized and expanded brief psychiatric rating scale (BPRS 4.0) in raters with high vs. low clinical experience. Acta Psychiatr Scand 1999;100:229-236. https://doi.org/10.1111/j.1600-0447.1999.tb10850.x

34 Tarsitani L, Roselli V, Serra R, et al. Somatization and traumatic events in asylum seekers and refugees resettled in Italy. J Psychopathol 2020;26:41-45. https://doi.org/10.36148/2284-0249-374

35 Rohlof HG, Knipscheer JW, Kleber RJ. Somatization in refugees: a review. Soc Psychiatry Psychiatr Epidemiol 2014;49:1793-1804. https://doi.org/10.1007/s00127-014-0877-1

36 Tarsitani L, Biondi M. Migration and mental health: new challenges. Riv Psichiatr 2016;51:45-46. https://doi.org/10.1708/2246.24192

37 Kirmayer LJ, Young A. Culture and somatization: clinical, epidemiological, and ethnographic perspectives. Psychosom Med 1998;60:420-430. https://doi.org/10.1097/00006842-199807000-00006

38 Kirmayer LJ, Sartorius N. Cultural models and somatic syndromes. Psychosom Med 2007;69:832-840. https://doi.org/10.1097/PSY.0b013e31815b002c

39 Aragona M, Tarsitani L, Colosimo F, et al. Somatization in primary care: a comparative survey of immigrants from various ethnic groups in Rome, Italy. Int J Psychiatry Med 2005;35:241-248. https://doi.org/10.2190/2G8N-MNNE-PGGP-PJJQ

40 Potegal M, Stemmler G, Spielberger CD. International handbook of anger: constituent and concomitant biological, psychological, and social processes. New York, NY: Springer 2010.

41 Levy D, Shiraev E. Cross-cultural psychology: critical thinking and contemporary applications, 2017.

42 Safdar S, Friedlmeier W, Matsumoto D, et al. Variations of emotional display rules within and across cultures: a comparison between Canada, USA, and Japan. Can J Behav Sci/Revue canadienne des sciences du comportement 2009;41:1-10. https://doi.org/10.1037/a0014387

43 Maj M. Why the clinical utility of diagnostic categories in psychiatry is intrinsically limited and how we can use new approaches to complement them. World Psychiatry 2018;17:121-122. https://doi.org/10.1002/wps.20512

JOURNAL OF PSYCHOPATHOLOGY 2022;28:75-85
DOI: 10.36148/2284-0249-459

Original article

Attitudes and perceptions on gender identity among Italian general population: a pilot investigatory study

Elsa Vitale[1], Roberto Lupo[2], Chiara Clemente[3], Antonino Calabrò[4], Maicol Carvello[5],Maurizio Ercolani[6], Angelo Benedetto[7], Luana Conte[8-9]

[1] Centre of Mental Health Modugno, Local Healthcare Company Bari, Italy; [2] San Giuseppe da Copertino Hospital, Local Health Authority Lecce, Italy; [3] Freelance nurse; [4] Nuovo Ospedale degli Infermi Hospital, Local Health Authority Biella, Italy; [5] Brisighella Community Hospital, Local Health Authority Romagna, Italy; [6] Single Regional Health Authority Marche, Area Vasta 2, Mental Health Department, Italy; [7] "Umberto I" Hospital, Siracusa, Italy; [8] Laboratory of Biomedical Physics and Environment, Department of Mathematics and Physics "E. De Giorgi", University of Salento, Lecce, Italy; [9] Advanced Data Analysis in Medicine (ADAM), Laboratory of Interdisciplinary Research Appliedto Medicine (DReAM), University of Salento and ASL (Local Health Authority) Lecce, Italy

SUMMARY

Background

In a country such as Italy, where every day there are serious episodes of homotransphobia, misogyny, discrimination against people with disabilities and feminicide, there is still no law that adequately protects minorities. To investigate the knowledge, opinions and attitudes of the Italian population towards gender identity and sexuality, analyzing how much stigma is radicalized in the everyday life of the Italian reality.

Materials and methods

A nationwide online study involving the Italian population was conducted from March to August 2021 through social networks.

Results

A total of 1532 subjects participated in the survey. The majority of participants (64.8%) stated that they were only attracted to people of the opposite sex to their own. In addition, 93.1% of participants stated that they had heard about gender identity and 93.3% of participants defined "gender identity" as: "role in which the individual identifies, feeling a male, feeling a female, or feeling something else they do not psychologically recognize in their biological sex at birth." 96.1% defined"biological sex" as an "anatomical category of membership." 89.2% defined "gender role" as "socio-culturally defined behaviors or expectations as masculine or feminine." 55% felt that it is not possible to choose one's sexual orientation. 94.7% know LGBT people directly, and 25.4% said there are LGBT members in their family. Statistically significant differences were found between participants'attitudes for the proposed situations according to their personal knowledge about gender identity ($p < .05$).

Conclusions

Personal identity is not something unitary and stable over time and in different situations.

Key words: attitude, gender identity, general population, perception

Received: April 11, 2022
Accepted: May 12, 2022

Correspondence
Elsa Vitale
Centre of Mental Health Modugno, Local Healthcare Company Bari, via X marzo 43, 70026 Modugno (BA) Italy.
E-mail: vitaleelsa@libero.it

How to cite this article: Vitale E, Lupo R, Clemente C, et al. Attitudes and perceptions on gender identity among Italian general population: a pilot investigatory study. Journal of Psychopathology 2022;28:75-85. https://doi.org/10.36148/2284-0249-459

Introduction

Throughout history, there have been a number of controversies and debates about sexual orientation and gender identity; many concepts and definitions have undergone changes, and often terms used inthe past are now obsolete or even offensive. Over time, the introduction of additional legislation to protect human rights, the depathologization by the psychiat-

ric world of gender identity, and the increased presence of transgender people in the media have contributed to society's increased awareness of this complex reality [1]. Diagnoses on gender identity result included for the first time within the Diagnostic and Statistical Manual of mental disorders (DSM) in 1980, with the third edition of the manual (DSM-III) in which diagnostic criteria to define *transsexualism* are presented in the section dedicated to psychosexual disorders [2]. The updated version of 2013, the DSM-5, introduces the term Gender Dysphoria as a category in its own right. In an attempt at a depathologization of gender identities, in the most recent edition of the ICD (International Classification of Disease) – ICD 11, presented at the World Health Assembly in May 2019 and to beeffective January 1, 2022, the diagnosis of Gender Incongruence replaces past diagnoses in a new chapter called "conditions related to sexual health" [3]. Despite this, episodes of discrimination, stigma and social exclusion are increasing [4] and these expose people belonging to the LGBTQ community (Italian acronym for: Lesbian, Gay, Bisexual and Transgender) to greater risk of mental distress and physical and verbal abuse more or less institutionalized and well rooted in "common sense". Especially in countries with high stigma, hiding partially protects against discrimination, victimization, and even lower life satisfaction than would be experienced if an individual from a sexual minority lived uncensored in those countries [5]. The studies conducted on phenomena of violence, discrimination, prevarication and harassment suffered by transgender people report some very alarming data. A study that analyzed a sample of 402 transgender people from all over the world, reports that 59.5% have experienced violence and abuse (26.6% have experienced a violent incident, 14% a rape or attempted rape, 19.4% an assault without a weapon, 17.4% insults and 10.2% an assault with a weapon), 37.1% have suffered economic discrimination [6]. On a sample of 149 Italian people from the LGBTQIA+ community, researchers found that the most frequent types of stigma are verbal abuse (86.6%), problems finding a job (66.4%), physical abuse (57%), problems accessing general health services (38.9%), sexual abuse (31.5%), problems renting a home (28.9%), dismissal (24.2%), robbery (21.5%), and eviction (15.4%) [7]. This violence and discrimination appears to have a ripple effect on suicide attempts. In a large sample of 392 "Male to Female" (MtF) and 123 "Female to Male" (FtM) individuals, 32% were found to have attempted suicide [8]. Discrimination based on sexual orientation and gender identity is still an emergency in Italy, as there is a lack of adequate legal provisions to combat hate crimes. Italy's slow progress compared to other European nations is due in part to the country's religious background. There is consistent evidence that self-identification as "religious" or as Christian (and to a lesser extent, being Muslim) is associated with increased Trans prejudice compared to being non-religious [9]. Respect for the rights of people, regardless of their sexual orientation, is one of the main criteria for respect for human rights in general. The Universal Declaration of Human Rights and agreed upon treaties require that human rights apply to all and that no one should be excluded. Therefore, protecting the human rights of people with different sexual orientations does not mean introducing new rights, but ensuring that these are guaranteed to all, without prejudice of any kind. The culture of the country has changed dramatically following the introduction of civil unions. A 2014 study of Italy's homosexual population showed that 92% of participants "did not feel protected by the state" and 40% felt they were victims of homophobia in a work or school environment [10,11]. Homophobic barriers, perceived or real, make LGBT people reluctant to go to the hospital and adhere to health care providers' recommendations, and reluctance to disclose their sexual orientation precludes them from receiving specific care. Health care providers themselves (general practitioners, pediatricians, medical specialists, psychologists, nurses) often lack specific training in transgender health. In fact, users accessing health services report health professionals' use of inappropriate terminology, inappropriate curiosity, and lack of sensitivity to health needs [12]. On the other hand, the lack in the nursing literature of the issues of LGBT patients is significant as demonstrated by a study conducted among Italian nurses, where an inadequate level of knowledge is evident [13]. The aim of this studyis to investigate the knowledge, opinions and attitudes of the Italian population towards gender identity and sexuality, analyzing how much stigma is radicalized in the everyday life of the Italian reality, trying to fill the gap in the literature on this issue.

Materials and methods

Participants

A digital mode was used to collect data, specifically through the compilation of an online questionnaire. We opted for the mode of administration of the questionnaire in electronic format to ensure greater confidentiality to participants and allow a wide dissemination of the research among the entire Italian population. The survey instrument was administered by sharing the link to which to connect for completion, on various social networks (WhatsApp, Facebook, Instagram, and Telegram). After illustration of the content and following the signing of the informed consent, participants completed the questionnaire by choosing the answers they considered appropriate according to their knowledge. The

completed questionnaires were sent completely anonymously and collected in a special platform. To ensure that the questionnaires were anonymous and to allow for participant identification, a sequential identification (ID) number was assigned to each registered participant. Each questionnaire, therefore, had an ID number that corresponded to the database ID.

The questionnaire

The questionnaire administered contained three salient parts. In the first part, a set of socio- demographic data about the recruited sample was collected. Specifically:

- the gender, whether it is male or female;
- age, grouped by age group: between 20 and 30, between 31 and 40, between 41 and 50, between 51 and 60, between 61 and 70 and over 71;
- marital status, i.e. whether the participant is single, married, cohabiting, separated or divorced or widowed;
- the possible presence of dependent children;
- the educational qualification possessed by the participant, i.e.: no qualification, elementary license, lower middle school license, diploma, bachelor's degree, master's degree or PhD;
- the employment status, choosing it among those proposed, namely: student, housewife, worker, employee, freelancer, retired, unemployed;
- religious belief, i.e., whether Christian, Islamic, Buddhist, atheist, or other religious belief not covered;
- sexual attraction, i.e., whether the participant was attracted to both men and women, or mostly to persons of the opposite sex or persons of the same sex, only to persons of the opposite sex to his or her, or only to persons of the same sex.

The second part of the questionnaire contained 7 multiple-choice items that sought to define the knowledge about gender identity that the participant possessed. Specifically, the participant was asked to provide a description on:

- "gender identity" or not;
- definition about gender identity, choosing from suggested definitions such as: "Role in which the individual identifies; feeling male, feeling female, or feeling something else; not psychologically recognizing oneself in biological sex at birth"; or: "Category of belonging related to biological sex"; or the participant was invited to give a personal consideration;
- on "biological sex", specifically whether he/she considered it an "Anatomical and biological category of belonging", or: "Gender dictated by a social interpretation", or the participant was invited to give a personal consideration;
- on "gender roles," i.e., whether they are "Behaviors or expectations socio-culturally defined as masculine or feminine," or "Behaviors to be followed based on sex of birth", or to provide a personal definition;
- whether it was possible to choose their sexual orientation;
- if they directly knew LGBT people, i.e.: lesbian, gay, bisexual, and transgender;
- whether there were LGBT (lesbian, gay, bisexual, and transgender) people in their family context.

In the third and last part of the questionnaire, 33 items were proposed in order to define the attitude ofthe participants towards some particular constructs related to gender identity. Each item proposed a response grading was associated with an annexed Likert scale, in which value 1 expressed a condition of disagreement, value 2 indicated a condition of neutrality and value 3 expressed a level of agreement withrespect to the proposed items.

Ethical considerations

In the first part of the questionnaire, an explicit consideration of the processing of personal data and respect for privacy as required by the current regulations in force, i.e. Law No. 675 of 31 December 1996, 676, Official Gazette of 08/01/1997, Article 7 of Legislative Decree No. 196 of 30 June 2003;as well as the European Privacy Regulation EU 2016/679, General Data Protection Regulation – GDPR, was reported. In addition, it was stressed that the data collected will be treated in a strictly anonymous manner, not requiring at the same time data inherent to one's identity. It was also reiterated that participation in the study was purely voluntary and that the data collected would remainconfidential.

Data analysis

All data were collected in an Excel data sheet and processed through SPSS program, IBM, version 20. All socio-demographic characteristics and sampling characteristic on gender identity were presented as frequencies and percentages. Then, *chi square tests* were performed by considering knowledge on gender identity and relating attitudes of participants, differentiating them according to disagreement, neutral and agreement levels of perceptions on different gender identity levels' perceptions proposed. All p-values $< .05$ were considered as statistically significant.

Results

A total of 1532 subjects participated in the survey. Of these, 76.3% were women, 23.0% men and 0.70% preferred not to declare themselves. 35.3% of the participants were under 30 years of age, 27.3% were between 31 and 40 years of age, and 20.2% were between 41 and 50 years of age. 39.3% were single, 32.0% were married, and 21.4% were cohabiting. 56.6% reported having no dependent children. 49.5% of the participants held a diploma as a qualification and 29.4% held

a bachelor's degree. Only 2.5% stated that they did not work, 3.2% were retired, and 5.6% worked only at home, while the remaining participants stated any work activity among those proposed. Many of the participants (58%) were Christian and just as many were self-reported atheists (34.9%). Most participants (64.8%) stated that they were only attracted to people of the opposite sex to their own (Tab. I).

In addition, 93.1% of participants stated that they had heard of gender identity. 93.3% of participants defined "gender identity" as: "role in which the individual identifies, feeling a male, feeling a female, or feeling something else they do not psychologically recognize in their biological sex at birth". 96.1% defined "biological sex" as an "anatomical category of membership". 89.2% defined "gender role" as "socio-culturally defined behaviors or expectations as masculine or feminine". 55% felt that it is not possible to choose one's sexual orientation. 94.7% know LGBT people directly, and 25.4% said there are LGBT members in their family (Tab. II).

Considering participants' attitudes for the proposed situations based on their own personal knowledge about gender identity, statistically significant differences were found for all the following items proposed, except for items no. 11, 12, 16, 21 (Tab. III).

Discussion

The study aimed to investigate the knowledge, opinions and attitudes of the Italian population with respect to certain issues such as gender identity, analyzing how stigma is radicalized in everyday lifein Italy. The sample that took part in the study consisted of 1532 subjects, of whom 76.3% were female, 23.0% male and 0.7% preferred not to specify. The concept of gender identity includes the expectations related to being male or female, within certain historical-cultural and psychosocial boundaries. It is not merely a biological concept [14,15]. Thanks to gender studies that began in the 1950s and have continued to this day, the concept of gender has been changing.In the DSM-5, there is talk of gender dysphoria, a clinical condition in which experiencing discrepancy between one's biological sex and one's gender identity causes clinically significant distress and impairs social and occupational functioning. People with gender dysphoria often believe they are victims of a biological accident and cruelly incarcerated in a body that is incompatible with their subjective gender identity. Discussing gender dysphoria represents, a big change, if we consider that in the previous version of the DSM Gender Identity Disorder focused on the perception of an identity different from biological sex, without considering the subjective discomfort experienced [2]. 49.5% (n = 758) had a high school diploma, while 29.4% (n = 451) had a bachelor's degree. 19.5% (n = 298) of

TABLE I. *Sampling characteristics (n = 1532).*

Socio-demographic characteristics	Frequencies; percentages n (%)
Sex	
Female	1169 (76.3)
Male	353 (23)
Not stated	10 (.70)
Age	
> 30 years	541 (35.3)
31-40 years	419 (27.3)
41-50 years	309 (20.2)
51-60 years	195 (12.7)
61-7 years	58 (3.8)
Over 71 years	10 (.70)
Marital status	
Single	602 (39.3)
Married	490 (32.0)
Cohabitant	328 (21.4)
Separated/divorced	99 (6.5)
Widower	13 (.80)
Dependent children	
No	867 (56.6)
Yes	665 (43.4)
Qualification	
None	5 (.30)
Elementary	1 (.10)
Junior High School	123 (8.0)
Diploma	758 (49.5)
Degree	451 (29.4)
Master	171 (11.2)
PhD	23 (1.5)
Employement status	
Student	298 (19.5)
Housewife	86 (5.6)
Worker	195 (12.7)
Employee	626 (40.9)
Freelancer	240 (15.7)
Retired	49 (3.2)
Unemployed	38 (2.5)
Religion	
Christian	889 (58.0)
Islamic	4 (.30)
Buddhist	16 (1.0)
Atheist	534 (34.9)
More	89 (5.8)
Sexual attraction	
Sia Both men and women	100 (6.5)
Per Mostly people of the opposite sex	279 (18.2)
Mostly people of the same sex	62 (4.0)
Only people of the opposite sex	992 (64.8)
Only people of the same sex	99 (6.5)

TABLE II. *Sampling characteristics on "gender identity" (n = 1532).*

Items	Frequencies; percentages n (%)
Item no. 1: Have you ever heard of gender identity?	
Yes	1427 (93.1)
No	105 (6.9)
Item no. 2: Define the term "gender identity":	
Role in which the individual identifies; feeling like a male, feeling like a female, or feeling something else is not psychologically recognized in biological sex at birth	1430 (93.3)
Membership category related to biological sex	88 (5.7)
More	14 (.90)
Item no. 3: Define the term "biological sex":	
Anatomical and biological category	1472 (96.1)
Gender dictated by social interpretation	54 (3.5)
More	6 (.40)
Item no. 4: Define the term "gender role":	
Behaviors or expectations socio-culturally defined as masculine or feminine	1367 (89.2)
Behaviors to follow according to sex of birth	148 (9.7)
More	17 (1.1)
Item no. 5: Is it possible to choose, in your opinion, your sexual orientation?	
Yes	690 (45.0)
No	842 (55.0)
Item no. 6: Do you know LGBT (lesbian, gay, bisexual, transgender) people directly?	
Yes	1451 (94.7)
No	81 (5.3)
Item no. 7: Are there any LGBT people within your family?	
Yes	389 (25.4)
No	1143 (74.6)

the sample are students, while 69.3% are employed in the world of work (professionals, employees or workers) and a good part of the sample, 58.0% (No. 889) are Christians. Recent research has documented that religiously affiliated individuals report more negative attitudes toward transgender people, tend to be more biased toward gay men and lesbian women, and are less supportive of gay rights and marriage equality than non-religious individuals [9]. 39.3% are single, 32.0% are married, and 56.6% have no children. In addition, 64.8% stated that they are heterosexual and 6.5% homosexual. In the second section, consisting of items exploring knowledge about gender identity, 93.1% (n = 1427) of the sample said they had heard of gender identity and 93.3% (n = 1430) believed it to be a role in which the individual identifies, 5.7% (n = 88) placed the term gender identity in a category of belonging related to biological sex. Respondents mostly answered adequately, a surprising result given that in Italy there is no sex education at any level of education, although sex education is mandatory throughout the EU. 55.0% believe that their sexual orientation is not a choice; 94.7% know LGBT people directly and 25.4% report the presence of LGBT people within their families. In the last section, on the other hand, aimed at investigating the attitudes of the population, it can be seen that 26.8% of the sample is convinced that gender identity is a choice. Regarding friendship relationships, 20.8% would change if they turned out to be gay/lesbian. 10% do not think that most of the problems encountered by a homosexual person are caused by social prejudice and 26.5% think that gay, lesbian and bisexual people are not discriminated against. The opinion of the sample, however, disagrees with the researches that study quantitatively the rates of violence, discrimination, prevarication and harassment experienced by LGBT people, which report very alarming data. In fact, by analyzing a sample of 402 people with "transgender and gender non-conforming identity" (TGNC), they report that 59.5% have experienced violence and abuse (violent accident, rape or attempted

TABLE III. *Attitude as a function of knowledge of gender identity (n = 1532).*

Items	Gender identity knowledge		P-value
	Yes	No	
Item no. 1: How people perceive their gender (gender identity) is a choice:			
In disagreement	716 (46.74)	32 (2.09)	< .001*
Neutral	157 (10.25)	17 (1.11)	
Agree	554 (36.16)	56 (3.66)	
Item no. 2: Women should only be attracted to men:			
In disagreement	1319 (86.10)	75 (4.89)	< .001*
Neutral	50 (3.26)	16 (1.04)	
Agree	58 (3.78)	14 (.91)	
Item no. 3: It is okay for people to dress in ways that do not conform to their assignment sex at birth:			
In disagreement	348 (22.71)	42 (2.74)	.001*
Neutral	187 (11.62)	16 (1.04)	
Agree	892 (58.22)	47 (3.07)	
Item no. 4: People should be male or female:			
In disagreement	1120 (73.11)	53 (3.46)	< .001*
Neutral	137 (8.94)	17 (1.11)	
Agree	170 (11.10)	35 (2.28)	
Item no. 5: Men should only be attracted to women:			
In disagreement	1297 (84.66)	73 (13.72)	< .001*
Neutral	51 (3.33)	14 (.91)	
Agree	79 (5.16)	18 (1.17)	
Item no. 6: Some people do not experience sexual attraction at all:			
In disagreement	357 (23.30)	43 (2.81)	.001*
Neutral	266 (17.36)	18 (1.17)	
Agree	804 (52.48)	44 (2.87)	
Item no. 7: If a person had same-sex attractions, they would have to go to great lengths to overcome them:			
In disagreement	1352 (88.25)	86 (5.61)	< .001*
Neutral	37 (2.42)	8 (.52)	
Agree	38 (2.48)	11 (.72)	
Item no. 8: My feelings toward a friend would not change if I learned he/she is gay/lesbian:			
In disagreement	290 (18.93)	30 (1.96)	.049*
Neutral	107 (6.98)	11 (.72)	
Agree	1030 (67.23)	64 (4.18)	
Item no. 9: I believe homosexuality should be contained:			
In disagreement	1403 (91.58)	99 (6.46)	.016*
Neutral	12 (.78)	3 (.20)	
Agree	12 (.78)	3 (.20)	
Item no. 10: I believe that homosexuality is a disease			
In disagreement	1384 (90.34)	96 (6.27)	.004*
Neutral	17 (1.11)	5 (.33)	
Agree	26 (1.70)	4 (.26)	
Item no. 11: Homosexuality is simply a different way of being:			
In disagreement	400 (26.11)	28 (1.83)	.344
Neutral	234 (15.27)	23 (1.50)	
Agree	793 (51.76)	54 (3.52)	

TABLE III. *Attitude as a function of knowledge of gender identity (n = 1532).*

Items	Gender identity knowledge		P-value
Item no. 12: I think homosexual people should not teach or be around children:		.	
In disagreement	1377 (89.88)	98 (6.40)	.255
Neutral	28 (1.83)	4 (.26)	
Agree	22 (1.44)	3 (.20)	
Item no. 13: Most of the problems encountered by a homosexual person are caused by social prejudice:			
In disagreement	131 (8.55)	21 (1.37)	< .001*
Neutral	209 (13.64)	21 (1.37)	
Agree	1087 (70.95)	63 (4.11)	
Item no.14: Gay men and lesbian women had disturbed relationships with one both parents:			
In disagreement	1263 (82.44)	82 (5.35)	.003*
Neutral	97 (6.33)	11 (.72)	
Agree	67 (4.37)	12 (.78)	
Item no.15: Homosexuality is a passing phase that people overcome:			
In disagreement	1357 (88.58)	97 (6.33)	.045*
Neutral	29 (1.89)	6 (.39)	
Agree	41 (2.68)	2 (.13)	
Item no.16: Only heterosexuals are truly normal people:			
In disagreement	1372 (89.56)	97 (6.33)	.085
Neutral	25 (1.63)	5 (.33)	
Agree	30 (1.96)	5 (.33)	
Item no.17: Gay, lesbian and bisexual people are discriminated against			
In disagreement	482 (31.46)	43 (2.81)	.030*
Neutral	189 (12.34)	20 (1.31)	
Agree	756 (49.35)	42 (2.74)	
Item no.18: I would give my vote to a political candidate even if he/she publicly declared himself/herself a homosexual:			
In disagreement	91 (5.94)	18 (1.17)	< .001*
Neutral	151 (9.86)	18 (1.17)	
Agree	1185 (77.35)	69 (4.50)	
Item no.19: The homosexuals could become heterosexual if only they wanted to:			
In disagreement	1314 (85.77)	86 (5.61)	.001*
Neutral	60 (3.92)	8 (.52)	
Agree	53 (3.46)	11 (.72)	
Item no.20: I would feel that I have failed as a parent if I learned my son/daughter is homosexual:			
In disagreement	1342 (22.32)	85 (5.55)	< .001*
Neutral	32 (2.09)	7 (.46)	
Agree	53 (3.46)	13 (.85)	
Item no.21: At school, the topic of homosexuality should be addressed and discussed without prejudice:			
In disagreement	93 (6.07)	12 (.78)	.103
Neutral	170 (11.10)	15 (.98)	
Agree	1164 (75.98)	78 (5.09)	

TABLE III. *Attitude as a function of knowledge of gender identity (n = 1532).*

Items	Gender identity knowledge		P-value
Item no. 22: Movies, television, and newspapers give an overly favorable image of homosexuality:			
In disagreement	1106 (72.19)	68 (4.44)	.001*
Neutral	180 (11.75)	15 (.98)	
Agree	141 (9.20)	22 (1.44)	
Item no. 23: One homosexual can be a good parent:			
In disagreement	121 (7.90)	27 (1.76)	< .001*
Neutral	177 (11.55)	15 (.98)	
Agree	1129 (73.69)	63 (11.84)	
Item no. 24: I am sick and tired of hearing about homosexuality:			
In disagreement			
Neutral	1013 (66.12)	60 (3.92)	.011*
Agree	192 (12.53)	22 (1.44)	
	222 (14.49)	23 (1.50)	
Item no. 25: Homosexual people should not be enlisted in the police force:			
In disagreement			
Neutral	1357 (88.58)	93 (6.07)	.003*
Agree	26 (1.70)	7 (.46)	
	44 (2.87)	5 (.33)	
Item no. 26: I would not want my child to have a homosexual teacher:			
In disagreement			
Neutral	1375 (89.75)	96 (6.27)	.031*
Agree	23 (1.50)	3 (.20)	
	29 (1.89)	6 (.39)	
Item no. 27: The homosexuals claim too many rights:			
In disagreement	1245 (81.27)	77 (5.03)	< .001*
Neutral	90 (5.87)	14 (.91)	
Agree	92 (6.01)	14 (.91)	
Item no. 28: If a friend confided in me that he/she was homosexual I believe our friendship would be compromised:			
In disagreement			
Neutral	1395 (91.06)	96 (6.27)	.001*
Agree	12 (.78)	3 (.20)	
	20 (1.31)	6 (.39)	
Item no. 29: Working with a homosexual coworker would make me unconfortable:			
In disagreement			
Neutral	1395 (91.06)	96 (4.50)	< .001*
Agree	11 (.72)	6 (.39)	
	21 (1.37)	3 (.20)	
Item no. 30: Those who take a pro-homosexual stance are themselves:			
In disagreement			
Neutral	1385 (90.40)	99 (6.46)	.196
Agree	15 (.98)	3 (.20)	
	27 (1.76)	3 (.20)	
Item no. 31: I would easily invite a homosexual colleague to a party with his or her partners(s):			
In disagreement	177 (11.55)	25 (1.63)	.002*
Neutral	122 (7.96)	11 (.72)	
Agree	1128 (73.63)	69 (4.50)	

TABLE III. *Attitude as a function of knowledge of gender identity (n = 1532).*

Items	Gender identity knowledge		P-value
Item no. 32: Homosexual people are just as capable of having a stable, lasting relationship as heterosexual people:			
In disagreement	72 (4.70)	18 (1.75)	< .001*
Neutral	155 (10.12)	10 (.65)	
Agree	1200 (78.32)	77 (5.03)	
Item no. 33: I would not have a problem working side by side with a homosexual person:			
In disagreement	75 (4.89)	16 (1.04)	< .001*
Neutral	1267 (82.70)	78 (5.09)	
Agree	85 (5.55)	11 (.72)	

**p: statistical significance.*

rape, assault with or without a weapon and insults) and that 37.1% have suffered economic discrimination [16]. Although 85.4% of the sample would not feel that, they had failed as a parent if they found out that a son/daughter was homosexual, 4.2% said otherwise. This is important since studies reveal that the most significant stigmatizing episodes experienced by LGBT people were those experienced within their family of origin, particularly when they were children. Mothers and fathers are among the main perpetrators of psychological harassment. In addition, the scientific literature points to different means through which family stigma can be manifested, which are physical, verbal and sexual aggression, or less overt means, such as lack of emotional support. However, 72.3% believe that the topic of homosexuality should be addressed and discussed at school without prejudice. Analyzing, then, the forms of physical and verbal violence suffered by homosexuals, 51.9%, just over half of the sample, replied that they had never witnessed homophobic bullying. However, what the studies report is certainly something wider; on a sample of 149 Italian transgender people, the most frequent types of stigma are verbal abuse (86.6%), problems infinding a job (66.4%), physical abuse (57%), problems in accessing general health services (38.9%), sexual abuse (31.5%), problems in renting a house (28.9%), dismissal (24.2%), robbery (21.5%) andeviction (15.4%). In 2011, following an agreement with the Department of Equal Opportunities, ISTAT carried out a "Survey on discrimination on the basis of gender, sexual orientation and ethnicity" where, for the first time, information on sexual orientation was collected. The statistical survey targeted a sample of approximately 8,000 households, providing important information aboutexperiences of discrimination. Homosexuals and bisexuals reported experiencing discrimination at school or university, more than heterosexuals (24 *vs* 14.2%) and likewise at work (22.1 *vs* 12.7%). 29.5% felt discriminated against in their job search (31.3% for heterosexuals). Considering the three domains, 40.3% of homosexuals/bisexuals said they had been discriminated against, compared with 27.9% of heterosexuals [17,18]. Another study conducted by Scandurra et al. [3] explores the LGBT person and their right to visibility even in the workplace precisely because oftheir personal fulfillment. The results show that 13% state that they have had their application for a job rejected because of their sexual identity; relevant is the share of "don't know" (25.8%). A significant variable is gender identity: trans people in the first place (45% out of 40 cases), followed by men (14.2% out of 938 cases) and women (6.7% out of 388 cases) declare that they have been rejected because they are LGBT, followed by men (14.2% out of 938 cases) and women (6.7% out of 388 cases). It was revealed, in particular, the prevalence of negative attitudes and behaviors on the part of other workers and the lack of concrete protections for LGBT people in organizations. In addition, the study shows that, for 63.3%, same-sex unions are a sign of civil progress; adoptions for same-sex couples, on the other hand, are less supported by society: just over half of the 53.8% samplebelieves that these should be legalized at all, while 17.8% are against it. From 2016 to date, thousands of people have benefited from the "Cirinnà law", historical and at the same time the result of a compromise that left gaps, such as stepchild adoption and did not define the civil union between people of the same sex as a "specific social formation", but as a "marriage" [17]. In 2019 alone, 2,297same-sex partner unions were celebrated. The portrayal of LGBT people and discussions of issues affecting them in the media range from overtly homophobic or transphobic to stereotypical. A key role in this regard is played by the mass media: to reduce social prejudice; media exposure would offer the possibility of indirect contact with members of a minority group, which on a daily basis in real life one would not have the opportunity to meet; this

para-social contact would provide the basisfor decreasing negative prejudice against members of that group [19]. A study conducted by the University of Padua, investigate which particular media channels most influenced prejudice towards immigrants and to analyze the cognitive, motivational and social processes on which media power acts to influence social attitudes towards certain minority groups showed that some Italian media, in particular television and news programs, dedicate over 25% of their agenda to crime news [20]. The perception that individuals have of the world and of themselves is, therefore, inevitably conditioned by the imagery conveyed by the media and, in particular, by TV, which is themost widely used medium today. Given the profound transformations undergone by contemporary society, the themes of family ties, sexual identity and gender identity are the object of constant attention on television programs. Homosexuality, in particular, is among the themes most frequently represented. A study aimed at analyzing the way in which the television medium deals with this topic and at detecting the presence of stereotypes that are still widespread in our social context, outlined afragmented representation of homosexuality [10]. It is well known that the LGBT population (lesbian, gay, bisexual and transgender) is the victim, in many legal systems, of discrimination and abuse more or less institutionalized, well rooted in "common sense". Immersing oneself in daily life, one realizesthat prejudice, the root cause of all the problems exposed here, is rooted in the same people who are victims, manifesting itself through disesteem, renunciation, distrust, causes of many problems [16],[21].

Study limitations

Although the present study was a cross-sectional study and had both a multicenter design and a large sample size, it was not able to reach a more heterogeneous population at national level. Therefore, the data collected could not be considered as representative of the entire Italian population. For this assumption, also the reticence on the subject treated could be mentioned. Furthermore, the scarcity of studies concerning this topic made it difficult to compare the present results with the available literature.

Conclusions

The aim of the study was to investigate the knowledge, opinions and attitudes of the Italian population towards gender identity and sexuality. Despite the fact that violence and discrimination against people with different sexual orientation or gender incongruity are the order of the day, they are ignored by society. There are still many cultural and educational gaps in Italian society, dictated by the lack of education starting from the school, which should, following European guidelines, include these topics in the curriculum and thus contribute to change. Many transgender people have generally negative experiences with services and with some health professionals who show a lack of knowledge and sensitivity and that nurses and students seem to lack the experience and training to work with transgender clients. The production of data, although limited compared to other Western countries, indicate to explore the possible stigma of health professionals towards those who manifest a sexual orientation different from the common domain of a society that, has yet to develop antibodies, towards any form of discrimination. Although the data collected showed a growing sensitivity to the argument, some aspects were still rooted such as parental failure still remained present in the population. It was hoped that greater awareness of these topics will lead in the future years to an increase in training, both at school and collective-social levels, perhaps involving sex education courses or through seminars. However, it was up to the professionals to give the input of challenges. In this way, discrimination might also be struggled.

Acknowledgements

The Authors thank all the participants, who voluntary agreed to participate.

Conflict of interest statement

The Authors declare no conflict of interest.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Authors' contributions

All Authors equally contributed to the work.

Ethical consideration

The research was conducted ethically, with all study procedures being performed in accordance with the requirements of the World Medical Association's Declaration of Helsinki.

Written informed consent was obtained from each participant/patient for study participation and data publication.

References

1 Crapanzano A, Carpiniello B, Pinna F. Approach to the person with gender dysphoria: from the Italian psychiatric model to the emerging model based on informed consent, J Psychiatry 2021;56:120-128.

2 American Psychiatric Association, DSM-5 Task Force. Diagnostic and statistical manual of mental disorders: DSM-5™ (5th ed.). American Psychiatric Publishing, Inc, 2013.

3 Scandurra C, Amodeo AL, Bochiccio V, et al. Psychometric characteristics of the transgender identity. Survey in an Italian sample: a measure to assess positive and negative feelings toward transgender identity. International J Transgenderism 2017;18:53-65. https://doi.org/10.1080/15532739.2016.1241975

4 Salerno A, Tosto M, Scozzari G. Homophobia. Origin, consequences, and prevention. A review of the literature. Health Psychol 2019;2:5-27.

5 Pachankis JE, Bränström R. Hidden from happiness: structural stigma, sexual orientation concealment, and life satisfaction across 28 countries. J Consult Clin Psychol 2018;86:403-415. https://doi.org/10.1037/ccp0000299

6 Lombardi EL, Wilchins RA, Priesing D, et al. Gender violence: transgender experiences with violence and discrimination. J Homosex 2001;42:89-101. https://doi.org/10.1300/j082v42n01_05

7 Scandurra C, Bochicchio V, Amodeo AL, et al. Internalized transphobia, resilience, and mental health: applying the psychological mediation framework to Italian transgender individuals. Int J Environ Res Public Health 2018;15:508. https://doi.org/10.3390/ijerph15030508

8 Clements-Nolle K, Marx R, Katz M. Attempted suicide among transgender persons: the influence of gender-based discrimination and victimization. J Homosex 2006;51:53-69. https://doi.org/10.1300/J082v51n03_04

9 Campbell M, Hinton JDX, Anderson JR. A systematic review of the relationship between religion and attitudes toward transgender and gender-variant people. Int J Transgenderism 2019;20:21-38. https://doi.org/10.1080/15532739.2018.1545149

10 Cole SW. The conserved transcriptional response to adversity. Curr Opin Behav Sci 2019;28:31-37. https://doi.org/10.1016/j.cobeha.2019.01.008

11 Bouris A, Everett BG, Heath RD, et al. Effects of victimization and violence on suicidal ideation and behaviors among sexual minority and heterosexual adolescents. LGBT Health 2016;3:153-161. https://doi.org/10.1089/lgbt.2015.0037

12 Reisner SL, Poteat T, Keatley J, et al. Global health burden and needs of transgender populations: a review. Lancet 2016;388:412-436. https://doi.org/10.1016/S0140-6736(16)00684-X

13 Eliason MJ, Dibble S, Dejoseph J. Nursing's silence on lesbian, gay, bisexual, and transgender issues: the need for emancipatory efforts. ANS Adv Nurs Sci 2010;33:206-218. https://doi.org/10.1097/ANS.0b013e3181e63e49

14 Boone T, Reilly AJ, Sashkin M. Social learning theory. Albert Bandura Englewood Cliffs, N.J.: Prentice-Hall, 1977. 247 pp., paperbound. Group Organ Stud 1977;2:384-385.

15 Hinshaw R, Burden R, Shriner M. Supporting post-graduates' skill acquisition using components of constructivism and social learning theory. Creat Educ 2012;3:874-877.

16 Valerio P, Scandurra C, Mezza F. Transphobia and social pressure. GENIUS 2019;2:14-39.

17 ISTAT. The homosexual population in the Italian society. Istat 2011 (Available at: report-omophobia_6giugno.pdf [istat.it]. Accessed on: 14 December 2021. Istituto Nazionale di Statistica [ISTAT]. Marriages, civil unions, separations and divorces, year 2019. Available from: Report marriages civil unions separations divorces_year2019 [istat.it]. Accessed on: December 13, 2021).

18 Lelleri R, Pozzoli L, Berardi P, et al. Final report of "Io Sono Io Lavoro" – first Italian survey on work and lesbian, gay, bisexual and transgender/transsexual people (Available at: Report-IO-SONO-IO-LAVORO.pdf (arcigay.it) Accessed on: December 13, 2021).

19 Schiappa E, Gregg PB, Hewes DE. The parasocial contact hypothesis. Communication Monographs 2005;72:92-115. https://doi.org/10.1080/0363775052000342544

20 Latrofa M, Vaes J. Media power and prejudice: does mass media influence our social perception? The Inquisitive Mind 2013;3.

21 Lasio D. Real gays and gay reality: homosexual characters and people on Italian television, 2006.

Validation of the Dark Future Scale (DFS) for future anxiety on an Italian sample

Tommaso B. Jannini[1], Rodolfo Rossi[1], Valentina Socci[2], Giorgio Di Lorenzo[1,3]

[1] Department of Systems Medicine, University of Rome Tor Vergata, Rome, Italy; [2] Department of Applied Clinical Sciences and Biotechnologies, University of L'Aquila, L'Aquila, Italy; [3] IRCCS – Fondazione Santa Lucia, Rome, Italy

SUMMARY

Future anxiety (FA) is an attitude towards the future in which negative processes overcome positive ones, with fear of forthcoming threats being more powerful than hope. Since FA plays a pivotal role in many mental health conditions, we aimed to develop an Italian version of the Dark Future Scale (DFS) that allows measuring this construct.

We recruited 311 participants using a web-based survey. We investigated DFS internal reliability, convergent and divergent validities, as well as test repeatability over time. We conducted a receiver operating characteristic (ROC) analysis to find the best cut-off for FA. Finally, we performed a confirmatory factor analysis (CFA) based on a two-factor hypothesis.

DFS showed excellent psychometric characteristics, with a high Cronbach's alpha, and test-retest reliability over 15 days. Significative correlation indices were seen between DFS and convergent and divergent measures. ROC analysis identified 17 on the overall score as the best cut-off for FA. The two-factor model on the CFA fitted the data reasonably well, showing good incremental and comparative fit indexes.

The Italian version of the DFS reported excellent psychometric properties and thus may be considered a reliable tool for both research and clinical settings.

Key words: future anxiety, depression, validation, ROC analysis, confirmatory factor analysis

Received: March 22, 2022
Accepted: April 25, 2022

Correspondence
Rodolfo Rossi
Department of System Medicine, University of Rome Tor Vergata, via Montpellier 1, 00133 Rome, Italy. Tel.: +39 06 20904501.
E-mail: rudy86.rossi@gmail.com

How to cite this article: Jannini TB, Rossi R, Socci V, et al. Validation of the Dark Future Scale (DFS) for future anxiety on an Italian sample. Journal of Psychopathology 2022;28:86-93. https://doi.org/10.36148/2284-0249-457

Introduction

Future-oriented thinking is defined as one's cognitive ability to daydream, mental time-travel, and make plans, aspirations, expectations, and predictions [1]. By means of future-oriented thinking, people have indeed the capability to imagine future scenarios and possible events, acting and behaving consequently.

Beck's cognitive triad of depression involves overwhelming negative thoughts about the self, the surrounding world, and the future [2]. According to Beck's proposal, in fact, both depression and anxiety may have a distorted future thinking, with the first one being centered on self-depreciation and hopelessness, and the latter, instead, being centered on future harms or threats [3]. Thus, although these two constructs share negative visions of the future, Beck's cognition-based hypothesis allows differentiating depression and anxiety by themes that are specific to each disorder.

A recent theory introduces future anxiety (FA) as a construct that includes both cognitive and emotional processes in which negative processes overcome positive ones, with fear of future threats being more powerful than hope [4]. More specifically, a dark future time perspective, i.e. a specific inclination to think about the future with preoccupation and predict negative scenarios, is one of the most important features of future anxiety [4,5].

Natural disasters, terrorism, political processes, and viral pandemics may generate a consistent amount of future anxiety [6-9]. For instance, the re-

cent COVID-19 pandemic has significantly increased the level of preoccupation with personal health, economic incomes, and social stability among the general population, and healthcare workers [10-12]. A recent study has found that the COVID-19 pandemic has indeed produced a substantial intensification of future anxiety levels, with FA showing a strong association with perceived threats related to COVID-19 and with conspiracy beliefs [7].

Since FA holds a primary position in the routinary evaluation of mental health, Zaleski and colleagues developed a 29-item scale that allows to investigate one's propensity to see the future with uncertainty as well as dislike and fear [4]. However, despite its noteworthy diagnostic utility and its significant value for research purposes, the Future Anxiety Scale (FAS) suffered from being too long and time-consuming. As this might have impacted the overloaded routine of the clinical practice as well as of research settings (especially if coupled with other measures), the Authors developed a 5-item, shorter form of the FAS, named the Dark Future Scale (DFS) [13]. The DFS presented excellent psychometric properties, ascribing it as a reliable and easy-to-use tool.

Since no homologous instrument exists at the moment, in this study we aimed to develop an Italian version of the Dark Future Scale. To test the psychometric properties, we measured the internal consistency, test-retest validity, and convergent and divergent validity. We also implemented a Receiving Operator Characteristic (ROC) analysis to identify a cut-off value. Finally, a confirmatory factor analysis (CFA) was performed to examine a bi-factorial model of FA, made up of internal and external features that may characterize FA.

Materials and methods

Study design

We conducted a cross-sectional web-based survey. Inclusion criteria were age range 18-35 years old and proficiency in Italian. As evidence has highlighted that younger adults are mostly associated with higher levels of anxiety compared to their older counterparts, we decided to select this age range [10]. The recruitment was conducted by means of a web-based survey administration software and with the help of social network applications using a snowball sampling, between June and July 2021. The survey was developed using the free software Google Forms®. On-line consent was obtained from the participants. Participants were allowed to terminate the survey at any time they desired. The survey was anonymous, and confidentiality of information was assured. The study was approved by the local ethics committee.

Measures

We prepared an online web-based survey composed of the first part with questions about gender, age, nationality, marital status, occupation, and education, and the second part with six different psychometric measures.

The Italian version of the Dark Future Scale

The DFS consists of five items (e.g., 'I am afraid that in the future my life will change for the worse'), rated with a seven-point Likert scale (from 0 = 'decidedly false' to 6 = 'decidedly true'). The resulting range goes from 0 to 30, with higher scores reflecting higher levels of FA [13].

Two proficient bilingual translators carried out the forward translation from English to Italian. Each item of the Italian version was then carefully evaluated by two independent psychiatrists and clinical psychologists. Finally, a third proficient bilingual translator performed the back translation to Italian to English. All the Authors of the current manuscript supervised the whole translation process and approved the final DFS Italian version.

The Italian version of the Beck's Depression Inventory

The Beck's Depression Inventory (BDI)-II is a 21-question self-report inventory that measures depression severity. Each question is rated with a four-point Likert scale, ranging from 0 to 3. Scores range from 0 to 63, with the following depression levels: minimal (≤ 13), mild (14-19); moderate (20-28), and severe (29-63) [14]. Cognitive, affective, and somatic symptoms of BDI-II were analyzed, based on Buckley's three-factor model, with items 1, 2, 3, 5, 6, 7, 8, 9, and 14 loading on the "Cognitive" factor, items 4, 10, 12, and 13 loading on the "Affective" factor, and items 11, 15, 16, 17, 18, 19, 20, and 21 loading on the "Somatic" factor [15].

The Italian version of the Beck's Anxiety Inventory

The Beck's Anxiety Inventory (BAI) is a 21-question self-report inventory for measuring anxiety severity. Each question is rated with a four-point Likert scale, from 0 to 3. Higher scores indicate higher anxiety levels, with the following standardized cut-offs: minimal (≤ 7), mild (8-15); moderate (16-25), and severe (26-63) [16].

The Italian version of the Beck Hopelessness Scale

The Beck Hopelessness Scale (BHS) is a 20-item true-false self-report inventory that measures three major aspects of hopelessness: feelings about the future, loss of motivation, and future expectations. Higher scores indicate higher levels of hopelessness [17]. According to Beck and Weissman, three factors were also analyzed: "Feelings about the Future", consisting of items 1, 6, 13, 15, and 19; "Loss of Motivation", consisting of items 2, 3, 9, 11, 12, 16,17, and 20; "Future Expectations", consisting of items 4, 7, 8, 14, and 18.

The Italian version of the Neuroticism-Extraversion-Openness Five-Factor Inventory

The Neuroticism-Extraversion-Openness Five-Factor Inventory (NEO-FFI) is a personality inventory that examines a person's Big Five personality traits (openness to experience, conscientiousness, extraversion, agreeableness, and neuroticism), consisting of 60 items. Each item is rated by means of a five-point Likert scale (0 = 'strongly disagree' – 4 = 'strongly agree'). Each personality domain is represented by a single factor, that is composed of 12 items, with "neuroticism" consisting of items 1, 6, 11, 16, 21, 26, 311, 36, 41, 46, 51, and 56, "extraversion" consisting of items 2, 7 ,12, 17, 22, 27, 32, 37, 42, 47, 52, and 57, "openness" consisting of items 3, 8, 13, 18, 23, 28, 33, 38, 43, 48, 53, and 58, agreeableness consisting of items 4, 9, 14, 19, 24, 29, 34, 39, 44, 49, 54, and 59, and finally "conscientiousness" consisting of items 5, 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, and 60. The total score for each personality domain is the sum of the scores earned for the 12 items of that domain.

The Italian version of the Temperament Evaluation in Memphis, Pisa and San Diego, short form

The short version of the Temperament Evaluation in Memphis, Pisa and San Diego (s-TEMPS) scale consists of 35 items on a five-point Likert scale ranging from 1 to 5 (1 = "not at all"; 2 = "a little"; 3 = "moderately"; 4 = "much"; 5 "very much"). The items assess five different temperaments: depressive, composed of items 1-7, cyclotomic, composed of items 8-14, hyperthymic, composed of items 15-21, irritable, composed of items 22-28, and anxious, composed of items 28-35 [18].

Data analysis

Continuous variables were represented as mean and standard deviation (mean ± SD). Categorical variables were represented as absolute counts and percentage. The Kolmogorov-Smirnov test for the goodness of fit was performed to assess the normality of the distribution of all the tested variables.

Mann-Whitney U test for unpaired samples was used to compare the five items and the total score of DFS between females and males.

The internal consistency of DFS was assessed by means of Cronbach's coefficient alpha (α). Internal consistency is considered good when $\alpha \geq 0.8$. Spearman's correlation was carried out for the convergent and divergent validities and the test-retest reliability, calculated on 146 individuals with two administrations, first at the baseline and then after 15 days.

The receiver operating characteristic (ROC) curve was calculated to illustrate the relationship between sensitivity and specificity of the DFS in order to select the best cut-off value. This would discriminate between subjects with a high probability of having future preoccupations (above the cut-off value) and subjects without (under the cut-off value). To do so, we dummy coded the BDI overall score into a binary 1/0 variable, with 20 or above being considered as predictive of depression. We used a measure of depression as a gold standard as we considered FA as a cognitive expression of depression rather than anxiety.

Confirmatory Factor Analysis (CFA) of DFS was performed on two hypothesis-driven models: a one-factorial solution, with the five items loading on a single first-order latent variable, and a two-factorial solution, with items 1, 2, and 4 loading on the '*Externals*' factor, and items 3 and 5 loading on the '*Internals*' factor. Goodness-of-fit indices were assessed by the following [19]: the Root Mean Square Error of Approximation (RMSEA) evaluating the fitting of the model to the general population, with values ranging from 0.05 and 0.08 being indicative of an adequate fit [20]; the Comparative Fit Index (CFI) display scores between 0 and 1 (a value over 0.95 is considered excellent and a value between 0.90 and 0.95 considerate a good index) [21] and the (Standardized) Root Mean Square Residual (SRMR) indicates the difference between the residuals of the sample covariance matrix and the hypothesized model, with less than 0.08 indicating an acceptable value; relative fit indices [22] were Aikake's Information Criteria (AIC) [23] and Bayesian Information Criteria (BIC) that allow goodness-of-fit comparison between models [24].

Statistical analyses were conducted using *jamovi* v1.6 (The *jamovi* Project 2021) for MacOS for the CFA and the *Statistical Package for Social Science* (SPSS) v27 for MacOS for all the remaining analyses.

Results

Three hundred and nineteen subjects completed the online questionnaire (229 females and 90 males). Eight participants (3 females and 5 males) were excluded from the study because they did not meet the inclusion criteria of age. The remaining three hundred and eleven participants were 266 females (72.7%) and 85 (27.3%) males, with the age of 24.5 ± 4.70. Sociodemographic characteristics are summarized in Table I. According to the Kolmogorov-Smirnov test, all variables presented a non-normal distribution.

The scores for BDI were: total, 14.0 ± 9.01; cognitive, 3.87 ± 3.18; affective, 2.29 ± 1.99; somatic, 3.47 ± 2.42. The score for BAI was 18.2 ± 10.3. The scores for BHS were: total, 6.44 ± 4.66; feelings about the future, 1.50 ± 1.40; loss of motivation, 1.50 ± 1.96; future expectations, 2.93 ± 1.86. The scores for TEMPS were: depressive, 21.2 ± 6.66; cyclothymic, 20.7 ± 7.81; hyperthymic, 21.3 ± 5.79; irritable, 15.3 ± 5.42; anxious, 20.95 ± 6.93. The scores for NEO-FFI were: neuroticism, 24.7 ± 6.89; openness, 29.7 ± 6.35; agreeableness, 29.8 ± 5.09; conscientiousness, 30.3 ± 8.28).

TABLE I. *Socio-demographic characteristics of the whole sample.*

Variables	Mean (± SD)/N (%)
Age	24.5 (± 4.70)
Gender	
Female	226 (72.7%)
Male	85 (27.3%)
Nationality	
Italian	306 (98.4%)
Other	5 (1.6%)
Marital status	
Single	137 (44.1%)
Engaged (not cohabiting)	136 (43.7%)
Cohabitants/life partners	25 (8.0%)
Married	13 (4.2%)
Education	
Post-graduation degree (medical specialization, PhD, etc.)	37 (11.9%)
Graduation degree	52 (16.7%)
High School diploma	221 (71.1%)
Secondary school diploma	1 (0.3%)
Occupation	
Student	233 (74.9%)
Self-employed	21 (6.8%)
Employee	54 (17.4%)
Unemployed	3 (1.0%)

The score of the single-five items and the total score of DFS for the total sample and by gender are shown In Table II. For each DFS score, females scored significantly higher than males.

The analysis of internal consistency showed an overall Cronbach's α coefficient of 0.85. In the two subscales, the Cronbach's α was 0.728 for "Externals" and 0.738 for "Internals".

For the test-retest reliability, we assessed 146 of the initial 311 subjects and analyzed Spearman's rank-order correlation coefficient related to the total score and the two subscales. Our test-retest analysis had two administrations, one at the baseline and one after 15 days. We found a significant and positive correlation between baseline and follow-up scores (see Table III for details). Convergent and divergent validities were explored by means of Spearman's coefficient. DFS reported a significant positive correlation with all psychometric measures for depression and anxiety, with cyclothymic, irritable, and anxious temperament measures, as well as with neuroticism personality trait (see Table IV). On the other hand, DFS was negatively correlated with hyperthymic temperament, with extraversive, agreeable, and conscientious personality traits (Tab. IV).

The ROC analysis was performed on the DFS total score at baseline in order to evaluate the questionnaire's discriminative ability. BDI was used as the gold standard measure, with scores of 20 or above being considered diagnostic for depression. Although the best-balanced sensitivity (83.3%) and specificity (53.1%) were reached with a score of 16.50, and since DFS accepts only integers as overall scores, we decided to choose 17 as a cut-off for discriminating patient's FA (Fig. 1).

CFA was estimated to assess the factorial validity of two hypothesis-driven models, with the first one having only one latent first-order factor, and the second one having two latent first-order factors, i.e., Externals and Internals. Fit indexes are summarized in Table V. Overall, the two-factor model (Fig. 2) fitted the data reasonably well, showing good comparative and incremental fit indexes (RMSEA = 0.0998 [0.046 – 0.161]; SRMR = 0.0189; CFI = 0.986; AIC = 5598; BIC = 5661) (Tab. V).

Discussion

The present article provides a validation of the DFS on an Italian sample of 311 individuals. DFS, being a fast, handy, and therefore time-saving instrument, might be a crucial psychometric tool in every clinical or research setting, where FA plays a key role, i.e., after major life events, such as natural calamities, pandemics, or wars [7,25].

TABLE II. *Descriptive and univariate statistics of the Dark Future Scale (DFS) scoring in females and males.*

Item	Females (n = 226)	Males (n = 85)	U-values	P-values
1	3.64 ± 1.74	3.00 ± 1.59	7371	0.001
2	3.25 ± 1.79	2.58 ± 1.71	7585	0.004
3	2.84 ± 1.80	2.29 ± 1.62	7973	0.019
4	3.37 ± 1.76	2.69 ± 1.73	7534	0.003
5	3.94 ± 1.91	3.45 ± 1.76	7911	0.015
Total	18.4 ± 8.16	16.3 ± 9.27	7807	0.011

TABLE III. *Test-retest reliability of the Dark Future Scale (DFS).*

DFS item/domain	Spearman's coefficient
1	0.518***
2	0.689***
3	0.619***
4	0.727***
5	0.703***
Total score	0.795***
Externals	0.749***
Internals	0.744***

*Note: * p < 0.05, ** p < 0.01, *** p < 0.001; DFS: Dark Future Scale*

TABLE IV. *Convergent and divergent validity of the Dark Future Scale (DFS).*

Psychometric measures	Spearman's coefficient
BDI	
Total	0.479***
Cognitive	0.472***
Affective	0.377***
Somatic	0.242***
BAI	0.340***
BHS	
Total	0.500***
"Feelings about the Future"	0.312***
"Loss of motivation"	0.504***
"Future expectations"	0.448***
s-TEMPS	
Depressive	0.468***
Cyclothymic	0.402***
Hyperthymic	-0.383***
Irritable	0.135*
Anxious	0.314***
NEO-FFI	
Neuroticism	0.536***
Extraversion	-0.316***
Openness	0.012
Agreeableness	-0.114*
Conscientiousness	-0.317***

*Note: * p < 0.05, ** p < 0.01, *** p < 0.001; BAI: Beck's Anxiety Inventory; BDI: Beck's Depression Anxiety; BHS: Beck's Hopelessness Scale; NEO-FFI: Neuroticism-Extraversion-Openness Five Factor Inventory; s-TEMPS: Temperament Evaluation in Memphis, Pisa and San Diego scale (short version).*

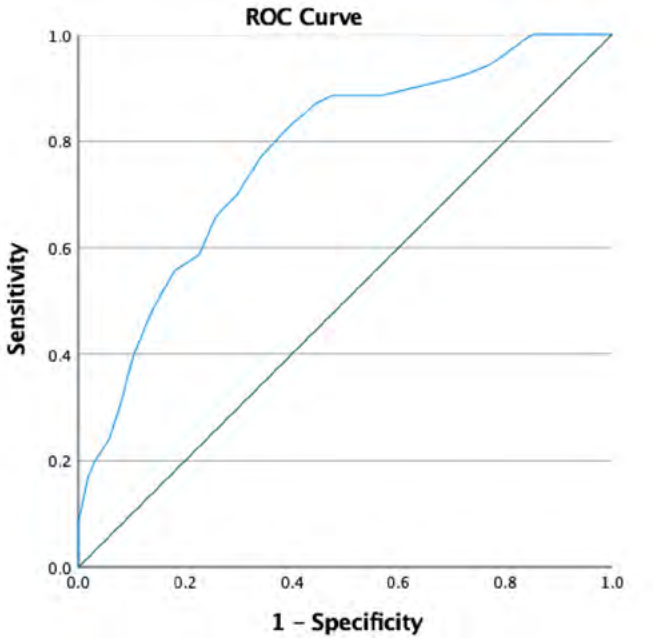

FIGURE 1. *Receiver operation characteristic (ROC) curve of the Dark Future Scale total score at baseline.*

Overall, the Italian version of the DFS presented good psychometric properties, with internal consistency showing an α of 0.85. Moreover, the test-retest reliability demonstrated significant Spearman's correlation indices between each item of the scale after 15 days, showing a high degree of repeatability over time (Tab. III).

The scores for FA were significantly higher among females than among males (Tab. II). This finding is consistent with the evidence that affective disorders, particularly anxiety, are more prevalent in women than in men [26].

Convergent validity analyses reported that DFS was positively correlated with multiple psychometric measures (Tab. IV). In particular, significant correlations were seen between DFS and BDI scores, with BDI total and cognitive subscale presenting the higher effect sizes (r = 0.479 and r = 0.472 respectively) compared to BAI (r = 0.340).

Although FA refers to a construct that most certainly resembles anxiety and thus may be defined as an emotion that features feelings of tension, and worried thoughts, as previously mentioned, the fear of future events is also what characterizes the so-called Beck's cognitive triad of depression [2]. Moreover, Zaleski's definition specifies that FA is a negative cognitive process that implies facilitation to outweigh negative thoughts or events with respect to positive ones [4]. To this end, we may conclude that FA might be ascribed to a cognitive rather than an affective construct.

TABLE V. *Confirmatory fit indices of the two hypothesis-driven models.*

Model	RMSEA [95% CI]	SRMR	CFI	AIC	BIC
One-factor	0.127 [0.085-0.172]	0.0334	0.962	5611	5667
Two-factor	0.0998 [0.046-0.161]	0.0189	0.986	5598	5661

AIC: Aikake's Information Criteria; BIC: Bayesian Information Criteria; CFI: Comparative Fit Index; RMSEA: Root Mean Square Error of Approximation; SRMR: (Standardized) Root Mean Square Residual; 95% CI: 95% Confidence Interval

BHS total and BHS subscale scores also presented significant positive correlations with DFS total scores. In particular, the "Loss of Motivation" and "Future Expectations" subscales reported the highest effect sizes (r = 0.504 and r = 0.448, respectively). This reinforces the hypothesis of FA mostly depending on cognition, as hopelessness refers to a particular negative mindset, that features poor expectations of one's self and future [17]. Hence, we might speculate that FA holds two of the most important features of the pessimistic view of the future, i.e., having dark expectations of what is forthcoming and, consequently, giving up quite easily on future plans.

A high correlation was also seen with the NEO-FFI domain neuroticism. This construct is defined as one's tendency to experience negative emotions and vulnerability to stress or aversive stimuli [27]. Neuroticism is long established in the literature to be predictive of future depression and anxiety. Indeed, people having a high degree of neuroticism tend to be emotionally upset, afraid of future events, and generally have a negative attitude towards what is to come [28].

On the other hand, divergent validity analyses showed a significant negative correlation with extraversion and conscientiousness personality domains. This may be explained by the fact that persons who score high in extraversion tend to generally be enthusiastic, action-oriented, and with an optimistic view of the future as well as they are protected against anxiety and depressive disorders [29]. Similarly, as conscientiousness is the tendency to achieve goals against measures or outside expectations, which implies being stubborn and future-oriented, people scoring high in this factor tend to report low depressive and anxious symptoms [30].

The ROC curve shown in Figure 1 allows to set 17 as a cut-off point in order to discriminate people with a higher probability of having FA. Besides helping clinical scientists in research settings, this cut-off value may also concur to better characterize people with depressive disorders in the routinary clinical practice, especially if they have borderline psychometric scores for major depression. The reason why BDI scores have been used as a reference gold standard measure for the ROC analysis is based on the fact that FA has been intended mainly as a core feature of depressive rather than anxiety disorders.

CFA highlighted the presence of two latent factors that would help to better describe people with FA. This hypothesis-driven model revealed superior fit indices than the one-factor model, contrarily to what has been previously shown by Zaleski et al. [13]. The first factor, *Externals*, consisting of items 1,2, and 4, might be defined as those external issues related to the surrounding world that could contribute to enhance a pessimistic view of future events (e.g., health issues, financial crises, natural calamities, etc.). On the other hand, *Internals*, consisting of items 3 and 5, may be defined as those hurdles that are more related to one's own mood or mindset (i.e., the feeling that one could not be able to achieve any preset target).

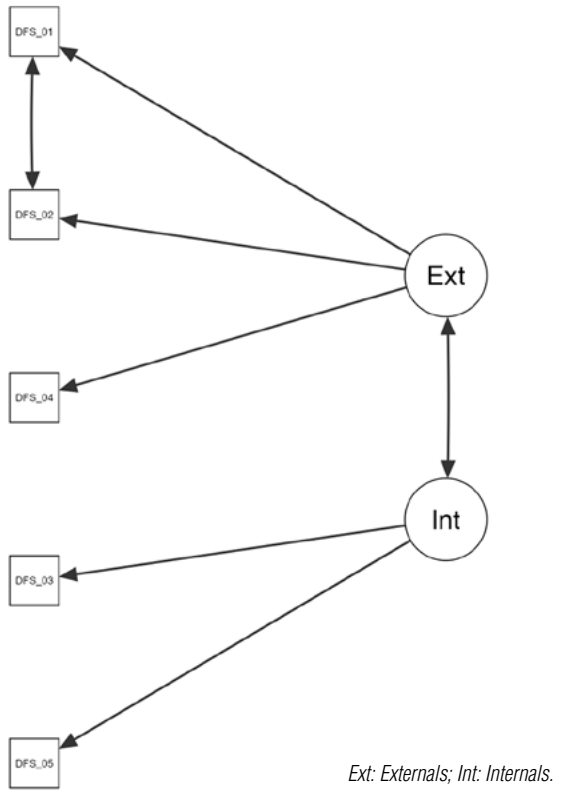

FIGURE 2. *Confirmatory factor analysis (CFA) of the Dark Future Scale showing the two-factor model. Ext: externals; Int: internals*

Despite the success demonstrated, being DFS a handy and reliable instrument, one limitation is represented by the fact that a brief measure could lead to lose data details, thus enhancing the risk of measurement errors. Future studies should compare results from the short and the long-form, using larger datasets with balanced representatives of both sexes, in order to avoid inaccurate scores to be computed and thus reduce the validity claims.

Conclusions

In conclusion, the Italian validation of the DFS reported good psychometric properties, showing an excellent internal validity and reliable convergent and divergent validities. For these reasons, the Italian version of the DFS may be considered a reliable tool for both research and clinical settings. In both cases, the DFS acts as a short and time-saving instrument that may be crucial when trying to assess and, consequently, treat people with depressive or anxious disorders.

Acknowledgements

The Authors wish to acknowledge the participants who decided to take part in this study and completed the survey, without whom this paper and the research behind it would not have been possible.

Conflict of Interest

The Authors declare no conflict of interest.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Authors' contribution

TBJ: data collection, data analysis, manuscript drafting; RR: conceptualization, literature review; VS: scale translation, literature review; GDL: conceptualization, supervision;

Ethical consideration

This study was performed in accordance with the ethical standards as outlined in the 1964 Declaration of Helsinki and its later amendments.

References

1 Aspinwall LG. The Psychology of Future-Oriented Thinking: from achievement to proactive coping, adaptation, and aging. Motiv Emot 2005;29:203-235. https://doi.org/10.1007/s11031-006-9013-1

2 Beck AT. Cognitive therapy and the emotional disorders. Penguin 1979.

3 Beck AT, Brown G, Steer RA, et al. Differentiating anxiety and depression: a test of the cognitive content-specificity hypothesis. J Abnorm Psychol 1987;96:179-183. https://doi.org/10.1037//0021-843x.96.3.179

4 Zaleski Z. Future Anxiety: concept, measurement, and preliminary research. Pers Individ Differ 1996;21:165-174. https://doi.org/10.1016/0191-8869(96)00070-0

5 Carelli MG, Wiberg B, Wiberg M. Development and construct validation of the swedish zimbardo time perspective inventory. Eur J Psychol Assess 2011;27:220-227. https://doi.org/10.1027/1015-5759/a000076

6 Bujnowska AM, Rodriguez C, Garcia T, et al. Parenting and future anxiety: the impact of having a child with developmental disabilities. Int J Environ Res Public Health 2019;16. https://doi.org/10.3390/ijerph16040668

7 Duplaga M, Grysztar M. The Association between future anxiety, health literacy and the perception of the COVID-19 pandemic: a cross-sectional study. Healthcare (Basel) 2021;9. https://doi.org/10.3390/healthcare9010043

8 Mutia H, Hargiana G. Future anxiety in students of communication and Islamic broadcasting program: the correlation with resilience. J Public Health Res 2021;10(Suppl 1). https://doi.org/10.4081/jphr.2021.2401

9 Paredes MR, Apaolaza V, Fernandez-Robin C, et al. The impact of the COVID-19 pandemic on subjective mental well-being: the interplay of perceived threat, future anxiety and resilience. Pers Individ Dif 2021;170:110455. https://doi.org/10.1016/j.paid.2020.110455

10 Rossi R, Jannini TB, Socci V, et al. Stressful life events and resilience during the COVID-19 lockdown measures in italy: association with mental health outcomes and age. Front Psychiatry 2021;12:635832. https://doi.org/10.3389/fpsyt.2021.635832

11 Rossi R, Socci V, Pacitti F, et al. Mental health outcomes among healthcare workers and the general population during the COVID-19 in Italy. Front Psychol 2020;11:608986. https://doi.org/10.3389/fpsyg.2020.608986

12 Rossi R, Socci V, Jannini TB, et al. Mental health outcomes among italian health care workers during the COVID-19 pandemic. JAMA Netw Open 2021;4:e2136143. https://doi.org/10.1001/jamanetworkopen.2021.36143

13 Zaleski Z, Sobol-Kwapinska M, Przepiorka A, et al. Development and validation of the Dark Future scale. Time Soc 2017;28:107-123. https://doi.org/10.1177/0961463X16678257

14 Beck AT, Beamesderfer A. Assessment of depression: the depression inventory. Mod Probl Pharmacopsychiatry 1974;7:151-169. https://doi.org/10.1159/000395074

15 Buckley TC, Parker JD, Heggie J. A psychometric evaluation of the BDI-II in treatment-seeking substance abusers. J Subst Abuse Treat 2001;20:197-204. https://doi.org/10.1016/s0740-5472(00)00169-0

16 Beck AT, Epstein N, Brown G, et al. An inventory for measuring clinical anxiety: psychometric properties. J Consult Clin Psychol 1988;56:893-897. https://doi.org/10.1037//0022-006x.56.6.893

17 Beck AT, Weissman A, Lester D, et al. The measurement of pessimism: the hopelessness scale. J Consult Clin Psychol 1974;42:861-865. https://doi.org/10.1037/h0037562

18 Fico G, Luciano M, Sampogna G, et al. Validation of the brief TEMPS-M temperament questionnaire in a clinical Italian sample of bipolar and cyclothymic patients. J Affect Disord 2020;260:458-462. https://doi.org/10.1016/j.jad.2019.09.034

19 Schermelleh-Engel K, Moosbrugger H, Müller H. Evaluating the fit of structural equation models: tests of significance and descriptive goodness-of-fit measures. Methods Psychol Research 2003;8:23-74.

20 Steiger JH. Structural model evaluation and modification: an interval estimation approach. Multivariate Behav Res 1990;25:173-180. https://doi.org/10.1207/s15327906mbr2502_4

[21] Bentler PM. Comparative fit indexes in structural models. Psychol Bull 1990;107:238-246. https://doi.org/10.1037/0033-2909.107.2.238

[22] Shi D, Maydeu-Olivares A, Rosseel Y. Assessing fit in ordinal factor analysis models: SRMR vs RMSEA. Struct Equ Modeling 2020;27:1-15. https://doi.org/10.1080/10705511.2019.1611434

[23] Akaike H. A new look at the statistical model identification. IEEE Trans Automat Contr 1974;19:716-723. https://doi.org/10.1109/TAC.1974.1100705

[24] Schwarz G. Estimating the dimension of a model. Ann Stat 1978;6:461-464. https://doi.org/10.1214/aos/1176344136

[25] Alotaibi NM. Future anxiety among young people affected by war and armed conflict: indicators for social work practice. Front Sociol 2021;6:729811. https://doi.org/10.3389/fsoc.2021.729811

[26] Altemus M, Sarvaiya N, Neill Epperson C. Sex differences in anxiety and depression clinical perspectives. Front Neuroendocrinol 2014;35:320-330. https://doi.org/10.1016/j.yfrne.2014.05.004

[27] Friedman HS. Neuroticism and health as individuals age. Personal Disord 2019;10:25-32. https://doi.org/10.1037/per0000274

[28] Vittengl JR. Who pays the price for high neuroticism? Moderators of longitudinal risks for depression and anxiety. Psychol Med 2017;47:1794-1805. https://doi.org/10.1017/S0033291717000253

[29] Metts A, Zinbarg R, Hammen C, et al. Extraversion and interpersonal support as risk, resource, and protective factors in the prediction of unipolar mood and anxiety disorders. J Abnorm Psychol 2021;130:47-59. https://doi.org/10.1037/abn0000643

[30] Nikcevic AV, Marino C, Kolubinski DC, et al. Modelling the contribution of the Big Five personality traits, health anxiety, and COVID-19 psychological distress to generalised anxiety and depressive symptoms during the COVID-19 pandemic. J Affect Disord 2021;279:578-584. https://doi.org/10.1016/j.jad.2020.10.053

Appendices

Italian translation of the Dark Future Scale

Le affermazioni che seguono riguardano il tuo atteggiamento verso il futuro. Se un'affermazione descrive accuratamente il tuo atteggiamento, indica il numero '6' sulla scala allegata. Se un'affermazione non descrive il tuo atteggiamento, indica '0'. Ciascuna affermazione può riflettere il tuo atteggiamento in misura diversa. Indica il numero che definisce più accuratamente il tuo punto di vista.

0: Decisamente falso; 1: Falso; 2: Abbastanza falso; 3: Difficile a dirsi; 4: Abbastanza vero; 5: Vero; 6: Decisamente vero

1. Ho paura che i problemi che mi affliggono ora persisteranno per molto tempo	0 ❑ 1 ❑ 2 ❑ 3 ❑ 4 ❑ 5 ❑ 6 ❑
2. Sono terrorizzato dal pensiero che in futuro potrei affrontare crisi e difficoltà della vita	0 ❑ 1 ❑ 2 ❑ 3 ❑ 4 ❑ 5 ❑ 6 ❑
3. Ho paura che in futuro la mia vita cambierà in peggio	0 ❑ 1 ❑ 2 ❑ 3 ❑ 4 ❑ 5 ❑ 6 ❑
4. Ho paura che i cambiamenti delle condizioni economiche e politiche minacceranno il mio futuro	0 ❑ 1 ❑ 2 ❑ 3 ❑ 4 ❑ 5 ❑ 6 ❑
5. Sono turbato dal pensiero che in futuro non riuscirò a realizzare i miei obiettivi	0 ❑ 1 ❑ 2 ❑ 3 ❑ 4 ❑ 5 ❑ 6 ❑

JOURNAL OF PSYCHOPATHOLOGY 2022;28:94-112
DOI: 10.36148/2284-0249-456

Reliability of the "Parma Scale" for forensic psychiatric treatment evaluation: preliminary findings in a sample of prisoners with mental disorder

Lorenzo Pelizza[1], Davide Maestri[1], Cecilia Paraggio[1], Ilaria De Amicis[1], Elena Mammone[2], Melania Scarci[2], Emanuela Leuci[1], Giuseppina Paulillo[1], Pietro Pellegrini[1]

[1] Department of Mental Health and Pathological Addiction, Azienda USL di Parma, Parma, Italy; [2] Department of Humanities, Social Science and Cultural Industries, Università di Parma, Parma, Italy

SUMMARY

Objectives

Routine monitoring of treatment outcomes has been poorly implemented in Italian forensic psychiatric practice. This is also for lacking of reliable tools. Thus, the "Parma Scale" (Pr-Scale) was developed. The specific aim of this study was to examine the reliability of the Pr-Scale as preliminary investigation on its psychometric properties.

Methods

Test-retest and interrater reliability was assessed in a sample of prisoners with mental disorder using Intra-Class Correlation (ICC) and stability coefficients. Internal consistency for the Pr-Scale total score was also calculated using the Cronbach alpha statistic.

Results

Thirty male adult inmates with mental illness were recruited within the Parma Penitentiary Institute (PPI). Our results showed good to excellent interrater and test-retest reliability for the Pr-Scale scores, as well as an acceptable internal consistency for the Pr-Scale total score.

Conclusions

The findings of this study seem to support the administration of the Pr-Scale in forensic psychiatric settings as reliable tool for routine monitoring of treatment outcomes. However, future studies to carefully investigate other crucial psychometric properties of the Pr-Scale (e.g. concurrent validity, sensitivity to measure scores' longitudinal changes, predictive validity for recidivism risk) are needed.

Key words: reliability, forensic psychiatry, treatment evaluation, routine outcome monitoring, prison, Italy

Received: March 10, 2022
Accepted: April 19, 2022

Correspondence
Lorenzo Pelizza
Department of Mental Health and Pathological Addiction, Azienda USL di Parma, c/o Centro "Santi", via Vasari 13, 43100 Parma,Italy. Tel.: +39 0521 396502. Fax: +39 0521 293482.
E-mail: lorpelizza@ausl.pr.it

How to cite this article: Pelizza L, Maestri D, Paraggio C, et al. Reliability of the "Parma Scale" for forensic psychiatric treatment evaluation: preliminary findings in a sample of prisoners with mental disorder. Journal of Psychopathology 2022;28:94-112. https://doi.org/10.36148/2284-0249-456

Introduction

The Routine Outcome Monitoring (*ROM*) to longitudinally assess forensic psychiatric treatment and to help decision making for improving the quality of person-tailored interventions is still poorly implemented in Italy, despite the revolutionary 2015 reform that closed forensic psychiatric hospitals and simultaneously opened the "Residences for the Execution of Security Measures" (REMS) in the community [1]. Indeed, Italian forensic psychiatry had to deal with the persistence of practices and norms too centered on the "custodial culture", linked to places rather than to personalized mental healthcare pathways, trying hard to make the "social security" goal coexisting with the risk management (i.e. reoffending prevention) and the treatment goal (i.e. offender rehabilitation) [2]. Therefore, the question on

using specific evaluation tools to longitudinally monitor forensic treatment has continued to remain in the background [3], despite interesting experiences mediated by skills and approaches gained in the community psychiatry (e.g. individual empowerment, recovery-oriented treatments, personal health budget) [4-6] and supported by a growing attention to social issues and personal rights [7,8].

Assessment in Italian forensic psychiatry

Given the poor prediction ability and the limited scientific nature of evaluation instruments for "social dangerousness" [9], other interesting forensic conceptual frameworks (such as the *risk of recidivism* in crimes) have been recently introduced and increasingly used, with different assessment tools having developed over time (e.g. the "Psychopathy Checklist-Revised" [PCL-R] [10], the "Historical-Clinical-Risk Management-20, version 3" [HCR-20^{V3}] [11]). About this, an innovative theoretical construct in current forensic psychiatric rehabilitation is the *Risk Need Responsivity* (RNR) model [12], consisting of 3 basic therapeutic elements: (1) the "Risk" (hypothesizing that treatment frequency, intensity and duration should be adapted to the level of a patient's risk of recidivism), (2) the "Need" (supporting that intervention should focus on subject's "criminogenic needs" [especially on the reversible, dynamic ones]) and (3) the "Responsivity" (emphasizing the therapeutic alliance between patient and clinician. In accordance with this model, forensic psychiatric intervention and rehabilitation should be conceptualized as a phased process in which the risk of recidivism is first and foremost closely linked to the severity of specific dynamic risk factors that can be subject to treatment (e.g. impulsivity, hostility, psychopathological features, substance abuse, family, occupational and social support) [13].

Therefore, *treatment assessment* in forensic psychiatric practice should consider other crucial aspects in addition to psychopathology and public safety, such as humanitarian perspective (i.e. quality of life), life condition and rehabilitation techniques and concepts mediated by the community psychiatry (e.g. recovery active participation in treatment, individual empowerment) [14] both in the cognition phase of the trial and for the purpose of executing the sentence or security measures [15]. Furthermore, to be adequate, evaluation tools in forensic psychiatric practice should also have satisfactory psychometric properties (i.e. reliability and validity) and should be sufficiently sensitive and specific to longitudinally measure behavioral, clinical and functional changes [16]. However, very few assessment instruments have been developed to specifically examine the patient's treatment progress and the changeability of problematic and protective behaviors and skills [17]. In this respect, an interesting example of dynamic forensic psychiatric assessment tool is the "Instrument of Forensic Treatment Evaluation" (IFTE) [18], specifically developed to evaluate and longitudinally monitor skills and behaviors that, according to the RNR model, could be reduced or improved during treatment (e.g. protective factors [such as medication use and positive coping strategies], resocialization abilities). The approved Italian version of the IFTE is currently being translated by members of our research group and will be proposed as a ROM tool for measuring forensic treatment overtime.

Nevertheless, given the high specificity of the Italian forensic psychiatric framework and the fact that all the evaluation instruments currently used in Italian forensic practice were developed in different cultures and countries (often where forensic psychiatric hospitals are still active [such as the IFTE]), the aims of this study were: (1) to present an Italian assessment tool (i.e. the "Parma Scale" [*Pr-Scale*] [19]) for the treatment evaluation of forensic psychiatric patients, and (2) to examine its reliability in an Italian sample of prisoners with mental disorder. This scale was developed taking into account the specificity of Italian legal framework and for a quick and easy, but accurate application in different current forensic psychiatric settings, in which intervention and diagnosis should remain relationship-centered [2]. Furthermore, this instrument was designed focusing on patient's empowerment and for a dynamic assessment of treatment planning supported by hope and oriented towards a functional, personal and social recovery.

Methods

Participants

Participants were all male adult *prisoners with mental disorder* enrolled within the Parma Penitentiary Institute (PPI) between 1st June 2021 and 30th October 2021. All individuals were treated by PPI multidisciplinary mental healthcare team members of the Parma Department of Mental Health (DMH), in the Northern Italy. They gave their informed consent prior to their inclusion in the study. Local relevant ethical approval was obtained for the research (AVEN Ethics Committee protocol n. 67506/2020). Procedures and methods of this research also complied with the Code of Ethics of the World Medical Association (Declaration of Helsinki) for experiments including humans. The data that support the findings of this study are available on reasonable request from the corresponding author. The data are not publicly available due to privacy and/or ethical restrictions.

The PPI is a male adult prison in which inmates are not selectively placed due to them having specific psychiatric needs. PPI incarceration is based on geographical location of offence or because prisoners committed "mafia" crimes (i.e. the PPI also has maximum security

jail sections) [20]. Since 2019, similarly to psychiatric interventions usually provided in Italian community mental health services, the Parma DMH implemented person-tailored, recovery-oriented treatments for offenders with mental disorder specifically aimed at planning individualized therapeutic-rehabilitation programs elaborated by intramural mental healthcare team in close collaboration with prisoners, family members (where possible) and social and health services included in their belonging community [5].

For the specific purpose of this research, *inclusion criteria* were: (a) age ≥ 18 years and (b) to be a prisoner with mental disorder (as defined in the Diagnostic and Statistical Manual of mental disorders, 5th Edition [DSM-5]) [21] treated within the Parma DMH. *Exclusion criteria* were neurological disorders (e.g. dementia, severe head injury), known moderate/severe intellectual disability (Intelligence Quotient < 50) or any other medical disease inducing inability to express a valid consent for participating in the study.

The Pr-Scale

The Pr-Scale [19] was developed to longitudinally assess and monitor forensic psychiatric treatment progress in offenders with mental disorder treated in different clinical settings (i.e. jail, REMS, community home detention). This progress has been thought to be related to multiple external and internal variables, partly stable (historical) and unchangeable, partly changeable and also associated with social, family and healthcare systems. The instrument is made up of 20 items divided into three main domains: "Historical", "Clinical" and "Treatment Planning" (Appendix I). Indeed, the Pr-Scale longitudinal assessment should consider not only patients' features, their disorders and treatments, but also their rights and opportunities [2]. Pr-Scale items should also be filled out by members of the team of clinicians specifically involved in the patient's forensic psychiatric intervention.

The *Historical* domain includes 5 items concerning past antisocial behavior, current crime, past traumatic experiences and attachment disorders in childhood, past substance misuse and previous treatment failure. These items are usually considered as negative prognostic factors predicting poor long-term outcomes [22].

The *Clinical* domain is made up of 10 items, 5 evaluating clinical characteristics (i.e. cognitive deficit, psychotic symptoms, aggressive/disturbing behavior, presence of a personality disorder/current substance misuse, cognitive deficits, suicide risk) and 5 assessing personal resources (i.e. social skills/abilities in occupational and everyday life activities, coping strategies/motivation to change, awareness of illness and legal status, adaptability/adherence to the treatment program, adherence to drug therapy/therapeutic alliance) in the past month. Indeed, as persistence and severity of symptoms and their treatability are not often linearly associated with patient's functioning, but personal resources are also relevant (e.g. motivation to change, coping strategies, therapeutic alliance) [23], a careful longitudinal evaluation of forensic psychiatric interventions should be not only observational, but also relational [15]. This becomes still more evident in the treatment planning phase.

Finally, the *Treatment Planning* domain includes 5 items examining personal, social and family resources (i.e. social and family support, income, recovery-oriented intervention programs by DMH [such as personal health budget], accommodation and housing opportunity).

Each Pr-Scale item may be rated on a 5-point Likert scale with higher scores corresponding to a greater potential of treatability for prisoners with mental disorder. A total score may be calculated by summing all Pr-Scale item subscores, as well as the scores of the three Pr-Scale domains ("Historical", "Clinical" and "Treatment Planning") may be computed by adding all item subscores included in each dimension. In a cross-sectional assessment, these scores may help to define profiles of severity/feasibility (Appendix I) and the specific items or domains on which it could be urgent and useful to intervene for reinforcing patients' areas of greatest fragility, also in order to predict long-term outcomes (especially after conclusion of the forensic psychiatric treatment). Indeed, the Pr-Scale application should not identify patients with low potential of treatment success, but understand how and with which interventions increasing this poor potential. In a longitudinal evaluation perspective, the Pr-Scale was also designed to be sensitive in measuring behavioral, clinical and treatment planning changes overtime.

Procedures and statistical analysis

For all prisoners, the axis-I diagnosis was formulated in accordance with the DSM-5 criteria using the Structured Clinical Interview for DSM-5 disorders [24]. In this research, we specifically investigated interrater and short-term test-retest *reliability* of the Pr-Scale as preliminary examinations within a broader scale validation process to test its psychometric properties in an Italian sample of offenders with mental disorder in different forensic psychiatric settings besides prison. As additional reliability measure, internal consistency of the Pr-Scale was also examined.

Data were analyzed using the Statistical Package for Social Science (SPSS), version 15.0 for Windows [25]. Categorical parameters were reported as frequencies and percentages, while continuous variables as median and interquartile range. All tests were two-tailed, with significance level (α) set at 0.05.

For testing *interrater reliability*, four mental health professionals (2 psychiatrists and 2 clinical psychologists) of

the Parma DMH were initially trained on the usage of the Pr-Scale through collective supervision sessions by the main author of the instrument. Preliminary administration of the Pr-Scale was conducted before the study. Two of the four raters were then paired for each baseline interview, both simultaneously in the room with the patient. The raters were all members of the PPI team of clinicians involved in the prisoner's treatment. The interrater reliability assesses the agreement among various data collectors measuring the extent to which these raters assign the same score to the same variable. To examine interrater reliability of the Pr-Scale, we used the two-way, mixed effect model with measures of absolute agreement of Intra-Class Correlation (ICC) coefficients, which is commonly performed for ordinal and interval parameters [26]. In the present study, ICC values between 0.50 and 0.75 were considered as moderate agreement, ICCs between 0.76 and 0.90 as substantial agreement, and ICCs higher than 0.90 as almost perfect agreement [27].

The *short-term test-retest reliability* of the Pr-Scale was examined over a 1-week period calculating the coefficient of stability (s) [28] on the PPI total sample. This short-time interval was specifically selected to limit the potential negative impact of both memory effects and symptom changes [29]. In this research, test-retest stability coefficients were interpreted as follows: ≤ 0.50 = unacceptable reliability, 0.51-0.60 = poor reliability, 0.61-0.70 = questionable reliability, 0.71-0.80 = acceptable reliability, 0.81-0.90 = good reliability and > 0.90 = excellent reliability [30].

As additional measure of reliability, the *internal consistency* of the Pr-Scale total score was also calculated using the Cronbach's α statistics within the PPI total sample. In this study, we interpreted alpha values as follows: < 0.5 = unacceptable internal consistency, 0.51-0.60 = poor internal consistency, 0.61-0.70 = questionable internal consistency, 0.71-0.80 = acceptable internal consistency, 0.81-0.90 = good internal consistency and > 0.91 = excellent internal consistency [31].

Results

Thirty male adult PPI prisoners were enrolled in this study. Clinical and sociodemographic characteristics are shown in the Table I. The most frequent DSM-5 diagnoses in the total sample were major depressive disorder (n = 10 [33.3%]) and schizophrenia spectrum and other psychotic disorders (n = 8 [26.7%]).

The overall ICC coefficient for the Pr-scale was 0.963, indicating an excellent *interrater reliability*. Moreover, results of ICC coefficients for each item subscores and the three domain scores ranged from good to excellent, with the exception of item 8 ("Cognitive deficits") that showed an ICC value of 0.761, indicating an acceptable interrater reliability (Tab. II).

For calculating *test-retest reliability*, the Pr-Scale was re-administered in the PPI total sample after a 1-week follow-up period. The coefficient of stability for the Pr-Scale total score was 0.977, indicating an excellent short-term test-retest reliability. Moreover, s values for each item subscores and the three Pr-Scale domain scores were higher than 0.71, suggesting acceptable to excellent test-retest stability (Tab. III).

Finally, the Pr-Scale total score showed a Cronbach's α of 0.746, suggesting a sufficient *internal consistency*.

Discussion

The Pr-Scale was mainly developed to make Italian forensic psychiatric practice more accurate and as ROM tool to longitudinally evaluate treatment efficacy/appropriateness and to assist decision making for improving the quality of person-tailored interventions on

TABLE I. *Sociodemographic and clinical characteristics of the PPI total sample (n = 30).*

Variable	
Gender (male)	30 (100%)
Age at entry (in years)	41.00 (27.00-48.00)
Ethnic group (white Caucasian)	23 (76.7%)
Mother tongue (Italian)	21 (70%)
Education (in years)	12.00 (10.00-13.00)
Duration of illness (in months)	12.00 (6.00-24.00)
DSM-5 diagnosis	
Major depressive disorder	10(33.3%)
Schizophrenia spectrum and other psychotic disorders	8 (26.7%)
Severe borderline personality disorder	6 (20%)
Bipolar and related disorders	6 (20%)

PPI: Parma Penitentiary Institute; DSM-5: Diagnostic and statistical manual of mental disorders, 5th Ed. Frequencies (and percentages) and median (and interquartile range) are reported.

TABLE II. *Interrater reliability of the Pr-Scale in the PPI total sample (n = 30).*

Parma Scale items	ICC
Historical domain	0.979
Item 1 (Crime)	0.987
Item 2 (Previous antisocial behavior)	0.964
Item 3 (Previous substance misuse)	0.963
Item 4 (Previous traumatic experience/attachment disorder in childhood)	0.934
Item 5 (Previous treatment failure)	0.951
Clinical domain (last month)	0.976
Item 6 (Psychotic symptoms)	0.924
Item 7 (Personality disorder/current substance misuse)	0.883
Item 8 (Cognitive deficits)	0.762
Item 9 (Aggressive/disturbing behavior)	0.819
Item 10 (Suicide risk)	0.972
Item 11 (Coping strategies/motivation to change)	0.805
Item 12 (Social skills/ability in occupational and everyday life activities)	0.972
Item 13 (Adaptability/adherence to the treatment program)	0.899
Item 14 (Awareness of illness and legal status)	0.883
Item 15 (Adherence to drug therapy/therapeutic alliance)	0.952
Treatment planning domain	0.910
Item 16 (Family support)	0.965
Item 17 (Social support)	0.882
Item 18 (Economic resources)	0.951
Item 19 (Accommodation/housing opportunity)	0.851
Item 20 (Recovery-oriented intervention program by the DMH)	0.909

Pr-Scale: Parma Scale; PPI: Parma Penitentiary Institute; ICC: Intraclass Correlation Coefficient; DMH; Department of Mental Health

TABLE III. *Test-retest reliability of the Pr-Scale in the PPI total sample (n = 30).*

Parma Scale items	s
Historical domain	0.988
Item 1 (Crime)	0.980
Item 2 (Previous antisocial behavior)	0.972
Item 3 (Previous substance misuse)	0.983
Item 4 (Previous traumatic experience/attachment disorder in childhood)	0.941
Item 5 (Previous treatment failure)	0.912
Clinical domain (last month)	0.995
Item 6 (Psychotic symptoms)	0.893
Item 7 (Personality disorder/current substance misuse)	0.983
Item 8 (Cognitive deficits)	0.842
Item 9 (Aggressive/disturbing behavior)	0.997
Item 10 (Suicide risk)	0.957
Item 11 (Coping strategies/motivation to change)	0.756
Item 12 (Social skills/ability in occupational and everyday life activities)	0.987
Item 13 (Adaptability/adherence to the treatment program)	0.985
Item 14 (Awareness of illness and legal status)	0.961
Item 15 (Adherence to drug therapy/therapeutic alliance)	0.974
Treatment planning domain	0.981
Item 16 (Family support)	0.961
Item 17 (Social support)	0.932
Item 18 (Economic resources)	0.995
Item 19 (Accommodation/housing opportunity)	0.982
Item 20 (Recovery-oriented intervention program by the DMH)	0.988

Pr-Scale: Parma Scale; PPI: Parma Penitentiary Institute; s: coefficient of stability; DMH: Department of Mental Health

offenders with mental disorder. About this, the Pr-Scale was thought for a quick and easy application in different forensic psychiatric settings (i.e. REMS, jail and also for forensic psychiatric patients treated within person-tailored intervention programs in the community) [2]. The main aim of the present study was thus to investigate reliability of the Pr-Scale as preliminary examination of its psychometric properties.

Most of the findings of this research were very promising. The *interrater reliability* was good to excellent (with the exception of item 8 ["Cognitive deficits"]). This is in line with what was observed in the validation study of the IFTE in a clinical population of Dutch offenders with mental disorder treated in a maximum security forensic psychiatric hospital and admitted under a specific compulsory judicial measure [18]. These results suggest the potential, helpful application of the Pr-Scale in Italian forensic psychiatric settings as a ROM tool specifically designed on the Italian peculiar legal framework and within a community psychiatry culture still dominant in public mental healthcare services [15,33,34].

The short-term *test-retest reliability* values of the Pr-Scale were good to excellent, with the exception of item 11 ("Coping strategies/motivation to change"), showing a score of 0.756 (acceptable reliability). These results are also in line with those reported in the Dutch validation study of the IFTE [32]. Finally, the *internal consistency* of the Pr-Scale was overall good, with a Cronbach's α value higher than 0.70 for the total score.

Limitations

A first limitation of this study was associated with the sample composition, exclusively composed of male adult prisoners with mental disorder. Therefore, future research to replicate our promising results on female (or gender-mixed) populations and offenders recruited in different forensic psychiatric settings (such as REMS and community home detention) is needed.

A second weakness was the relative sample size. Therefore, further research on larger forensic psychiatric populations is needed.

Third, participants in this study were grouped together, although heterogeneity in DSM-5 diagnoses was high. Thus, future studies will be able to emphasize whether offenders with different mental disorder differ in psychometric properties of the Pr-Scale.

Finally, the Pr-Scale was administered at a single site. Although single site studies offer the advantage of a more easily controlling by the researcher, multi-site research to replicate our findings is needed.

Overall, these limitations are actually quite relevant and make the results of this research difficult to generalize. Therefore, it is necessary to point out that the Pr-Scale should be currently applicable only in psychiatric prison populations. Moreover, we also want to reiterate that the instrument was developed to mainly focus on care issues and has no purpose with respect to the evaluation of the possible social dangerousness.

Conclusions

The findings of this study showed good to excellent reliability values for the Pr-Scale. This instrument therefore appears to be an easy, quick and reliable tool for forensic psychiatric treatment evaluation in Italy. However, future research to investigate other crucial psychometric properties of the Pr-Scale (e.g. concurrent validity, sensitivity to measure scores' longitudinal changes) is also needed.

Acknowledgments

This research did not receive any specific grant from funding agencies in the public, commercial or not-for-profit sectors. The authors wish to thank all the participants recruited within the "Parma Penitentiary Institutes" (PPI).

Conflict of interest statement

The Authors declare no conflict of interest.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial or not-for-profit sectors.

Authors contributions

LP, GP and PP contributed to the conception and design of the study. DM, CP, IDA, EM and MS contributed to the data collection. LP contributed to the analysis and interpretation of the results. LP, EL, GP and PP contributed to the draft manuscript preparation. All Authors reviewed the results and approved the final version of the manuscript.

Ethical consideration

Local relevant ethical approval was obtained for the research (AVEN Ethics Committee protocol n. 67506/2020). Procedures and methods of this research also complied with the Code of Ethics of the World Medical Association (Declaration of Helsinki) for experiments including humans.

References

1 Ferracuti S, Pucci D, Trobia F, et al. Evolution of forensic psychiatry in Italy over the past 40 years (1978-2018). Int J Law Psychiatry 2019;62:45-49. https://doi.org/10.1016/j.ijlp.2018.10.003

2 Pellegrini P. Per una psichiatria senza ospedali psichiatrici giudiziari. Milano: FrancoAngeli 2016.

3 Pellegrini P, Paulillo G, Pellegrini C, et al. First data of survey on inpatients in REMS (Execution of Security Measures) at the time of COVID. Ital J Criminol 2020;4:295-299.

4 Paulillo G, Molinaro VI, Pellegrini P. The quality perceived by the patients of Casale di Mezzani REMS (PR). Ital J Criminol 2017;3:213-219.

5 Pelizza L, Leuci E, Landi G, et al. Personal Health Budget as a new rehabilitation model for severe mental illness within a caring community: an Italian evaluation study of beneficial effects. Aust N Z J Psychiatry 2021;55:602-612. https://doi.org/10.1177/0004867420968918

6 Ficarelli ML, Troisi E, Vignali E, et al. Implementing individual and placement support for patients with severe mental illness: findings from the real world. J Psychopathol 2021;27:71-80. https://doi.org/10.36148/2284-0249-346

7 Lombardi V, Veltri A, Montanelli C, et al. Sociodemographic, clinical and criminological characteristics of a sample of Italian Volterra REMS patients. Int J Law Psychiatry 2019;62:50-55. https://doi.org/10.1016/j.ijlp.2018.09.009

8 Pelizza L, Zambelli U, Rossi E, et al. Mental health interventions in an Italian prison: the Parma integrated approach. Int J Prisoner Health 2020;17:520-532.

9 Mandarelli G, Carabellese F, Felthous AR, et al. The factors associated with forensic psychiatrists' decisions in criminal responsibility and social dangerousness evaluations. Int J Law Psychiatry 2019;66:101503. https://doi.org/10.1016/j.ijlp.2019.101503

10 Hare RD, Clark D, Grann M, et al. Psychopathy and the predictive validity of the PCL-R: an international perspective. Behav Sci Law 2000;18:623-645. https://doi.org/10.1002/1099-0798(200010)

11 Douglas KS, Belfrage H. Interrater reliability and concurrent validity of the HCR-20 Version 3. Int J Forensic Ment Health 2014;13:130-139. https://doi.org/10.1080/14999013.2014.908429

12 Andrews DA, Bonta J, Wormith J. The risk-need-responsivity (RNR) model. Crim Justice Behav 2011;38:735-755. https://doi.org/10.1177/0093854811406356

13 Andrews DA, Guzzo L, Raynor P, et al. Are the major risk/need factors predictive of both female and male reoffending? A test with the eight domains of the Level of Service/Case Management Inventory. Int J Offender Ther Comp Criminol 2011;56:113-133. https://doi.org/10.1177/0306624X10395716

14 Pelizza L, Zaimovic A, Veneri B, et al. The Parma integrated model for intervention on pathological addictions in an Italian prison: process description and preliminary findings. Acta Biomed 2021;92:e2021223. https://doi.org/10.23750/abm.v92i3.10663

15 Pellegrini P. Liberarsi dalla necessità degli ospedali psichiatrici giudiziari: quasi un manuale. Merano, BZ: Alphabeta Verlag 2017.

16 Wooditch A, Tang LL, Taxman FS. Which criminogentic need changes are most important in promoting desistance from crime and substance use? Crim Justice Behav 2014;41:276-299. https://doi.org/10.1177/0093854813503543

17 van der Veeken FCA, Bogaerts S, Lucieer J. The Instrument for Forensic Treatment Evaluation: reliability, factorial structure and sensitivity to measure behavioral changes. J Forensic Psychol Res Pract 2018;18:229-253. https://doi.org/10.1080/24732850.2018.1468675

18 Schuringa E, Spreen M, Bogaerts S. Interrater and test-retest reliability, internal consistency and factorial structure of the Instrument for Forensic Treatment Evaluation. J Forensic Psychol Res Pract 2014;14:127-144. https://doi.org/10.1080/15228932.2014.897536

19 Pellegrini P, Paulillo G, Paraggio C, et al. Scala di Parma per la valutazione evolutiva del paziente psichiatrico autore di reato. Parma: Dipartimento Assistenziale Integrato Salute Mentale Dipendenze Patologiche, Ausl di Parma, 2020.

20 Pelizza L, Maestri D, Paulillo G, et al. Prevalence and appropriateness of antipsychotic prescribing in an Italian prison: is everything always really overprescribed? J Clin Psychopharmacol 2022;42:31-36. https://doi.org/10.1097/JCP.0000000000001495

21 American Psychiatric Association (APA). Diagnostic and statistical manual of mental disorders, 5th Ed. Arlington, VA: American Psychiatric Publishing 2013.

22 Bogaerts S, Spreen M, Ter Horst P, et al. Predictive validity of the HKT-R risk assessment tool: two and 5-year violent recidivism in a nationwide sample of dutch forensic psychiatric patients. Int J Offender Ther Comp Criminol 2018;62:2259-2270. https://doi.org/10.1177/0306624X17717128

23 Douglas KS. Version 3 of the Historical-Clinical-Risk Management-20 (HCR-20-V3): relevance to violence risk assessment and management in forensic conditional release contexts. Behav Sci Law 2014;32:557-576. https://doi.org/10.1002/bsl.2134

24 First MB, Williams JBW, Karg RS, et al. Structured Clinical Interview for DSM-5 disorders, clinician version (SCID-5-CV). Washington DC: APA Publishing 2016.

25 SPSS Inc. SPSS for Windows, version 15.0. Chicago, IL: SPSS Inc. Publishing 2010.

26 Hallgren MA. Computing interrater reliability for observational data: an overview and tutorial. Tutor Quant Methods Psychol 2012;8:23-34. https://doi.org/10.20982/tqmp.08.1.p023

27 Koo TK, Li MY. A guideline of selecting and reporting Intraclass Correlation Coefficients for reliability research. J Chiropr Med 2019;15:155-163. https://doi.org/10.1016/j.jcm.2016.02.012

28 Heise DR. Separating reliability and stability in test-retest correlation. Am Sociol Rev 1969;34:93-101. https://doi.org/10.2307/2092790

29 Scazza I, Pelizza L, Azzali S, et al. Reliability of the Italian version of the Brief (21-item) Prodromal Questionnaire (IPQ-B) for psychosis risk screening in a young help-seeking population. J Psychopathol 2018;24:204-214.

30 Azzali S, Pelizza L, Paterlini F, et al. Reliability of the Italian version of the 16-item Prodromal Questionnaire (iPQ-16) for psychosis risk screening in a young help-seeking community sample. J Psychopathol 2018;24:16-23.

31 De Vellis RF. Scale development: theory and applications, 2nd Ed. Thousand Oaks, CA: Sage Publications 2003.

32 Van der Veeken FCA, Bogaerts S, Lucieer J. Patient profiles in Dutch forensic psychiatry based on risk factors pathology and offense. Int J Offender Ther Comp Criminol 2017;61:1369-1391. https://doi.org/10.1177/0306624X15619636

33 Pelizza L, Leuci E, Landi G, et al. The "Personal Health Budget" intervention model in early psychosis: preliminary findings from the Parma experience. J Psychopathol 2020;26:209-217. https://doi.org/10.36148/2284-0249-359

34 Pelizza L, Ficarelli ML, Vignali E, et al. Implementation of individual placement and support in Italy: the Reggio Emilia experience. Community Ment Health J 2020;56:1128-1138. https://doi.org/10.1007/s10597-020-00603-w

Appendix I. The "Parma Scale" for forensic psychiatric treatment evaluation

Punteggi

A - AREA ANAMNESTICA

1. **Reato per il quale il paziente è attualmente in struttura/domicilio (carcere, REMS, ecc.) – sia questi in attesa di giudizio o con sentenza provvisoria o definitiva:**
   0. Omicidio
   1. Lesioni personali gravissime, violenza sessuale, rapina armata
   2. Maltrattamenti in famiglia, traffico di stupefacenti (se ripetuti)
   3. Furto, detenzione sostanze
   4. Reati bagatellari (es. oltraggio in corso di TSO, ecc.)

2. **Precedenti condotte di comportamento antisociale** (le informazioni possono essere raccolte direttamente dal paziente, dai familiari, dagli avvocati, dalle cartelle cliniche e/o dagli atti giudiziari):
   0. Omicidio.
   1. Lesioni personali gravissime, violenza sessuale, rapina armata, reati prima dei 10 anni.
   2. Maltrattamenti in famiglia, traffico di stupefacenti.
   3. Furto, detenzione di sostanze, reati bagatellari, oltraggio in corso di TSO, ecc.
   4. Nessuno.

3. **Uso di sostanze**
   4. Nessun problema particolare legato all'assunzione di alcol e/o di droghe, e/o ad altre dipendenze.
   3. Conseguenze psicologiche o sintomi di astinenza e/o di altro tipo, dovute al consumo di alcol o di droghe, notabili solo dagli operatori che conoscono meglio il pz.
   2. Conseguenze psicologiche o sintomi di astinenza e/o di altro tipo, evidenti a tutti gli operatori.
   1. Conseguenze psicologiche (ad esempio compulsione per la sostanza) o sintomi di astinenza gravi o invalidanti o difficili da controllare, ma non così gravi come nel punteggio 0.
   0. Dipendenza grave: la vita del paziente è completamente dominata dalle conseguenze del consumo precedente di alcol o di droghe e/o dalla bramosia per la sostanza.

4. **Precedenti esperienze traumatiche/instabilità nelle relazioni/disturbo della condotta nell'infanzia:**
   4. Nessuna evidenza di eventi traumatici.
   3. Lutti improvvisi e abbandoni in età adulta.
   2. Lutti improvvisi, abbandoni, trascuratezza nell'età evolutiva.
   1. Trascuratezze gravi, violenze fisiche, allontanamento dalla famiglia in età evolutiva.
   0. Gravissime violenze fisiche e sessuali.

5. **Precedenti insuccessi di progetti terapeutico-riabilitativi** (con recidiva di reato/violazione delle misure di sicurezza):
   4. Nessun insuccesso.
   3. N = 1 insuccesso, e/o recidiva di reato/violazione lieve.
   2. N = 2 insuccessi, di cui 1 non attribuibile solo al paziente, e/o recidiva di reato/violazione lieve.
   1. N = 3 insuccessi di progetti ritenuti adeguati, e/o recidiva di reato grave.
   0. Più di 4 insuccessi, recidiva di reato gravissimo.

B - AREA OSSERVAZIONE (periodo ultimo mese)

6. **Presenza di sintomi psicotici positivi**
   4. Nessuna evidenza di deliri o allucinazioni nel periodo di tempo considerato.
   3. Credenze lievemente eccentriche o bizzarre, al di fuori delle comuni convinzioni; il paziente ha visioni, ma

con modesto distress; manifesta comportamenti bizzarri solo per brevi periodi, che non sono conformi alle norme culturali del gruppo etnico in cui il paziente si riconosce.
2. Deliri e allucinazioni sicuramente presenti (ad es. sente voci clamorose).
1. Deliri e allucinazioni accompagnati da severo distress o angoscia, ma non per la maggior parte del tempo, e/o comportamenti evidentemente bizzarri prolungati e vistosi, ma non dannosi.
0. Il paziente è assorbito per la maggior parte del tempo in deliri e allucinazioni e/o ha comportamenti ispirati da deliri e allucinazioni che sono sicuramente dannosi per il paziente e/o per gli altri.

7. Presenza di disturbo della personalità/compulsione all'uso di sostanze

4. Nessun disturbo della personalità. Nessun problema particolare legato all'assunzione di alcol e/o di droghe, o ad altre dipendenze. Riesce a mantenere gli impegni e ad adattarsi alle regole.
3. Tratti di personalità patologici, ma clinicamente secondari. Scarsa compulsione al consumo di alcol o di droghe. Riesce ad adattarsi, anche se a volte è incostante.
2. Disturbo della personalità. Presenza di impulsività, instabilità dell'umore, difficoltà di adattamento alle regole, ma senza gravi violazioni sociali.
1. Grave disturbo della personalità. Presenza di compulsione per le sostanze, instabilità dell'umore, impulsività. In situazioni di stress, peggiorano i comportamenti impulsivi e rischiosi con possibile violazione delle regole sociali (specie in corso di abuso).
0. Gravissimo disturbo della personalità (es. antisociale, borderline, ecc.). Gravissima compulsione, instabilità dell'umore, impulsività. La vita del paziente è dominata dalla compulsione verso il consumo di alcol o di droghe. Ha stabilmente comportamenti discontrollati che mettono a rischio la sicurezza e la salute. Violazione grave e ripetuta delle regole sociali (anche al di fuori degli episodi di abuso).

8. Presenza di deficit cognitivi

4. Nessun problema cognitivo durante il periodo di tempo considerato. Intelligenza nella norma o superiore.
3. Problemi lievi di memoria (ad esempio, dimentica più frequentemente della norma i nomi) o di comprensione. Intelligenza nella norma
2. Problemi di memoria e di comprensione evidenti, ma non gravi come nei punteggi 0 e 1 (ad esempio, si è perso in una località nota o non ha riconosciuto occasionalmente una persona a lui familiare; oppure qualche volta appare perplesso di fronte a decisioni semplici). Intelligenza nella norma o ai limiti della norma.
1. Disorientamento marcato nel tempo, nello spazio e nel riconoscimento di persone, ma non così gravi come nel punteggio 0; appare perplesso di fronte a eventi di tutti i giorni; il discorso è talora slegato e frammentario; rallentamento del pensiero (basta la presenza di una sola di queste caratteristiche). Ritardo mentale lieve-medio.
0. Disorientamento o disorganizzazione del pensiero gravi (ad esempio, sistematicamente è incapace di riconoscere i parenti più stretti, confonde i momenti della giornata, non si ricorda di aver mangiato, i discorsi sono incomprensibili, obnubilamento grave dello stato di coscienza) (basta la presenza di una sola di queste caratteristiche). Ritardo mentale grave. Le problematiche di questo tipo sono tali da mettere il paziente a rischio di incidenti.

9. Presenza di comportamenti disturbanti e aggressivi

4. Assenza di problemi particolari durante il periodo di tempo considerato.
3. Irritabilità esagerata, litigiosità e/o irrequietezza, ma meno gravi che nei punteggi successivi; espressioni di minaccia non ripetute (al massimo 2), che non è probabile che portino all'agito aggressivo.
2. Espressioni di minaccia ripetute (gestuali e/o verbali); atti di molestia fisica ripetuti, che è molto improbabile che possano dare luogo a lesioni (ad esempio "prese" fisiche o spintoni); danni di modesta entità alle cose (ad esempio, rottura di suppellettili o di vetri); iperattività e agitazione evidenti e prolungate, ma non particolarmente disturbanti per familiari, conviventi e amici, e che il paziente riesce, almeno in parte, a controllare.
1. Uno o più attacchi fisici a persone o animali, tali da avere causato o potere causare traumi non gravi (cioè compatibili con pochi giorni di prognosi [non più di 5]); danneggiamento di cose più grave che al punteggio 2, ma non tali da mettere in pericolo l'incolumità di persone o animali; atti osceni ripetuti, non presenti però nella maggior parte dei giorni; iperattività evidentemente disturbante, non controllabile.
0. Uno o più attacchi fisici gravi a persone o animali; comportamenti evidentemente minacciosi o osceni presenti nella maggior parte dei giorni; atti evidentemente distruttivi e potenzialmente pericolosi per l'incolumità di persone e animali.

10. Rischio suicidario

4. Nessun problema di questo tipo durante il periodo di tempo considerato.
3. Rischio lieve. Pensieri passeggeri di farla finita, ma senza reale convinzione; pensieri anche protratti di procurarsi una lesione, ma nessun gesto autolesivo.
2. Rischio di modesta entità. Ha pensato più volte e/o a lungo a uccidersi, ma senza progettare in dettaglio il suicidio; ha compiuto gesti autolesivi non pericolosi e non menomanti (ad esempio, si è spento le sigarette sulle mani, si è fatto tagli superficiali ai polsi).
1. Rischio evidente. Ha progettato il suicidio in dettaglio; ha compiuto degli atti preparatori (ad esempio, ha accumulato pillole e/o ha commesso un tentativo di suicidio più grave di quello del punteggio 2, ma ancora con scarsa lesività e possibilità di riuscita).
0. Tentativo di suicidio serio, con pericolo evidente di riuscita; gesto autolesivo intenzionale grave con esito in menomazione o con evidente pericolo di menomazione o morte.

11. Utilizzo di strategie di coping/motivazione al cambiamento

4. È molto motivato al cambiamento; investe fortemente negli impegni formativi, lavorativi, nelle attività. Piena tenuta comportamentale. Si sente in colpa per quanto è accaduto ed è empatico.
3. È motivato al cambiamento; investe negli impegni; si controlla, ma con qualche problema di tenuta. Il senso di colpa è modesto, ma riconosce di avere provocato un danno e di doverne rispondere.
2. La motivazione al cambiamento è presente, ma instabile, e la tenuta comportamentale è appena sufficiente. Non ha senso di colpa, ma riconosce di avere provocato danni.
1. Scarsa motivazione al cambiamento; progetti molto vaghi e tenuta comportamentale inadeguata. Tende a dare la colpa agli altri per quanto accaduto e non considera il danno provocato.
0. Gravi problemi di tenuta comportamentale; nessuna motivazione al cambiamento. Nessun senso di colpa e nessun riconoscimento del danno. Indifferenza verso il benessere degli altri.

12. Abilità nelle attività di vita quotidiana/lavorative/nelle relazioni sociali

4. È molto abile, attivo e adeguato nelle attività della vita quotidiana; collabora positivamente alle attività. Può studiare o lavorare all’esterno (se autorizzato). Ottimo comportamento con gli altri.
3. È abile, motivato e partecipa alla vita quotidiana. Può lavorare all’esterno. Si controlla, ma necessita di qualche sostegno.
2. Collabora alle attività quotidiane in modo sufficiente, ma è instabile. Può lavorare o studiare solo con sostegni.
1. Scarsa collaborazione alle attività di vita quotidiana. Va costantemente sollecitato.
0. Gravi problemi di tenuta comportamentale; scarsissima o nessuna collaborazione alle attività quotidiane.

13. Capacità di adattamento, rispetto delle regole/adesione al programma di cura

4. Il paziente collabora bene con gli operatori e ha definito degli obiettivi personali (compreso quali interventi effettuare in caso di crisi). Piena comprensione e rispetto delle regole e/o delle misure di sicurezza.
3. Il paziente è capace di adattarsi; è dotato di insight e non pone particolari problemi di adesione al programma di cura e al rispetto delle misure di sicurezza e/o delle regole.
2. Qualche problema di rapporto con gli operatori, ma segue il programma in modo “passivo”.
1. Paziente molto richiestivo; maggiori difficoltà a collaborare e ad accettare le indicazioni e i consigli, e ad aderire al programma di cura. Scarsa comprensione delle regole e/o delle misure di sicurezza, che gli vanno ricordate per evitare la sua tendenza alle violazioni.
0. Richieste eccessive, atteggiamenti oppositivi, incoerenza nei comportamenti, tali da determinare quasi costantemente maggiori sforzi da parte degli operatori (e loro conseguente frustrazione). Totale incomprensione delle regole e/o delle misure di sicurezza, e possibili violazioni attive.

14. Consapevolezza di malattia e della propria condizione giuridica

4. Consapevolezza piena e ottima collaborazione.
3. Fornisce una spiegazione adeguata e ragionevole; mostra discreta collaborazione.
2. Fornisce spiegazioni instabili, a volte coerenti e a volte incoerenti; mostra sufficiente collaborazione.
1. Fornisce spiegazioni molto confuse, molto vaghe (es. “non so”).
0. Fornisce spiegazioni deliranti; nessuna consapevolezza di malattia e/o delle propria condizione giuridica.

15. Adesione alla terapia farmacologica/alleanza terapeutica

4. Ottima adesione alla terapia farmacologica, che assume spontaneamente e con consapevolezza del bisogno. È certa l'assunzione alla dimissione/termine del progetto terapeutico.
3. Assume regolarmente la terapia farmacologica con una buona collaborazione; è altamente probabile l'assunzione alla dimissione/termine del progetto terapeutico.
2. Accetta passivamente la terapia, senza particolari opposizioni, ma con modesta convinzione. È incerta l'assunzione alla dimissione/termine del progetto terapeutico.
1. Rifiuta passivamente la terapia farmacologica. La accetta solo in presenza di operatori e/o acconsente di praticare esclusivamente il farmaco long-acting. Una volta dimesso/terminato il progetto terapeutico, è altamente probabile la non assunzione delle cure.
0. Rifiuta attivamente la terapia farmacologica. Anche la somministrazione del farmaco long-acting risulta molto difficoltosa. Una volta dimesso/terminato il progetto terapeutico, non assumerà la cura.

C - AREA PROGETTUALITÀ

16. Presenza di una rete familiare adeguata (accertata anche attraverso colloqui con i familiari)

4. Tutti i familiari, di cui si è potuto accertare l'atteggiamento, guardano con favore alle dimissioni/termine del progetto terapeutico del paziente, anche nel lungo periodo. Possono essere presenti piccole preoccupazioni.
3. Tutti i familiari guardano con favore alle dimissioni/termine del progetto terapeutico, ma preferirebbero che avvenissero dopo diversi mesi.
2. Alcuni familiari sono ambivalenti o disinteressati.
1. Familiari molto preoccupati, allarmati dalla dimissione/termine del progetto terapeutico del paziente.
0. Familiari ostili e rifiutanti.

17. Presenza di una positiva rete sociale di supporto

4. La rete sociale è presente, ricca e guarda con favore alle dimissioni/termine del progetto terapeutico del paziente.
3. La rete sociale è presente, accetta le dimissioni/termine del progetto terapeutico, ma esprime timori comprensibili.
2. La rete sociale è appena sufficiente, ma debole e poco supportiva.
1. Rete sociale ambivalente o disinteressata o sfuggente, poco coinvolgibile; rete sociale scarsa o molto preoccupata, allarmata dalla dimissione/termine del progetto terapeutico del paziente.
0. Rete sociale assente, ostile, rifiutante, rivendicativa.

18. Presenza di risorse economiche (reddito, lavoro, ecc.)

4. Risorse economiche molto elevate e disponibili per i progetti del paziente.
3. Risorse economiche buone e disponibili.
2. Risorse economiche appena sufficienti; necessità di supporti pubblici.
1. Risorse economiche minime o sotto il minimo vitale, necessità di supporti pubblici straordinari e più continuativi.
0. Risorse economiche assenti.

19. Presenza di opportunità abitative (strutture socio-sanitarie, abitazione autonoma, rientro in famiglia)

4. Tutte le opportunità abitative sono presenti: alloggio proprio, in famiglia, strutture socio-sanitarie; la persona può scegliere.
3. Sono presenti almeno due diverse possibilità abitative.
2. È presente solo una possibilità abitativa.
1. È disponibile solo la possibilità abitativa in strutture socio-sanitarie.
0. Nessuna disponibilità abitativa.

20. Atteggiamento del Dipartimento di Salute mentale-Dipendenze Patologiche (DSM-DP). Possibilità di attivazione di un progetto personalizzato con Budget di Salute orientato alla recovery.

Punteggi

4. IL DSM-DP è presente e molto attivo. Tutte le componenti del Budget di Salute sono presenti (paziente, famiglia, rete sociale, volontariato, cooperazione, ente locale, ausl) ed è possibile un intervento su tutti gli assi funzionali (abitare, formazione/lavoro, socialità).
3. Il DSM-DP è collaborativo. Per il Budget di Salute sono presenti solo paziente, famiglia, ente locale e Ausl.
2. Il DSM-DP è presente, ma i progetti sono scarsamente realizzabili. I servizi sociali sono assenti. Sono presenti solo paziente, famiglia e Ausl.
1. Il DSM-DP è passivo e formula proposte poco realizzabili. Al momento il Budget di Salute non è disponibile, ma potrà esserlo in futuro.
0. Nessuna reale disponibilità del DSM-DP.

Scala di Parma per la valutazione evolutiva del paziente psichiatrico autore di reato.				
A - Area anamnestica				
1. Reato				
4	3	2	1	0
Molto lieve	Lieve	Moderato	Grave	Gravissimo
2. Precedenti condotte antisociali				
4	3	2	2	0
Assente	Lieve	Moderato	Grave	Gravissimo
3. Uso di sostanze				
4	3	2	1	0
Assente	Lieve	Moderato	Grave	Gravissimo
4. Precedenti esperienze traumatiche/instabilità nelle relazioni e/o disturbo della condotta nell’infanzia				
4	3	2	1	0
Assente	Lieve	Moderato	Grave	Gravissimo
5. Precedenti insuccessi di progetti terapeutico riabilitativi				
4	3	2	1	0
Assente	Lieve	Moderato	Grave	Gravissimo
B - Area osservazione				
6. Presenza di sintomi psicotici positivi				
4	3	2	1	0
Assente	Lieve	Moderato	Grave	Gravissimo
7. Presenza di disturbi gravi della personalità /compulsione all’uso di sostanze				
4	3	2	1	0
Assente	Lieve	Moderato	Grave	Gravissimo
8. Presenza di deficit cognitivi				
4	3	2	1	0
Assente	Lieve	Moderato	Grave	Gravissimo

9. Presenza di comportamenti disturbanti ed aggressivi				
4	3	2	1	0
Assente	Lieve	Moderato	Grave	Gravissimo
10. Rischio suicidario				
4	3	2	1	0
Assente	Lieve	Moderato	Elevato	Molto elevato
11. Utilizzo di strategie di coping/motivazione al cambiamento				
0	1	2	3	4
Assente	Lieve	Moderato	Elevato	Molto elevato
12. Abilità nelle attività di vita quotidiana/lavorative/nelle relazioni sociali				
0	1	2	3	4
Assente	Lieve	Moderato	Elevato	Molto elevato
13. capacità di adattamento, rispetto delle regole/adesione al programma di cura				
0	1	2	3	4
Assente	Lieve	Moderato	Elevato	Molto elevato
14. Consapevolezza di malattia e della propria situazione giuridica				
0	1	2	3	4
Assente	Lieve	Moderato	Elevato	Molto elevato
15. Adesione alla terapia farmacologica				
0	1	2	3	4
Assente	Lieve	Moderato	Elevato	Molto elevato
C - Area progettualità				
16. Presenza di una rete familiare adeguata				
0	1	2	3	4
Assente	Lieve	Moderato	Elevato	Molto elevato
17. Presenza di una rete sociale di supporto				
0	1	2	3	4
Assente	Lieve	Moderato	Elevato	Molto elevato
18. Presenza di risorse economiche/reddito/lavoro				
0	1	2	3	4
Assente	Lieve	Moderato	Elevato	Molto elevato
19. Presenza di opportunità abitative (strutture socio-sanitarie, abitazione autonoma, rientro in famiglia)				
0	1	2	3	4
Assente	Lieve	Moderato	Elevato	Molto elevato
20. Atteggiamento del DSMDP. Possibilità di attivazione di un progetto Personalizzato con Budget di Salute				
0	1	2	3	4
Assente	Lieve	Moderato	Elevato	Molto elevato

Area anamnestica (severità)	Area osservazione (severità)	Area progettualità (attuabilità)
0-5 molto grave	0-10 molto grave	0-5 molto bassa
6-10 grave	11-20 grave	6-10 bassa
11-15 moderata	21-30 moderata	11-15 buona
16-20 lieve	31-40 lieve	16-20 alta

Scores

A – Historical domain

1. **Crime** (for which the patient is currently in prison, psychiatric facility, judicial psychiatric hospital, at home, etc.); this includes people awaiting trial or provisionally or definitively sentenced:
   0. Murder.
   1. Very serious personal injury, sexual assault, armed robbery.
   2. Abuse in the family, drug trafficking (if repeated).
   3. Theft, possession of drugs.
   4. Minor crimes (e.g. insulting to a public official during a compulsory medical treatment, etc.).

2. **Previous antisocial behavior** (information can be collected from the patient, family members, lawyers, clinical charts and/or judicial acts)
   0. Murder.
   1. Very serious personal injury, sexual violence, armed robbery, crimes before the age of 10.
   2. Family abuse, drug trafficking
   3. Theft, possession of illegal drugs and/or minor crimes (e.g. insulting to a public official during a compulsory medical treatment, etc).
   4. None.

3. **Previous substance misuse**
   4. No relevant problems related to substance use or other pathological addiction.
   3. Psychological (e.g. craving) or withdrawal symptoms and/or other psychiatric symptoms due to the consumption of alcohol or illegal drugs, but exclusively reported by mental health professionals who knew the patient best.
   2. Psychological (e.g. craving) or withdrawal symptoms and/or other psychiatric symptoms reported by all mental health professionals.
   1. Psychological (e.g. craving) or withdrawal symptoms that were severe, disabling, or difficult to control, but not as serious as in the score 0.
   0. Severe addiction: the patient's life was completely dominated by previous alcohol or drug misuse, and/or craving.

4. **Previous traumatic experiences/attachment disorder in childhood**
   4. No evidence of traumatic experiences.
   3. Sudden bereavement and abandonment in adulthood.
   2. Sudden bereavement, abandonment, neglect in the developmental age.
   1. Serious neglect, physical violence, estrangement from the family in the developmental age.
   0. Very serious physical and sexual violence.

5. **Previous therapeutic-rehabilitation intervention failure** (with crime recidivism or violation of security measures)
   4. No failure.
   3. One failure and/or crime recidivism/slight violation of security measures.
   2. Two failures (of which one not exclusively attributable to the patient) and/or minor crime recidivism/slight violation of security measures.
   1. Three failures, of which one with a serious crime/repeated violation of security measures.
   0. More than three failures with a very serious crime/repeated violation of security measures.

B – Clinical domain (last month)

6. **Psychotic symptoms**
   4. No delusions or hallucinations.
   3. Slightly eccentric or bizarre beliefs (outside the common sense); the patient may experience visual halluci-

nations, but with a modest level of distress; the patient has bizarre behavior only for short time periods (this behavior does not conform to the cultural norms of the ethnic group to which the patient belongs).
2. Full-blown delusions and hallucinations, but experienced with mild distress.
1. Delusions and hallucinations with severe distress, but not for most of the time, and/or prolonged, striking, but not harmful bizarre behavior
0. The patient is absorbed most of the time in delusions and hallucinations and/or shows behaviors inspired by delusions and hallucinations that are potentially harmful for herself/himself and/or for other people.

7. Personality disorders/current substance misuse

4. No personality disorder. No problems related to current substance (alcohol and/or illegal drugs) misuse or other current pathological addiction. The patient is able to keep her/his commitments and obey the rules.
3. Pathological, but clinically secondary personality traits; low compulsion to alcohol or illegal drugs. The patient is able to obey, but sometimes she/he is hit and misses.
2. Moderate symptoms of personality disorder (e.g. impulsiveness, mood instability, difficulty in obeying the rules, but without serious social violations).
1. Severe symptoms of personality disorder: substance compulsion, severe impulsivity and mood instability. In stressful situations, impulsive and risky behaviors worsen with potential violation of social rules (especially during substance abuse).
0. Very serious symptoms of personality disorder: very severe compulsion, very severe mood instability, impulsiveness and/or aggressiveness. The patient's life is dominated by the substance compulsion. The patient often has unchecked behaviors that put her/his safety and health at risk. Serious and repeated violation of social rules (even outside the substance abuse).

8. Cognitive deficits

4. No cognitive deficits. Normal or higher intelligence.
3. Slight cognitive deficits, such as mild understanding or memory problems (e.g. the patient more frequently forgets the names). Intelligence within the normal range.
2. Obvious memory and understanding deficits, but not as severe as in the scores 0 and 1 (e.g. the patient is lost in a known location, or occasionally failed to recognize a family member, or sometimes is perplexed by simple decisions). Intelligence on the edge of the normal range.
1. Marked spatial-temporal disorientation and in the recognition of common people, but not as serious as in the score 0; the patient is perplexed by everyday events; her/his speech is sometimes unrelated and fragmentary; her/his thought is slow. Mild to medium mental retardation.
0. Serious spatial-temporal disorientation or thought disorganization (e.g. the patient is systematically unable to recognize family members and/or the times of the day; the patient does not remember having eaten; her/his speech is not clear, severe clouding of the stream of consciousness). These clinical characteristics potentially put the patient at risk of accidents.

9. Aggressive/disturbing behavior

4. No aggressive/disturbing behavior.
3. Higher irritability, litigiousness, and/or restlessness, but less severe than in the other scores; at least two expressions of threat that are not repeated and are not likely to lead to verbal or physical aggression.
2. Repeated (gestural and/or verbal) threatening expressions; repeated physical aggression without injury (e.g. physical “grabbing” or pushing); minor damage to property (e.g. breakage of furnishings or glass); prolonged hyperactivity and agitation, but not particularly disturbing for family members and friends, and which the patient is partially able to control.
1. One or more physical attacks on people and/or animals, such as to have caused or potentially cause minor trauma (e.g. with a mild prognosis [no more than 5 days]); damage to property more serious than at the score 2, but not such as to endanger the safety of people and/or animals; repeated obscene acts, but not present on most days; obviously disturbing and uncontrollable hyperactivity.
0. One or more severe physical attacks on people and/or animals; obviously threatening or obscene behavior present on most days; obviously destructive and potentially dangerous acts for the safety of people and/or animals.

10. Suicide risk

4. No suicide risk.
3. Minor risk. Passive thoughts of ending it all, but without real conviction; (even protracted) thoughts of injuring oneself, but no self-inflicted behavior.
2. Small risk. The patient thought several times and/or for a long time about killing herself/himself, but without a suicide planning; the patient made non-dangerous self-injurious behaviors (e.g. she/he put out cigarettes on her/his hands, she/he made superficial cuts to her/his wrists).
1. High risk. The patient planned the suicide in detail; she/he performed preparatory acts (e.g. she/he stored pills and/or committed a suicide attempt more serious than in the score 2, but still with little harm and chance of success).
0. Serious suicide attempt, with high chance of success; serious intentional self-harm with impairment or with high chance of impairment or death.

11. Coping strategies/motivation to change

4. The patient is very motivated to change; she/he invests heavily in training/work opportunities and activities. Adequate behavior. She/he feels guilty about what happened and is empathetic.
3. The patient is motivated to change and invests in her/his training/work commitments; she/he controls her/his behavior, but with some problems. Guilt is modest, but the patient is aware that she/he caused harm and that she/he must take responsibility for it.
2. Motivation is present, but unstable; behavior is poorly adequate. The patient has no guilt, but is aware that she/he caused a damage.
1. Low motivation to change; very vague life plans and inadequate behavior. The patient tends to blame others for what happened and does not consider the damage she/he caused.
0. Serious behavioral problems; no motivation to change. No sense of guilt and no awareness of crime responsability. Indifference towards others.

12. Social skills/ability in occupational and everyday life activities

4. The patient is very skilled, active and adequate in daily life activities; she/he can study or work (if authorized). Good behavior with others.
3. The patient is skilled, motivated and participates in daily life activities. She/he can work. She/he controls herself/himself, but with some external support.
2. The patient sufficiently cooperates in daily life activities, but is unstable. She/he can work or study only with supports.
1. Poor cooperation in daily life activities. She/he must be constantly supported.
0. Serious behavioral problems; very little or no collaboration.

13. Adaptability/adherence to the treatment program

4. The patient collaborates in the treatment program and defines personal goals (including crisis intervention). Full understanding and compliance with the rules and security measures.
3. The patient is able to adapt; she/he shows illness insight; no problems with adherence to treatment program and with compliance with the rules and security measures.
2. Some problems with adherence to the treatment plan; she/he passively follows the program.
1. Greater problems in collaborating and accepting clinical indications, as well as in adhering to the treatment program. Poor understanding of the rules and security measures, which must be often remembered to avoid her/his tendency to violate.
0. Oppositional attitudes; problematic behavior in adaptability and adhering to the treatment program, such as to almost constantly require greater efforts by mental health professionals. Total misunderstanding of the rules and security measures, and possible active violation.

14. Awareness of illness and legal status

4. Full awareness of illness and legal status, and optimal cooperation.
3. The patient provides an adequate and reasonable explanation of illness; she/he shows good cooperation.
2. The patient provides unstable (sometimes coherent and sometimes inconsistent) explanations of illness; she/he shows sufficient cooperation.

1. The patient gives very confusing, very vague explanations of illness (e.g. “I don't know”).
0. The patient provides delusional explanations of illness; no awareness of illness and legal status.

15. Adherence to drug therapy/therapeutic alliance

4. Optimal adherence with the drug therapy (the patient takes spontaneously the psychopharmacological therapy and with awareness of need). The treatment continuation after the discharge from the current forensic program is certain.
3. The patient regularly takes the drug therapy with good cooperation; the treatment continuation after the discharge is highly probable.
2. The patient passively accepts the therapy, without opposition, but with modest conviction. The treatment continuation after the discharge is uncertain.
1. The patient passively refuses the drug therapy. She/he takes therapy only in the presence of mental health professionals, and/or agrees to only practice the long-acting formulation. The treatment continuation after the discharged is poorly probable.
0. The patient actively refuses the drug therapy. The administration of the long-acting formulation is also very difficult. The treatment continuation after the discharge is not highly probable.

C – Treatment planning domain

16. Family support (also assessed through interviews with family members):

4. All family members look favorably on the patient's discharge/termination of her/his treatment program, even in the long term. Small concerns may be present.
3. All family members look favorably upon discharge/termination of the treatment program, but they would prefer it to take place after several months.
2. Some family members are ambivalent or disinterested.
1. The family members are very worried, alarmed by the patient's discharge/termination of the treatment program.
0. The family members are hostile and rejecting treatment discontinuation.

17. Social support

4. The social support is present, adequate and looks favorably on the discharge/termination of the patient's treatment program.
3. The social support is present, accepts the termination of the patient’s treatment program, but has understandable fears.
2. The social support is barely sufficient, but weak and not very supportive.
1. The social support is ambivalent or disinterested or elusive; it is very worried or alarmed by the patient's discharge/termination of the treatment program.
0. The social support is absent and hostile.

18. Economic resources

Score:

4. High economic resources available for the patient’s treatment program.
3. Good and available economic resources.
2. Barely sufficient economic resources; need for public economic support.
1. Minimal economic resources (also under the vital minimum), need for extraordinary public support.
0. Economic resources are absent.

19. Accomodation/housing opportunity

Score:

4. All housing opportunities are present: own accommodation, accomodation with family members, social and health facilities (the patient can choose).
3. There are at least two different housing opportunities.
2. There is only one accommodation opportunity.

1. Only the possibility of social or health facilities is available.
0. No housing opportunity.

20. Possibility of planning person-centered, recovery-oriented intervention programs by the Department of Mental Health (DMH) (e.g. Personal Health Budget).

Score:

4. The DMH is present and active. All components of the personal health budget are present (i.e. patient, family members, social support, volunteers, social service, local authority, local health services). It is possible to intervene on all axes of functioning (housing, training/work, sociality).
3. The DMH is collaborative. Only the patient, family members, social and health services are present for the personal health budget.
2. The DMH is present, but the treatment programs are scarcely feasible. Social services are absent. Only patient, family members and health services are present.
1. The DMH is passive and makes scarcely feasible treatment proposals. The personal health budget is not available at the moment, but may be in the future.
0. No real availability by the DMH.

The Parma Scale (Pr-Scale) – English version				
A - Historical domain				
1. Crime				
4	3	2	1	0
Very mild	Mild	Moderate	Severe	Extreme
2. Previous antisocial behavior				
4	3	2	2	0
Absent	Mild	Moderate	Severe	Extreme
3. Previous substance misuse				
4	3	2	1	0
Absent	Mild	Moderate	Severe	Extreme
4. Previous traumatic experience/attachment disorder in childhood				
4	3	2	1	0
Absent	Mild	Moderate	Severe	Extreme
5. Previous therapeutic-rehabilitation intervention failure				
4	3	2	1	0
Absent	Mild	Moderate	Severe	Extreme
B - Clinical domain				
6. Psychotic symptoms				
4	3	2	1	0
Absent	Mild	Moderate	Severe	Extreme
7. Personality disorder/current substance misuse				
4	3	2	1	0
Absent	Mild	Moderate	Severe	Extreme
8. Cognitive deficits				
4	3	2	1	0
Absent	Mild	Moderate	Severe	Extreme

9. Aggressive/disturbing behavior				
4	3	2	1	0
Absent	Mild	Moderate	Severe	Extreme
10. Suicide risk				
4	3	2	1	0
Absent	Mild	Moderate	Severe	Extreme
11. Coping strategies/motivation to change				
0	1	2	3	4
Absent	Mild	Moderate	High	Very high
12. Social skills/ability in occupational and everyday life activities				
0	1	2	3	4
Absent	Mild	Moderate	High	Very high
13. Adaptability/adherence to the treatment program				
0	1	2	3	4
Absent	Mild	Moderate	High	Very high
14. Awareness of illness and legal status				
0	1	2	3	4
Absent	Mild	Moderate	High	Very high
15. Adherence to drug therapy/therapeutic alliance				
0	1	2	3	4
Absent	Mild	Moderate	High	Very high
C - Treatment planning domain				
16. Family support				
0	1	2	3	4
Absent	Mild	Moderate	High	Very high
17. Social support				
0	1	2	3	4
Absent	Mild	Moderate	High	Very high
18. Economic resources				
0	1	2	3	4
Absent	Mild	Moderate	High	Very high
19. Accomodation/housing opportunity				
0	1	2	3	4
Absent	Mild	Moderate	High	Very high
20. Possibility of planning person-centered, recovery-oriented intervention programs by the Department of Mental Health (DMH) (e.g. Personal Health Budget)				
0	1	2	3	4
Absent	Mild	Moderate	High	Very high

Historical domain (severity)	Clinical domain (severity)	Treatment planning domain (feasibility)
0-5 very severe	0-10 very severe	0-5 very low
6-10 severe	11-20 severe	6-10 low
11-15 moderate	21-30 moderate	11-15 good
16-20 mild	31-40 mild	16-20 high