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Contents

Reshaping our meaning in life to cope with uncertainty

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"You do not have to suffer to learn. But, if you don't learn from suffering, over which you have no control, then your life becomes truly meaningless".
Viktor E. Frankl

Many authors have compared the times we are living in with *La Peste* by Albert Camus [1-3]. In his masterpiece, the French writer narrated the outbreak of a plague epidemic in the Algerian city of Oran and took it as an expedient to explore existential issues, such as death, love, sympathy, and hope [4]. Like *La Peste*, the COVID-19 pandemic has pushed human beings to reflect on their own lives. Many people have taken the forced isolation as an opportunity to reflect inward, explore their deepest fears and frustrations, and examine the uncountable challenges that this experience is posing and will eventually arise in the future. Like *La Peste*, COVID-19 has disclosed the fragility of human existence and the meaninglessness of materialistic belongings. Ultimately, it has compelled individuals to re-modulate their own existences.

We are now living in times of uncertainty: we are forced to live day by day with no possibility of long-term planning. Since the beginning of the pandemic, uncertainty and ambiguity have been pervasive and perceived at different levels: *individuals* are struggling between the human need of connecting to the other people and the peacefulness of isolation; *society* is discussing the apparent conflict between freedom and determinism; *politics* is continuously changing the rules according to the pandemic trends and the diffusion of new variants. Even *science* is uncertain. Indeed, we are still lacking a sophisticated understanding of the COVID-19 disease process as well as its longer-term outcomes, including quality of life, physical disability, and psychosocial morbidity [5,6].

The uncertainty of our times is impeding and undeniable. Although Zygmunt Bauman said that "Fear is the name we give to our uncertainty" [7], we could argue that uncertainty has a different denomination nowadays. In fact, fear is an emotional state that stems from situations of actual risk, where the causes of danger are clearly determined and perceived: fear of isolation, fear of contagion, fear of death. Nonetheless, our emotions are not always related to the tangible danger of the virus, but rather to the threatening atmosphere of uncertainty and ambiguity that is currently surrounding our existence. Our emotion is more like a sense of restlessness, a sort of inexplicable internal torment. Our emotion is not fear, but rather anxiety, anguish.

In the attempt of annihilating this feeling of anxiety, similar to the *La Peste* scenario, today we are seeing the *mise-en-scène* of the most disparate human types, with their most peculiar and profound traits. Some individuals deny the existence of the virus, others are completely devoted to the community. Some people undermine the severity of the situation in the

attempt of exorcising the menace, others take advantage of it to enrich themselves. The members of the antivaccine moment are themselves victims of a cognitive dissonance [8], that is the conflict between their strong beliefs and the negative feedbacks and criticisms received from the larger environment. This tension leads them to resolve their stress by sticking even more firmly to their value system and supporting public figures with the same ideas.

These sparse reactions and attitudes likely hide the innermost necessity to find a new meaning in life. Our horizonless present makes the existence of many of us frustratingly empty, pointless, and lacking meaning. However, it is important to remind that meaning in life represents a crucial mechanism of resilience and coping that helps safeguard individual psychological wellbeing within difficult times and stressful circumstances [9-11]. Meaning in life may offer a sense of fulfillment and purpose and can help an individual pursue and accomplish personally important goals [12]. In times of uncertainty, meaningfulness may enable individuals to draw strengths and insights from their experiences, gain perspectives, and provide a pathway towards a worthwhile and valuable life [13].

COVID-19 should be considered as a unique opportunity to reshape our meaning in life. Meaning in life may not only differ from one person to another but can be different at each period of an individual's life. In this sense, Viktor Frankl, Austrian psychiatrist and Holocaust survivor, best-known for his psychological memoir "Man's Search for Meaning" [14], may represent an example. Frankl claimed that, under any circumstances, people can consciously choose to act with dignity and responsibility. The alternative is to just fully embrace *La Peste*, the "absurdity" of life where everything happens with no explanations.

References

1 Franco-Paredes C. Albert Camus' the Plague revisited for COVID-19. Clin Infect Dis 2020;71:898-899. https://doi.org/10.1093/cid/ciaa454

2 Romero CP. A mirror in fiction: drawing parallelisms between Camus's La Peste and COVID-19. Medical Humanities 2021;47:e4-e4. https://doi.org/10.1136/medhum-2021-012156

3 Banerjee D, Rao TS, Kallivayalil RA, et al. Revisiting 'The Plague' by Camus: shaping the 'social absurdity'of the COVID-19 Pandemic. As J Psychiatry 2020;54:102291. https://doi.org/10.1016/j.ajp.2020.102291

4 Camus A. La Peste (The Plague). New York: Vintage 1947.

5 Lopez-Leon S, Wegman-Ostrosky T, Perelman C, et al. More than 50 Long-term effects of COVID-19: a systematic review and meta-analysis. medRxiv 2021;Jan 30:2021.01.27.21250617. https://doi.org/10.1101/2021.01.27.21250617 [Preprint]

6 Michelen M, Manoharan L, Elkheir N, et al. Characterising long COVID: a living systematic review. BMJ Global Health 2021;6:e005427. https://doi.org/10.1136/bmjgh-2021-005427

7 Bauman Z. Liquid fear: New York, NY: John Wiley & Sons 2013.

8 Prot S, Anderson CA. Science denial: psychological processes underlying denial of science-based medical practices. In: Lavorgna A, Di Ronco A, Eds. Medical misinformation and social harm in non-science-based health practices. A multidisciplinary Perspective. Milton Park, UK: Routledge 2019, pp. 24-37.

9 De Jong EM, Ziegler N, Schippers MC. From shattered goals to meaning in life: life crafting in times of the COVID-19 pandemic. Front Psychol 2020;Oct 15. https://doi.org/10.3389/fpsyg.2020.577708 [Epub Ahead of Print]

10 Schnell T, Krampe H. Meaning in life and self-control buffer stress in times of COVID-19: moderating and mediating effects with regard to mental distress. Front Psychiatry 2020;11:983. https://doi.org/10.3389/fpsyt.2020.582352

11 Humphrey A, Vari O. Meaning matters: self-perceived meaning in life, its predictors and psychological stressors associated with the COVID-19 pandemic. Behav Sci 2021;11:50. https://doi.org/10.3390/bs11040050

12 Battista J, Almond R. The development of meaning in life. Psychiatry 1973;36:409-427. https://doi.org/10.1080/00332747.1973.11023774

13 Wong PT. Positive psychology 2.0: towards a balanced interactive model of the good life. Canadian Psychology/Psychologie Canadienne 2011;52:69-81. https://doi.org/10.1037/a0022511

14 Frankl VE. Man's search for meaning. New York, NY: Simon and Schuster 1985.

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Original article

Predicting DSM-5 Section III personality disorders using MMPI-2-RF in an Iranian non-clinical sample

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SUMMARY

Objectives

The Diagnostic and Statistical Manual of Mental Disorders, fifth edition (DSM-5) Section III includes an alternative model for diagnosing six personality disorders (PDs) with evaluating functional impairment (Criterion A) as well as 25 maladaptive personality facets (Criterion B). The Personality Inventory for DSM-5 [1] was developed by the DSM-5 Personality and Personality Disorders workgroup to assess Criterion B of this new model. The aim of the current study was to examine the prediction DSM-5 Section III PD trait combinations using the Minnesota Multiphasic Personality Inventory-2-Restructured Form (MMPI-2-RF [2]); a frequently used measure of personality and psychopathology with a strong relation with contemporary models of personality.

Methods

The sample consisted of 536 (209 men, 327 women) individuals who were recruited through the general population in Iran.

Results

Hierarchical linear regression analyses indicated that the DSM-5 Section III PD trait combinations could be predicted using the MMPI-2-RF in an Iranian population, with several divergences.

Conclusions

As expected, the majority of hypothesized scales had the largest effect sizes in the prediction of Criterion B of DSM-5 Section III PDs. This finding has implications for assessing the alternative model for personality disorders (AMPD) using the MMPI-2-RF in this population.

Key words: DSM-5 Section III, MMPI-2-RF, personality disorders, maladaptive personality traits

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Predicting DSM-5 Section III personality disorders using MMPI-2-RF in an Iranian sample

The current categorical model for personality disorders (PDs) in the *Diagnostic and Statistical Manual of Mental Disorders, fifth edition (DSM-5* [3]*)*, includes 79 criteria for diagnosing 10 PDs. Though this model has persisted across versions of the DSM, the large number of diagnostic criteria and other underlying problems have restricted its clinical application [4,5]. For instance, in this traditional nosology, individuals who exhibit functional impairment but are below the diagnostic threshold of symptoms are either not classified by the Section II model or fall under the "catch-all" category of Unspecified Personality Disorder, which could be uninformative in developing treatment strategies in a clinical setting [6]. Similarly, several characteristics such as avoidance, perfectionism, and disrespect for

others are not well described by any of the diagnostic classes in the categorical model, highlighting a gap in the coverage of pathological personality as conceptualized by this model, which probably distort the results of research and also undermine effective diagnosis and therapeutic intervention [7]. When such problems are considered, the limitations of a categorical system of PD diagnosis becomes clear, leading some opponents of this model to disregard these PD diagnoses that might be helpful in a clinical setting [8].

To reduce the gap between assessment and intervention and provide conditions for more effective treatment based on individual pathological domains, the DSM-5 Personality and Personality Disorders workgroup proposed an alternative model of diagnosing six PDs (i.e., antisocial, avoidant, borderline, narcissistic, obsessive-compulsive [OCPD], and schizotypal). The crucial change in this revised system was emphasis on a dimensional approach for the assessment of symptoms [3]. This shift towards a dimensional model helps clinicians present therapeutic protocols based on a specific patient's current reality, rather than on a diagnosis created from aggregate patient experiences [9]. The new model was designed to assess impairment in personality functioning (Criterion A), and pathological personality traits (Criterion A). Criterion B of the alternative model comprises of twenty-five personality traits, which are classified into five broad pathological domains named Negative Affectivity, Detachment, Antagonism, Disinhibition, and Psychoticism. These domains strongly resemble the Five Factor Model (FFM [10]).

Despite maximal agreement in the utility of dimensional modeling, the model was relegated to DSM-5 Section III for future research [3]. Therefore, examining the associations of this model with other personality assessment measures may assist in moving towards us a more valid, useful, and replicable model. In this study, we examined the capacity of the Minnesota Multiphasic Personality Inventory-2-Restructured Form (MMPI-2-RF [2], one of the most frequently applied instruments, in predicting DSM-5 Section III traits PDs across an Iranian nonclinical sample. As the MMPI-2-RF provides useful information on mood, adjustment, and clinical problems [2,11], this study would provide an integrated view of PD assessment. More importantly, because of the hierarchical structure of MMPI-2-RF, which has focused on a dimensional approach in measuring psychopathology, this study would assist to better understand the validity of the alternative model of PDs. Furthermore, as noted, because of the cost-effectiveness and frequently usage of MMPI measures in various setting [12], knowing how the MMPI-2-RF assesses DM-5 Section III PDs would be valuable for the utility of the MMPI-2-RF as much as the utility of the AMPD. Of note, as we did not examine the criterion A of AMPD, this study did not cover all the issues of the new model; to evaluate the DSM-5 Section III PDs, we exclusively focused on pathological traits (Criterion B). This study is especially important in Iranian society, a country with a different cultural background from Western countries, which adheres to the collectivistic and Islamic values acquired from the early years through a socialization process [13]. The published researches on this area [14], showed the general continuity between Criterion B of DSM-5 Section III PDs and MMPI-2-RF scales. However, as the environmental factors might play an important role on presentation of a PD [15], more research is needed, particularly within a population that is drastically underrepresented in the literature. With this respect, we hypothesized that cultural context might also come into play such that the role of MMPI-2-RF scales would be influenced by sample characteristics. Furthermore, applying Persian version of MMPI-2-RF across Iranian culture would help increase clinical utility of this instrument in the assessing and diagnosing PDs, which is flexible with cultural variation.

Methods

Participants and procedure

The sample included of 724 individuals aged 18-55 who were selected by a quota sampling method from general population in Iran. The sample was recruited from four regions in Tehran including north, east, west, and south. 188 participants who had invalid profiles based on the guidelines provided in the MMPI-2-RF protocol (here defined by CNS ≥ 15, VRIN-r ≥ 80T, TRIN-r ≥ 80T, F-r ≥ 120T, Fp-r ≥ 100T; see [2]), were excluded from the study. To estimate possible bias related to excluding invalid data, we compared the valid and full sample in terms of demographic characteristics, indicated no significant differences in demographic variables between valid and full profiles. Of note, ethics committee approval was obtained before the study was undertaken.

Measure

MMPI-2-RF

The MMPI-2-RF [2] is a 338-item self-report inventory, which is answered in a true–false format. This inventory designed to measure nine validity scales, 3 Higher-Order (HO) scales, 9 Restructured Clinical (RC) scales, 23 Specific Problems (SP) scales, two Interest scales, and 5 Personality Psychopathology Five (PSY-5) scales. Participants were administered the Persian version of the MMPI-2-RF, which was provided by the permission of University of Minnesota Press. This version indicated acceptable psychometric properties in previous research [16]. In the current study, the mean of Cronbach's coefficients alpha were .79, .77, .64, and .71 for the HO,

RC, SP, and PSY-5 scales, respectively. Cronbach's alpha for MMPI-2-RF PDs scales ranging between .56 and .87 (average alpha = .72).

PID-5

The PID-5 [1] is a 220-item self-report inventory developed to assess the maladaptive personality facets of alternative model. Item responses are based on a 4-point Likert-type scale ranging from 0 (*Very False or Often False*) to 3 (*Very True or Often True*). It consists of 25 pathological personality traits and five domains. The acceptable psychometric properties for Persian version have been demonstrated in previous research [17]. Cronbach's alpha for the PID-5 domain scales were .64 (Detachment), .70 (Negative Affectivity), .75 (Antagonism), .74 (Disinhibition), and .81 (Psychoticism). The mean Cronbach's alpha for the 25 facets was .73. The *DSM-5* Section III PDs were calculated by aggregating the PID-5 facets suggested for each PD (see, e.g. [18]). Of note, under this evaluation strategy, only the traits of AMPD were considered for measuring PDs. For these scores, Cronbach's alpha ranging between .60 (OCPD) and .79 (antisocial and borderline PDs), with an average alpha of .71.

Data analysis

Pearson correlation analyses were conducted to examine the associations between MMPI-2-RF scales as well as MMPI-2-RF PDs scales with DSM-5 Section III PDs. As a small effect size was statistically significant in the current study, we focused on correlations of a moderate (r = l.30-.49l) or large ($r \geq$ l.50l) effect size as meaningful (see [19]).

We next used a series of hierarchical linear regression analyses to predict each of the six DSM-5 Section III PDs using MMPI-2-RF scales. As noted, the traits of DSM-5 Section III PDs were characterized through the PID-5 pathological personality trait combinations. Due to item overlap across levels of the MMPI-2-RF hierarchy, the HO, RC, SP, and PSY-5 scales were entered separately to the regression equations. The MMPI-2-RF scales were entered into the regression equations step by step; the hypothesized MMPI-2-RF scales with at least medium correlations (r ≥ l.30l) with DSM-5 Section III PD were entered in the first step. Of note, the hypothesized scales were selected based on the theoretical concept of DSM-5 Section III PDs constructs onto MMPI-2-RF scales, which has also been tested in recent research [14]. Our hypothesized MMPI-2-RF scales are listed in Table I. In the second step, we entered the non-hypothesized MMPI-2-RF scales with an association greater than ••.30l, to examine whether additional MMPI-2-RF scales would augment the prediction of DSM-5 Section III PDs.

TABLE I. *DSM-5 Section III personality disorders and hypothesized MMPI-2-RF scales associations.*

DSM-5 Section III personality disorders	MMPI-2-RF scales			
	HO scales	RC scales	SP scales	PSY-5
Antisocial	BXD	RC3, RC4, RC9	AGG, ANP, IPP (-), JCP, SHY (-), SUB	AGGR-r, DISC-r
Avoidant	EID	RCd, RC2, RC7	AXY, DSF, MLS, NFC, SAV, SFD, SHY, STW	INTR-r, NEGE-r
Borderline	BXD, EID, THD	RCd, RC2, RC4, RC7, RC9	ANP, AGG, AXY, COG, FML, HLP, SFD, STW, SUI	DISC-r, NEGE-r, PSYC-r
Narcissistic	BXD	RC4, RC9	ACT, AGG, IPP (-), NFC (-), SAV (-), SFD (-)	AGGR-r
Obsessive-compulsive	EID	RCd, RC2, RC4, RC7	COG, DSF, NFC, SAV, STW	NEGE-r
Schizotypal	EID, THD	RCd, RC2, RC6, RC8	COG, DSF, NUC, SAV	INTR-r, NEGE-r, PSYC-r

Abbreviations. HO: Higher Order; RC: Restructured Clinical; SP: Specific Problems; PSY-5: Personality Psychopathology Five; EID: Emotional/Internalizing Dysfunction; THD: Thought Dysfunction; BXD: Behavioral/Externalizing Dysfunction; RCd: Demoralization; RC2: Low Positive Emotions; RC3: Cynicism; RC4: Antisocial Behavior; RC6: Ideas of Persecution; RC7: Dysfunctional Negative Emotions; RC8: Aberrant Experiences; RC9: Hypomanic Activation; MLS: Malaise; NUC: Neurological Complaints; COG: Cognitive Complaints; SUI: Suicide/Death Ideation; HLP: Hopelessness/Helplessness; SFD: Self-Doubt; NFC: Inefficacy; STW: Stress/Worry; AXY: Anxiety; ANP: Anger Proneness; BRF: Behavior-Restricting Fears; JCP: Juvenile Conduct Problems; SUB: Substance Abuse; AGG: Aggression; ACT: Activation; FML: Family Problems; IPP: Interpersonal Passivity; SAV: Social Avoidance; SHY: Shyness; DSF: Disaffiliativeness; AGGR-r: Aggressiveness; PSYC-r: Psychoticism; DISC-r: Disconstraint; NEGE-r: Neuroticism/Negative Emotionality; INTR-r: Introversion/Low Positive Emotionality

Results

The final sample was composed of 536 participants, including 209 men and 327 women with a mean age of 34.19 years (SD = 9.78). 45.1% were single, 52.2% were married, and 2.6% were divorced. 12.9% had less than a diploma, 39.2% had a diploma, 26.5% had a bachelor's degree, 20.3% had a master's degree or higher, and 1.1% did not declare their degree.

Table II shows the correlations between DSM-5 Section III PDs with MMPI-2-RF scales. Although there were several non-hypothesized correlations, the hypothesized correlations generally showed the largest effect sizes. We also evaluated correlations between DSM-5 Section III PDs and MMPI-2-RF PDs scales. The findings indicated support for expected associations of MMPI-2-RF PDs scales with their respective DSM-5 Section III PDs. The exception to this pattern was the MMPI-2-RF OCPD scale that in addition to its respective DSM-5 Section III PDs, it unexpectedly associated with DSM-5 Section III avoidant and borderline PD with a large magnitude.

Consistent with correlation analyses, the hypothesized MMPI-2-RF scales generally contributed to the prediction of their Section III PD counterparts. However, some non-hypothesized MMPI-2-RF scales accounted for a unique amount of variance. These results are shown in Table III*.

Consistent with expectations, the majority of hypothesized MMPI-2-RF scales (BXD, RC9, RC4, IPP [low], JCP, AGG, SUB, ANP, DISC-r, and AGGR-r) contributed to the prediction of antisocial PD. In the second step, EID, THD, RCd, COG, ACT, FML, NEGE-r, and PSYC-r added to the prediction of this PD, albeit the hypothesized scales were generally the best predictors. For avoidant PD, except for SFD, the other hypothesized scales (EID, RCd, RC2, RC7, SAV, DSF, STW, AXY, NFC, MLS, SHY, NEGE-r, and INTR-r) were unique predictors, reflecting internalizing problems in this PD. In the second step, RC3, HLP, SUI, and PSYC-r also added to this prediction. For borderline PD, the majority of entered hypothesized scales (EID, BXD, THD, RCd, RC9, RC4, RC7, SFD, ANP, STW, SUI, COG, AGG, HLP, FML, NEGE-r, PSYC-r, and DISC-r) contributed meaningfully to this prediction. In the second step, ACT was added as a predictor of this PD. In the prediction of narcissistic PD, BXD, RC9, ACT, IPP (low), and AGGR-r were considered in the regression models due to their meaningful effect sizes. Among these meaningful scales, the RC9 was the best predictor, which accounted for 37% of the variance in this PD. The second steps of regression equations showed that THD, RC6, PSYC-r, and DISC-r emerged as significant contributors. In terms of OCPD, in the first steps of regression equations, a series of hypothesized scales (EID, RC7, RCd, DSF, STW, NFC, and NEGE-r) contributed to the prediction of this PD. In the second step, THD, RC8, RC3, RC6, FML, and PSYC-r emerged incrementally as a significant predictor. Finally, for Schizotypal PD, the first step of regression models indicated THD, EID, RC8, RCd, RC6, DSF, COG, PSYC-r, and NEGE-r accounted for variance. In the second step, BXD, RC3, RC4, ACT, SHY, SUI, FML, and DISC-r predicted this PD, albeit with generally smaller effect sizes than hypothesized scales.

Discussion

In the current study, we first aimed to examine the associations between DSM-5 Section III PDs and MMPI-2-RF scales. The findings showed evidence for predicting traits of DSM-5 Section III using the majority of hypothesized scales. We then examined the association between MMPI-2-RF PDs scales and DSM-5 Section III PDs, indicating although the expected correlations were generally meaningful with a strongest effect size, MMPI-2-RF OCPD scale was not met this pattern. This finding is consistent with Sellbom, Waugh [20] research, and may be due to that fact that items with negative emotionality content are considered as a crucial criterion for measuring MMPI-2-RF OCPD scale. Indeed, because negative emotionality is considered a prominent trait across several PDs, the large correlations of this MMPI-2-RF PD scale with other PDs (i.e., avoidant and borderline PDs) may be due to the content similarity. However, it must be emphasized that the expected correlations for the rest of five MMPI-2-RF PDs scales could still reflect the capacity of the MMPI-2-RF for direct assessment of DSM-5 Section III PDs.

As explained, the majority of hypothesized scales had the largest effect sizes in the prediction of Criterion B of DSM-5 Section III PDs. Our findings were generally consistent with previous research [21], with some exceptions. For instance, narcissistic PD had meaningful associations with MMPI-2-RF externalizing scales. These results support traits of narcissistic PD in the alternative model. However, a series MMPI-2-RF scales which referred to thought problems also emerged, probably reflecting preoccupation with fantasies of unlimited success which clearly differ from regular thinking. Another possible explanation could be that thought problems is not considered as psychotic and pseudo-psychotic symptoms exclusively, and it would be also reflected having much different thoughts and beliefs from the rest of people in society, which clearly contradict the culture.

* To present more clarity findings, we exclusively mentioned those non-hypothesized scales which significantly contributed to the prediction of PDs in the table. Full data are available on request from the authors.

TABLE II. *Pearson correlations between DSM-5 Section III PDs and MMPI-2-RF scales.*

MMPI-2-RF Scales	ASPD	APD	BPD	NPD	OCPD	STPD
HO scales						
EID	.35	**.72**	**.69**	.13	.38	.42
THD	.41	.29	.46	.37	.42	**.61**
BXD	**.64**	.17	.48	.36	.20	.43
RC scales						
RCd	.41	**.68**	**.73**	.20	.43	.48
RC1	.22	.34	.41	.08	.19	.30
RC2	-.06	.49	.20	-.24	.06	.06
RC3	.44	.47	**.52**	.36	.43	**.53**
RC4	**.55**	.25	.47	.27	.21	.40
RC6	.43	.33	.47	.37	.39	**.58**
RC7	.41	**.60**	**.68**	.31	.47	**.50**
RC8	.41	.26	.46	.35	.43	**.62**
RC9	**.59**	.20	**.53**	**.50**	.34	**.50**
SP scales						
MLS	.25	**.50**	.48	.05	.22	.25
GIC	.08	.20	.22	.01	.12	.16
HPC	.17	.22	.31	.05	.12	.20
NUC	.29	.30	.39	.12	.20	.33
COG	.39	.46	**.56**	.14	.29+	.44
SUI	.24	.40	.45	.06	.25	.32
HLP	.28	**.54**	**.56**	.13	.32	.33
SFD	.25	**.50**	**.58**	.10	.27	.31
NFC	.28	**.52**	**.51**	.18	.40	.38
STW	.38	**.54**	**.61**	.28	.36	.37
AXY	.20	**.42**	.46	.16	.29	.32
ANP	.43	.35	**.57**	.27	.21	.28
BRF	.08	.26	.32	.15	.21	.22
MSF	-.05	.17	.16	.01	.04	.01
JCP	.41	.08	.28	.18	.08	.26
SUB	.31	.08	.18	.06	.06	.15
AGG	.45	.29	**.47**	.26	.25	.35
ACT	.34	.07	.36	.36	.24	.40
FML	.38	.42	**.55**	.27	.34	.42
IPP	-.31	.05	-.12	-.32	-.20	-.19
SAV	.02	.40	.04	-.07	.14	.16
SHY	.19	**.50**	.39	.15	.33	.34
DSF	.24	.47	.24	.11	.39	.38
PSY-5 scales						
AGGR-r	.44	.00	.22	.37	.20	.27

TABLE II. *continue*

MMPI-2-RF Scales	ASPD	APD	BPD	NPD	OCPD	STPD
PSYC-r	.39	.33	.46	.37	.44	**.63**
DISC-r	**.59**	.10	.39	.32	.17	.40
NEGE-r	.37	**.56**	**.67**	.29	.38	.40
INTR-r	-.11	.39	.00	-.27	.04	.00
MMPI-2-RF PDs scales						
Antisocial	**.68**	.26	**.54**	.37	.28	.49
Avoidant	.21	**.59**	.44	.13	.32	.35
Borderline	.49	**.61**	**.77**	.28	.40	**.50**
Narcissistic	.29	-.04	.04	.41	.23	.23
Obsessive-compulsive	.30	**.50**	**.54**	.26	**.51**	.45
Schizotypal	.44	.39	.53	.34	.46	**.67**

Abbreviations. Underlined correlations are of moderate effect sizes; bolded correlations are of large effect sizes; ASPD: Antisocial Personality Disorder; APD: Avoidant Personality Disorder; BPD: Borderline Personality Disorder; NPD: Narcissistic Personality Disorder; STPD: Schizotypal Personality Disorder; EID: Internalizing Dysfunction; THD: Thought Dysfunction; BXD: Externalizing Dysfunction; RCd: Demoralization; RC1: Somatic Complaints; RC2: Low Positive Emotions; RC3: Cynicism; RC4: Antisocial Behavior; RC6: Ideas of Persecution; RC7: Dysfunctional Negative Emotions; RC8: Aberrant Experiences; RC9: Hypomanic Activation; MLS: Malaise; GIC: Gastrointestinal Complaints; HPC: Head Pain Complaints; NUC: Neurological Complaints; COG: Cognitive Complaints; SUI: Suicide/Death Ideation; HLP: Hopelessness/Helplessness; SFD: Self-Doubt; NFC: Inefficacy; STW: Stress/Worry; AXY: Anxiety; ANP: Anger Proneness; BRF: Behavior-Restricting Fears; MSF: Multiple Specific Fears; JCP: Juvenile Conduct Problems; SUB: Substance Abuse; AGG: Aggression; ACT: Activation; FML: Family Problems; IPP: Interpersonal Passivity; SAV: Social Avoidance; SHY: Shyness; DSF: Disaffiliativeness; AGGR-r: Aggressiveness; PSYC-r: Psychoticism; DISC-r: Disconstraint; NEGE-r: Neuroticism/Negative Emotionality; INTR-r: Introversion/Low Positive Emotionality.

With this regard, the individuals with the traits such as grandiosity and attention seeking would be labeled as unusual by Iranian people in which the attributes such as modesty, benevolence, and selfless are highly valued. For OCPD, a range of hypothesized scales, which generally included MMPI-2-RF Internalizing scales, appeared as significant predictors. Surprisingly, a series of MMPI-2-RF thought problems scales were incrementally predictive of traits of DSM-5 Section III OCPD, as well. Similar to grandiosity, rigid perfectionism and exclusion of friendships and leisure because of overworking are not particularly preferred in the collectivist culture of Iranians, and thus, could all result in increasing elevations on thought problems scales. We should also note that these results were contrary to studies in which DSM-5 Section II OCPD was assessed through MMPI-2-RF scales [14,21]. An explanation for the differences in outputs could be a fundamental difference between DSM-5 Section II and Section III in the conceptualization of OCPD. According to meta-analytic research [5,22], the empirical support for predicting role of PID-5 Intimacy Avoidance and Restricted Affectivity facets on DSM-5 Section II OCPD were not found. Hence, a closer examination requires the presentation of pathological traits consistent with this PD.

For schizotypal PD, a series of hypothesized and non-hypothesized scales emerged as significant predictors. The results may be due to the heterogeneous nature of schizotypal personality traits; schizotypal PD traits are clustered into PID-5 Psychoticism (Eccentricity, Perceptual Dysregulation, and Unusual Beliefs & Experiences) and Detachment (Suspiciousness, Restricted Affectivity, and Withdrawal) domains [3], which could result in the wide range of MMPI-2-RF associations with thought and internalizing nature. Of note, some of predictors referred to externalizing problems, albeit with a smaller effect size. We should note that among the meaningful predictors, a set of thought problems scales had considerable elevations, reflecting the core features of this PD. In terms of antisocial PD, a range of MMPI-2-RF externalizing, thought, and internalizing scales were significant predictors of this PD, though MMPI-2-RF scales with an externalizing nature had the largest correlations with traits of DSM-5 Section III antisocial PD. Likewise, Borderline PD was predicted by the majority of hypothesized MMPI-2-RF scales, located in all three general structures of psychopathology (internalizing, thought, and externalizing dysfunctions), with internalizing scales contributing the largest amount of variance. Based on the viewpoint of some theoreticians such as Kernberg [23], all three of antisocial, borderline, and schizotypal PDs are considered as more severe mental disorders, accompanied by a large number of psychological problems, compared to less severe PD (i.e., OCPD) [24]. Hence, the presence of a diverse number of predictive scales could be due a very high severity of these PDs. It should be underlined that

TABLE III. *Hierarchical regression analyses predicting DSM-5 Section III PDs using MMPI-2-RF scales.*

p	Beta	p	Adjusted R^2	Variables entered	Steps
					Antisocial PD
					HO scales
		p < .001	.41		1
p < .001	.54			BXD	
		p < .001	.47		2
p < .001	.19			EID	
p < .001	.15			THD	
					RC scales
		p < .001	.46		1
p < .001	.38			RC9	
p < .001	.30			RC4	
.613	.02			RC3	
		p < .001	.48		2
p < .001	.19			RCd	
					SP scales
		p < .001	.37		1
p < .001	-.20			IPP	
p < .001	.20			JCP	
p < .001	.13			SUB	
.003	.13			ANP	
.003	.12			AGG	
		p < .001	.43		2
p < .001	.21			COG	
.028	.09			FML	
.035	.08			ACT	
					PSY-5 scales
		p < .001	.39		1
p < .001	.45			DISC-r	
p < .001	.17			AGGR-r	
		p < .001	.46		2
p < .001	.21			NEGE-r	
.005	.11			PSYC-r	
					Avoidant PD
					HO scales
		p < .001	.51		1
p < .001	.72			EID	
					RC scales
		p < .001	.54		1
p < .001	.34			RC2	

TABLE III. *continue*

p	Beta	p	Adjusted R^2	Variables entered	Steps
p < .001	.26			RCd	
p < .001	.21			RC7	
		p < .001	.57		2
p < .001	.19			RC3	
					SP scales
		p < .001	.59		1
p < .001	.23			SAV	
p < .001	.19			DSF	
p < .001	.15			STW	
p < .001	.13			NFC	
p < .001	.12			AXY	
p < .001	.12			MLS	
.006	.10			SHY	
.416	.03			SFD	
		.002	.61		2
p < .001	.12			HLP	
.003	.09			SUI	
					PSY-5 scales
		p < .001	.47		1
p < .001	.48			NEGE-r	
p < .001	.43			INTR-r	
		p < .001	.50		2
p < .001	.19			PSYC-r	
					Borderline PD
					HO scales
		p < .001	.62		1
p < .001	.58			EID	
p < .001	.29			BXD	
p < .001	.17			THD	
					RC scales
		p < .001	.64		1
p < .001	.50			RCd	
p < .001	.21			RC9	
p < .001	.12			RC4	
.029	.10			RC7	
No significant predictor					
					SP scales
		p < .001	.62		1
p < .001	.16			SFD	
p < .001	.16			ANP	

TABLE III. *continue*

p	Beta	p	Adjusted R^2	Variables entered	Steps
p < .001	.14			SUI	
p < .001	.13			COG	
.002	.13			STW	
.008	.09			AGG	
.005	.10			HLP	
.021	.08			FML	
.372	.03			AXY	
		.018	.63		2
p < .001	.12			ACT	
					PSY-5 scales
		p < .001	.53		1
p < .001	.56			NEGE-r	
p < .001	.25			DISC-r	
p < .001	.13			PSYC-r	
					Narcissistic PD
					HO scales
		p < .001	.13		1
p < .001	.25			BXD	
		p < .001	.19		2
p < .001	.28			THD	
					RC scales
		p < .001	.25		1
p < .001	.37			RC9	
		.002	.27		2
.010	.12			RC6	
					SP scales
		p < .001	.18		1
p < .001	.30			ACT	
p < .001	-.24			IPP	
					PSY-5 scales
		p < .001	.13		1
p < .001	.21			AGGR-r	
		p < .001	.22		2
p < .001	.25			PSYC-r	
p < .001	.16			DISC-r	
					OCPD
					HO scales
		p < .001	.14		1
p < .001	.28			EID	
		p < .001	.24		2
p < .001	.33			THD	

TABLE III. *continue*

p	Beta	p	Adjusted R^2	Variables entered	Steps
					RC scales
		p < .001	.23		1
.019	.15			RC7	
.025	.13			RCd	
		p < .001	.30		2
p < .001	.19			RC8	
p < .001	.16			RC3	
.047	.09			RC6	
					SP scales
		p < .001	.27		1
p < .001	.27			DSF	
p < .001	.17			NFC	
.015	.11			STW	
		.082	.28		2
.011	.11			FML	
					PSY-5 scales
		p < .001	.15		1
p < .001	.23			NEGE-r	
		p < .001	.23		2
p < .001	.33			PSYC-r	
					Schizotypal PD
					HO scales
		p < .001	.43		1
p < .001	.46			THD	
p < .001	.23			EID	
		p < .001	.46		2
p < .001	.20			BXD	
					RC scales
		p < .001	.50		1
p < .001	.36			RC8	
p < .001	.21			RCd	
p < .001	.18			RC6	
		.003	.52		2
p < .001	.15			RC3	
.034	.07			RC4	
					SP scales
		p < .001	.30		1
p < .001	.23			DSF	
p < .001	.16			COG	
.231	.05			NUC	
		p < .001	.41		2

TABLE III. *continue*

p	Beta	p	Adjusted R^2	Variables entered	Steps
p < .001	.25			ACT	
p < .001	.14			SHY	
.003	.12			SUI	
.006	.12			FML	
					PSY-5 scales
		p < .001	.41		1
p < .001	.50			PSYC-r	
p < .001	.13			NEGE-r	
		p < .001	.46		2
p < .001	.24			DISC-r	

Abbreviations. EID: Internalizing Dysfunction; THD: Thought Dysfunction; BXD: Externalizing Dysfunction; RCd: Demoralization; RC2: Low Positive Emotions; RC3: Cynicism; RC4: Antisocial Behavior; RC6: Ideas of Persecution; RC7: Dysfunctional Negative Emotions; RC8: Aberrant Experiences; RC9: Hypomanic Activation; MLS: Malaise; NUC: Neurological Complaints; COG: Cognitive Complaints; SUI: Suicide/Death Ideation; HLP: Hopelessness/Helplessness; SFD: Self-Doubt; NFC: Inefficacy; STW: Stress/Worry; AXY: Anxiety; ANP: Anger Proneness; JCP: Juvenile Conduct Problems; SUB: Substance Abuse; AGG: Aggression; ACT: Activation; FML: Family Problems; IPP: Interpersonal Passivity; SAV: Social Avoidance; SHY: Shyness; DSF: Disaffiliativeness; AGGR-r: Aggressiveness; PSYC-r: Psychoticism; DISC-r: Disconstraint; NEGE-r: Neuroticism/Negative Emotionality; INTR-r: Introversion/Low Positive Emotionality.

these severe PDs could be differentiated from each other based on diminished and elevated levels across MMPI-2-RF scales; for instance, as noted earlier, schizotypal PD showed the strongest associations with MMPI-2-RF thought dysfunction scales, whereas borderline and antisocial PDs had their highest correlations with a set of internalizing and externalizing scales, respectively.

As with all studies, this study is not without limitations. The most notable limitation is that we only focused on Criterion B of APMD for assessment of DSM-5 Section III PDs, and did not examine functional impairments, which were known as Criterion A. Thus, for more comprehensive analysis, the functional impairments should be examined in future research. Another limitation was that we used a non-clinical sample, which it would some way restrict generalization of the findings to a clinical setting. In the light of these limitations, our work adds to a growing literature showing the predicting role of MMPI-2-RF scales in Criterion B of DSM-5 Section III PDs in this Middle-East sample. The results could support the potential utility of MMPI-2-RF in measuring DSM-5 Section III PDs.

Conflict of interest statement

The Authors declare no conflict of interest.

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Authors' contributions

Conceptualization Ideas: JLA
Methodology: JLA, ZGF
Software: ZGF
Validation: ZGF
Formal analysis: ZGF, JLA
Investigation: ZGF, JLA, AP
Writing-original draft: ZGF
Writing-review & editing: JLA
Supervision: ZGF, AM, SS
Project administration: ZGF

Ethical consideration

The University of Social Welfare and Rehabilitation Sciences in Tehran, Iran, approved the research, with the approval number of IR.USWR.REC.1396.320.

All procedures performed in our studies which involved human participants were in accordance with the ethical standards of the institution and/or the national research committee. This article does not contain any studies with animals performed by any of the authors. Author identifying information on the title page that is separate from the manuscript.

References

1 Krueger RF, Derringer J, Markon KE, et al. Initial construction of a maladaptive personality trait model and inventory for DSM-5. Psychological Med 2012;42:1879-1890. https://doi.org/10.1017/S0033291711002674

2 Ben-Porath YS, Tellegen A. Minnesota multiphasic personality inventory-2 restructured form: manual for administration, scoring and interpretation: Minneapolis: University of Minnesota Press 2008.

3 American Psychiatric Association. Diagnostic and statistical manual of mental disorders. 5th ed. Washington, DC: Author 2013.

4 Bernstein DP, Iscan C, Maser J. Opinions of personality disorder experts regarding the DSM-IV personality disorders classification system. J Pers Disord 2007;21:536-551. https://doi.org/10.1521/pedi.2007.21.5.536

5 Watters C, Bagby R, Sellbom M. Meta-analysis to derive an empirically based set of personality facet criteria for the alternative DSM-5 model for personality disorders. Personality Disorders: Theory, Research, and Treatment 2018;10. https://doi.org/10.1037/per0000307

6 Morey LC, Benson KT, Busch AJ, et al. Personality disorders in DSM-5: emerging research on the alternative model. Curr Psychiatry Rep 2015;17:558. https://doi.org/10.1007/s11920-015-0558-0

7 Zimmerman M, Ellison W, Young D, et al. How many different ways do patients meet the diagnostic criteria for major depressive disorder? Compr Psychiatry 2015;56:29-34. https://doi.org/10.1016/j.comppsych.2014.09.007

8 Samuel DB, Widiger TW. Comparing personality disorder models: cross-method assessment of the FFM and DSM-IV-TR. J Pers Disord 2010;24:721-745. https://doi.org/10.1521/pedi.2010.24.6.721

9 Keyes KM, Eaton NR, Krueger RF, et al. Thought disorder in the meta-structure of psychopathology. Psychol Med 2013;43:1673-1683. https://doi.org/10.1017/s0033291712002292

10 Costa Jr PT, McCrae RR. The Revised NEO Personality Inventory (NEO-PI-R). The SAGE handbook of personality theory and assessment, Vol. 2: Personality measurement and testing. Thousand Oaks, CA, US: Sage Publications, Inc 2008, pp. 179-198.

11 Anderson JL, Sellbom M, Pymont C, et al. Measurement of DSM-5 section II personality disorder constructs using the MMPI-2-RF in clinical and forensic samples. Psychological Assess 2015;27:786-800. https://doi.org/10.1037/pas0000103

12 Butcher JN, Williams CL. Personality assessment with the MMPI-2: historical roots, international adaptations, and current challenges. Applied Psychology: Health and Well-Being 2009;1:105-135. https://doi.org/10.1111/j.1758-0854.2008.01007.x

13 Moghadam A, Parisa A. The relationship between national culture and e-adoption: a case study of Iran. Am J Appl Sci 2008;5:369-377. https://doi.org/10.3844/ajassp.2008.369.377

14 Sellbom M, Anderson JL, Bagby RM. Assessing DSM-5 Section III personality traits and disorders with the MMPI-2-RF. Assessment 2013;20:709-722. https://doi.org/10.1177/1073191113508808

15 Gureje O, Lewis-Fernandez R, Hall BJ, et al. Systematic inclusion of culture-related information in ICD-11. World Psychiatry 2019;18:357-358. https://doi.org/10.1002/wps.20676

16 Ghamkhar Fard Z, Pourshahbaz A, Anderson J, et al. Assessing DSM-5 Section ii personality disorders using the MMPI-2-RF in an Iranian community sample. Assessment 2021:1-24. https://doi.org/10.1177/1073191121991225

17 Ghamkhar Fard Z, Pourshahbaz A, Anderson LJ, et al. The continuity between DSM-5 criterion-based and trait-based models for personality disorders in an Iranian community sample. Curr Psychol 2021; May 31. https://doi.org/10.1007/s12144-021-01751-2 [Epub Ahead of Print]

18 Samuel DB, Hopwood CJ, Krueger RF, et al. Comparing methods for scoring personality disorder types using maladaptive traits in DSM-5. Assessment 2013;20:353-361. https://doi.org/10.1177/1073191113486182

19 Cohen J. Statistical power analysis. Curr Direct Psychol Sci 1992;1:98-101. https://doi.org/10.1111/1467-8721.ep10768783

20 Sellbom M, Waugh MH, Hopwood CJ. Development and Validation of Personality Disorder Spectra scales for the MMPI-2-RF. J Pers Assess 2018;100:406-420. https://doi.org/10.1080/00223891.2017.1407327

21 Anderson JL, Sellbom M, Ayearst L, et al. Associations between DSM-5 section III personality traits and the Minnesota Multiphasic Personality Inventory 2-Restructured Form (MMPI-2-RF) scales in a psychiatric patient sample. Psychol Assess 2015;27:801-815. https://doi.org/10.1037/pas0000096

22 Rojas SL, Widiger TA. Coverage of the DSM-IV-TR/DSM-5 Section II personality disorders with the DSM-5 dimensional trait model. J Pers Disord 2017;31:462-482. https://doi.org/10.1521/pedi_2016_30_262

23 Kernberg OF. Severe personality disorders: psychotherapeutic strategies. New Haven, CN: Yale University Press 1993.

24 Dreyße K, Beller J, Armbrust M, et al. A hierarchical analysis of the latent trait of borderline personality disorder and its possible clinical implications. Psychiatry Res 2020;288:113023. https://doi.org/https://doi.org/10.1016/j.psychres.2020.113023

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Original article

General population attitudes in mental disorders: an investigatory study on psychiatric disorders and religion beliefs

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SUMMARY

Background

The literature recognizes the importance of the relationship between religion and mental health. The aim of this study is to assess whether there is a greater tolerance towards other people with psychiatric disorders or not, according to the religious beliefs of the respondent. The knowledge and attitudes of the population of the provinces of Lecce and Matera in relation to their religious beliefs were assessed through a cross sectional, multicentric study.

Methods

The study is observational, cross-sectional, multicenter and covered the population of the provinces of Lecce and Matera from May 2019 to April 2021. The validated questionnaire "Stigma study 2.0: Analysis of the stigmatization process towards those suffering from mental disorders"was administered.

Results

A total of 642 subjects voluntarily agreed to the study. Of these, 132(20.56%) declared to be atheists and 510(79.44%) declared to be believers. Statistical significance is evident between the two groups in the sphere of "Authoritarianism": believers show higher levels of authoritarian beliefs than atheists (item no.2: p = .027; item no. 3: p = .021; item no. 4: p = .003; item no. 5: p < .001). In the sub dimension of "Benevolence" only in item no. 2 "More tax money should be spent on the care and treatment of the mentally ill" the religious group is more convinced than the atheist group (p = .021). In the sub-dimension "Social restrictiveness", all the items are significantly different between the two groups: the group of believers is more convinced that psychiatric patients should be more responsible and should be more involved in the social context. Finally, also in the fourth and last sub-dimension, the religious group registers a higherlevel of conviction on the possibility that the psychiatric patients should live integrated in the social fabric, in the common territory and that they do not represent any threat to anyone in their neighbourhood.

Conclusions

In light of the results obtained in the present study and the data available in the literature, it seems that the concept of religiosity/spirituality of the participants is of fundamental importance in the global conception of well-being in a holistic vision of the patient with full respect for the beliefs and spiritual/religious practices of their patients and their families and caregivers.

Key words: attitude, mental disorders, psychiatry, religion

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Background

Over the centuries, the concept of mental illness has undergone an important evolution, taking on different meanings and nuances with the passing of the ages. The history of mental illness is marked by a series of laws which, over time, have enhanced the dignity and protection of the subject with mental disorders. The organization and management of health care for mentally ill offenders who have been subjected to a restraining order (precautionary measure, detention and non-custodial security measure) have deeply changed [1]. According to the World Health Organization (WHO), the global burden of mental disorders continues to grow with a consequent impact on health and major social, human and economic aspects in all countries of the world. In 2001, the WHO estimated that the percentage of people worldwide who had been diagnosed with a psychiatric condition – at least once in their lifetime – was around 25% [2]. According to the *Global Burden of Disease Study* 2017, the most recent and comprehensive analysis on global epidemiological trends, mental disorders account for more than 14% of disability-adjusted life years (DALYs) [3]. In 2012, the most common mental disorders were depression, bipolar disorder, schizophrenia, and anxiety disorders. These disorders were the cause of 12% of all disabilities and, among them, depression causes the greatest degree of disability [4]. The COVID-19 pandemic, in addition to the casualties directly caused by the virus and its pathological sequelae and the residual disability from many "cured" conditions, has had and will have an extraordinary impact on the mental health of the entire population. Because of the pandemic, data in the literature concur that most individuals have an increased risk of developing mild to moderate psychopathological symptoms and that some have an increased risk of developing more severe and disabling symptoms [5,6]. The history of health emergencies – especially epidemic ones – teaches that issues related to fear, uncertainty, and stigma recur with high frequency, representing important obstacles to the implementation of timely and effective preventive and curative interventions for both the general population [6,7] and particular categories of professionals [8-10]. Stigma is a complex term that includes issues of knowledge (ignorance or misinformation), attitude (prejudice) and behavior (discrimination). In the case of mental illness, stigma has peculiar characteristics, analyzed in a research published in *Lancet* [11]. Mental illness stigma is an indelible social mark that personalizes the mentally ill person and is also projected onto the socio-family group to which they belong. It is still present today and is one of the main obstacles to therapy and care programs for psychiatric patients [12]. It is important to distinguish two forms of stigma: "public stigma" and "self-stigma"; they represent a true "second disease" because of their significant impact [13]. The person affected by mental disorders loses his or her identity and identifies with the illness. The triggering of the mechanisms that characterize and constantly feed the process of stigmatization often has as its most severe effect the failure of the person with mental disorders to seek counseling. Empirical studies have shown that perceived stigma is correlated with a more negative attitude towards seeking help and it is evident how discrimination increases the risk of poor mental wellbeing outcomes [14,15].

Perceived "public stigma" can lead individuals to avoid seeking help because they expect others to discriminate against and devalue psychiatric service users [16]. "Self-stigma" can also lead individuals to avoid seeking help because self-stigma affects feelings of self-worth and self- efficacy. In addition, the relationship between stigma and help-seeking has gender differences. Studies consistently show that women are more likely to seek help for emotional issues [17] and possess more positive attitudes toward counseling than men [18]. One of the most widespread prejudices about mental illness is that of social dangerousness, understood as the likelihood that a mentally ill individual will engage in self- and hetero-aggressive behaviour, a prejudice that was, however, taken as a fundamental criterion for internment in asylums, according to the 1904 Act [19]. The person suffering from mental illness, being perceived by the community as a potentially violent subject, because of his disorder, is therefore a person to be avoided, thus fortifying the process of exclusion. Another widespread prejudice is that the mentally ill are in some way responsible for their disorder: they could control it but instead they give in to it because they are too weak to resist it. Another common prejudice is that of incurability: instead, there are many effective tools, both pharmacological and psychotherapeutic, which allow one to recover part or all of one's social and intellectual abilities, without forgetting that treatments are more successful the earlier the diagnosis is made [20]. Research has shown that, among the general population, the implementation of a social distance towards people with mental illness is widespread. This distances the individual with psychological suffering even further from the start of the treatment most appropriate to his clinical condition, causing a worsening of negative emotions and a reduction in positive ones with unfavorable results, such as depression, anxiety and low self-esteem [21,22].

According to the National Comorbidity Survey, nearly a quarter of people who seek help for a mental health problem in a given year seek it from a member of the clergy [23]. The literature also shows that many psychiatric illnesses have inverse correlations with religiosity. With regard to physical health, religiosity correlates with

decreased smoking and alcohol consumption, as well as positively influencing heart disease and blood pressure. In addition, the psychological resources provided by religious involvement could prevent the adverse effects of stress on one's sense of self [24]. Religious commitment and participation also appear to affect longevity, especially in men [25], and faith may enable members of religious groups to develop and maintain meaning in their lives and thus improve their well-being [26].
Suicide rates were found to have a negative correlation with religiosity. Suicide ideology was also reduced, as were more disapproving attitudes toward suicidal behavior [27] and attending religious places, such as churches, was an important predictor in suicide prevention. A study published in 2012 in the American Journal of Psychiatry highlighted the important association between religiosity and depression: the study through a 10-year follow-up found a long-term protective effect of high personal importance of religion/spirituality against major depression, whose participants with high personal importance of religion/spirituality had about a quarter of the risk, compared to other study participants, of having an episode of depression in a 10-year prospective period, as well as follow-up examinations of the children of depressed patients whose parents' depression status determined the high-risk status of their offspring, in which those who reported a high importance of religion or spirituality had about one-tenth the risk of experiencing major depression between the ages of 10 and 20 than those who did not [28]. A negative correlation between drug use and religiosity has also been reported. Church attendance was found to be more of an indicator of drug and alcohol abstinence [29]. Thus, it has been seen that religiosity can be associated with better mental health, in particular it can reinforce self-concept in a positive way and create a personal respite that can allow negative emotions to subside [30]. A study conducted among a population of university students in Jordan showed a significant correlation between religiosity and stigma towards mental disorders [31]. This study indicated the need to disseminate some religious principles to reduce stigma, such as to assume a non-stigmatizing positive attitude towards mental disorders, thus recognizing the importance of the relationship between religion and mental health. In this regard, starting from this assumption, we want to investigate whether religiosity can positively influence social stigma towards psychiatric pathology. Therefore, the aim of this study is to assess whether the religious beliefs of the respondent can have a greater tolerance towards other people with psychiatric disorders or not, evaluating through a cross sectional, multicenter study, the knowledge and attitudes of the population of the provinces of Lecce and Matera in relation to their religious beliefs.

Materials and methods

The is an observational, cross-sectional, multicentric study and involved the population of the provinces of Lecce and Matera, Italy.

Recruitment criteria

It was included all the population who agreed to participate in the study, signing the informed consent and having the following requirements: Age between 18 and 80 years old, who lived in the Southern of Italy, especially in Lecce and Matera provinces. The questionnaire was developed through the Google Moduli function and disseminated through some Facebook and Instagram local pages in order to publicize the study and to invite general population to answer the questionnaire. Subjects who were under and over age and those who did not agree to participate in the study or did not complete questionnaires were excluded. Each participant could join the survey by connecting to the local social pages.

Operating timing

From May 2019 to April 2021.

Sampling and instruments

The questionnaire was administered to the general population in the Southern of Italy, especially in the provinces of Lecce and Matera. The first part f the questionnaire collected socio-demographic and professional information, such as: sex, marital status, educational qualification, profession, age, religious beliefs. The second part of the questionnaire contained the Community Attitudes Toward The Mentally Ill questionnaire (CAMI), which consisted in 40 statements concerning the degree of information and sharing of mental health treatments and services and the degree of acceptance and tolerance towards the individual with mental disorders in the community. Responses to each item were based on a 5-point Likert scale ranging from 1 (Fully agree) to 5 (Totally disagree) [32,33].

Data analysis

The data were collected in an Excel spreadsheet and processed with the SPSS program version 20. All sampling characteristics were considered as categorical variables and presented as frequencies and percentages. All the values of each CAMI item were evaluated according to the variable of religious belief through the MANOVA test.

Results

A total of 642 subjects voluntarily joined the study. Of these, 132(20.56%) declared themselves to be atheists and 510(79.44%) declared themselves to be believers. For the purpose of the present study, the type of belief is not of interest, but it was only necessary to know

whether the participants had a religious belief or not, regardless of the type of belief. All socio-demographic characteristics of participants were collected in the Table I.
In the Table II stigma perceived by general population on mental disorders were collected.
The data reported in Table III showed how statistical significance was highlighted between the two groups in the sphere of "Authoritarianism": believers showed higher levels of authoritarian beliefs than atheists (item no. 2: p = .027; item no. 3: p = .021; item no. 4: p = .003; item no. 5: p < .001). While in the sub dimension of "Benevolence" only in item no. 2 "More tax money should be spent on the care and treatment of the mentally ill" the religious group was more convinced than the atheist group (p = .021). In the sub-dimension "Social restrictiveness" all the items were significantly different between the two groups: the group of believers was more convinced that psychiatric patients should be more responsible and should be more involved in the social context. Finally, also in the fourth and last sub-dimension the religious group registered a higher level of conviction on the possibility that the psychiatric patient should live integrated in the social fabric, in the common territory and that he did not represent any threat to anyone in his neighborhood (Tab. III).

Discussion

The present study aimed to investigate how religious belief could influence the acceptability of psychiatric patients in the social network. The data recorded showed a high level of significance on the subject, that is: those who had a religious belief have a greater tolerance towards psychiatric patients, imagining them more integrated in their territory and in the social network.
In the literature as early as 1969, after reviewing research in this area, Victor Sanua stated, "The thesis that religion as an institution has been instrumental in promoting general welfare, creativity, honesty, liberalism, and other qualities are not supported by empirical data. […] there were no scientific studies showing that religion was capable of serving mental health" [34]. In this regard, therefore, the importance of religious belief in psychiatric pathology and perceptions of it was perceived, but no hard data was evinced to prove its actual effectiveness. Later, Larson et al. [35] also challenged this view by conducting systematic reviews of quantitative research on religion in psychiatry. In 1986, only 2.5% of articles delving into aspects of mental health included a religious variable. Six years later, they evaluated all measures of religious commitment reported in research studies published in two leading psychiatry research journals from 1978 to 1989, recording 139 religious measures, examined in 35 studies. In contrast to Sanua's conclusion, they found that 72% of the studies reported a positive relationship between religious involvement and better mental health, 16% worse mental health, and 12% no correlation [36]. For many years, the work of Larson and colleagues served as a state-of-the-art review of associations between religion and mental health. It is therefore evident the need to give voice, through the dialogue between patient and physician, to the experience of the individual, that dimension which may not be immediately observable, or decipherable, but which represented for each individual the connective tissue on which his or her existence developed, and to give voice to the network of cultural and religious factors which determined the existential framework [37].
However, there were no studies in the literature that could be overlapped on ours in terms of purpose and conclusions, since the literature highlights the importance of religious beliefs for psychiatric pathology and not for the behavioral intentions of society towards mental pathology and how these could be mitigated or not by a religious belief, whatever it may be. "*The sore point of human relationality is always that which arises from the endless search for our identity through the confrontation with the other from us, identity seems to be the issue on the agenda, the myth that unites and divides at the same time. Hence the drama of the inclusion of the other from oneself, in its different conjugations, whether it is a subject with a different religious faith or who has behaviors considered not normal*" [37]. Therefore, our study turned out to be a pilot in this: religiosity could have positive effects on both the psychiatric patient and society in the anti- stigma struggle against psychiatric pathology. From the present results, a significant association emerged between religious belief and the item no. 2, as a prejudice against those suffering from a mental disorder clearly was highlighted. In support of our study, religiosity has been shown to have a significant positive effect for prevalence, especially depressive and substance use disorders. In fact, from diagnosis and differentiation between spiritual experiences and mental disorders; and also treatment in help in behavioral research, compliance, mindfulness, and treatment adjuncts and finally outcomes, as: in recovery, suicide, and moreover prevention; as well as for quality of life and well-being of the psychiatric patient [38,39]. Despite this, in 2014, participants with Major Depressive Disorder reported more discrimination against certain areas of life including religious than participants with schizophrenia [40]. Another aspect concerns prejudices and discrimination based on religious reasons which continued to be widespread; although freedom of belief and religious expression are today fundamental rights integrated into the European Convention on Human Rights. In this regard, the World Health Organization (WHO) has also included religiosity

as a dimension of quality of life [41]. However, the literature is debated in considering religion as a beneficial factor on mental health outcomes or as an obstacle to it, as in the case of treatment refusal, intolerance, negativity religious coping, since several surveys have shown that religious values, beliefs and practices are important concerns in addressing health care for most of the world population [42-44]. Understanding mental illness as a treatable medical condition might influence stigmatizing beliefs, but evidence available to inform this hypothesis was derived exclusively from high-income countries as emerging from the item no. 9 of the Social Restrictiveness sub dimension. From a randomized study conducted among the South-Western Uganda population it emerged that portrayals of effectively treated mental illness did not appear to reduce endorsement of stigmatizing beliefs about mental illness or about persons with mental illness [45]. In a collection of 2,800 studies [46], it was found a positive correlation between religion and spirituality and mental and physical health. From this point of view, therefore, it is important to consider the patient as a whole and take into account all the factors that affect mental health, including religion in the "Core Training Curriculum for Psychiatry" [47].

Limitations of the study

The results of the study might be considered taking into account some limits that mainly concern the choice of electronic disclosure of the questionnaire which might partially have
excluding people with a limited computer background. Furthermore, it was not always possible to compare the results of ours study with those already present in the literature, as scarce for how much it concerns the correlation between religious belief and the stigma towards whom suffered from mental disorders.

Conclusions

In light of the results obtained in this study and the data available in the literature, it seems that the concept of religiosity/spirituality of the patient is of fundamental importance in the global conception of well-being in a holistic view of the patient with full respect for the beliefs and spiritual/religious practices of their patients and their families and caregivers. Therefore, the hope for future studies is to further cultivate these theoretical assumptions in the light of the World Psychiatric Association, which in its proposals on religion/spirituality in mental health proposes a careful consideration of patients' religious beliefs and practices, as well as their spirituality, which should be regularly considered in the psychiatric history; an understanding of religion and spirituality and their relationship with the patient's psychiatric diagnosis. These assumptions should also be the subject of continuing education in psychiatry in order to better understand the patient as a whole, demonstrating a broader awareness of, respect for, and sensitivity to spirituality and religiosity in support of the promotion of health and well-being [48].

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Conflict of interest statement

The Authors declare no conflict of interest.

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Authors' contributions

All Authors equally contribuited to the work.

Ethical considerations

Ethical concerns of the study were stated within the presentation of the questionnaire. Participation in the study, being free and voluntary, was considered an expression of consent. It was emphasized that participation was voluntary and that the participant could refuse participation in the protocol whenever he/she wished. Those interested in participating were presented with the opportunity to express informed consent and the confidentiality and anonymous nature of the information was guaranteed according to the Declaration of Helsinki principles.

References

1 Latte G, Avvisati L, Calandro S, et al. Dagli OPG alle REMS: il ruolo di un servizio sanitario territoriale nell'esecuzione delle misure di sicurezza detentive e non, nei confronti degli autori di reato con problemi psichici. Rivista di Psichiatria 2018;53:31-39. https://doi.org/10.1708/2866.28921

2 World Health Organization. The World Health Report 2001-Mental health: new understanding, new hope. Geneva, CH: The World health report 2001.

3 GBD 2017 Disease and Injury Incidence and Prevalence Collaborators. Global, regional, and national incidence, prevalence, and years lived with disability for 354 diseases and injuries for 195 countries and territories, 1990-2017: a systematic analysis for the Global Burden of Disease Study 2017. Lancet 2018;392:1789-1858. https://doi.org/10.1016/S0140-6736(18)32279-7 Erratum in: Lancet. 2019; 393(10190):e44

4 Dalky HF. Mental illness stigma reduction interventions: review of intervention trials. West J Nurs Res 2012;348:520-547. https://doi. org/10.1177/0193945911400638

5 Talevi D, Socci V, Carai M, et al. Mental health outcomes of the COVID-19 pandemic. Riv Psichiatr 2020;55:137-144. https://doi. org/10.1708/3382.33569

6 Vitale E, Galatola V, Mea R. Knowledge on the COVID-19 pandemic and the nursing role influence anxiety and depression levels: a descriptive correlational study between nurses and general population. Journal of Psychopathology 2021;27:115-121. https://doi.org/10.36148/2284-0249-404

7 Huremović D. Brief history of pandemics (pandemics throughout history). Psych Pandemics 2019;16:7-35. https://doi.org/10.1007/978-3-030-15346-5_2

8 Vitale E, Casolaro S. Anxiety, burnout and depression levels according to sex and years of work experience in Italian nurses engaged in the care of COVID-19 patients. Journal of Evidenced-Based Psychotherapies 2021;21:83-96. https://doi.org/10.24193/jebp.2021.1.6

9 Vitale E. Anxiety, depression and insomnia conditions in Italian nurses during the first and the second waves of the COVID-19 pandemic. Journal of Evidenced-Based Psychotherapies 2021;21:69-82.

10 Vitale E. The mindfulness and the emotional regulation skills in Italian nurses during the COVID-19 pandemic: a descriptive survey-correlational study. J Holist Nurs 2021;8980101211015804. https://doi.org/10.1177/08980101211015804

11 Thornicroft G, Brohan E, Rose D, et al. Global pattern of experienced and anticipated discrimination against people with schizophrenia: a cross-sectional survey. Lancet 2009;373:408-415. https://doi.org/10.1016/S0140-6736(08)61817-6

12 Tavormina MGM, Tavormina R, Tavormina G. Malattia mentale e pregiudizi: studio multicentrico sullo stigma sociale. Depressione: parliamone insieme. Telos Suppl 2017:61-70.

13 Finzen A. Der Verwaltungsrat ist schizophren. Die Krankheit und das Stigma. Bonn: Psychiatrie-Verlag 1996.

14 Wrigley S, Jackson H, Judd F, et al. Role of stigma and attitudes toward help-seeking from a general practitioner for mental health problems in a rural town. Aust N Z J Psychiatry 2005;39:514-521. https://doi.org/10.1080/j.1440-1614.2005.01612.x

15 Paradies Y, Ben J, Denson N, et al. Racism as a determinant of health: a systematic review and meta-analysis. PLoS One 2015;10:e0138511. https://doi.org/10.1371/journal.pone.0138511

16 Corrigan PW, Rüsch N. Mental illness stereotypes and clinical care: do people avoid treatment because of stigma? Psychiatric Rehabilitation Skills 2002;6:312-334. https://doi.org/10.1080/10973430208408441

17 Möller-Leimkühler AM. Barriers to help-seeking by men: a review of sociocultural and clinical literature with particular reference to depression. J Affect Disord 2002;71:1-9. https://doi.org/10.1016/s0165-0327(01)00379-2

18 Fischer EH, Farina A. Attitudes toward seeking professional psychological help: a shortened form and considerations for research. Journal of College Student Development 1995;36:368-373.

19 Vender S, Poloni N, Gambarini S. La stigmatizzazione nella storia e nella cultura. NÓOς 2005;3/4:149-166

20 Billig M. Razzismo, pregiudizi e discriminazione. In: Moscovici S, Ed. Psicologia sociale. Roma: Borla 1996.

21 Ministero della salute. Salute mentale, fatti e cifre contro lo stigma, gennaio 2020 (http://www.salute.gov.it/imgs/C_17_opuscoliPoster_422_allegato.pdf).

22 Williams DR, Mohammed SA. Discrimination and racial disparities in health: evidence and needed research. J Behav Med 2009;32:20-47. https://doi.org/10.1007/s10865-008-9185-0

23 Wang PS, Berglund PA, Kessler RC. Patterns and correlates of contacting clergy for mental disorders in the United States. Health Services Research 2003;38:647-673. https://doi.org/10.1111/1475-6773.00138

24 Jong Hyun J. Childhood adversity, religion, and change in adult mental health. Aging 2018;40:155-179. https://doi.org/10.1177/0164027516686662

25 Fortin AH 6th, Barnett KG. STUDENTJAMA. Medical school curricula in spirituality and medicine. JAMA 2004;291:2883. https://doi.org/10.1001/jama.291.23.2883

26 Schieman S, Ellison CG, Bierman A. Religious involvement, beliefs about god, and the sense of mattering among older adults. Journal for the Scientific Study of Religion 2010;49:517-535.

27 Portnoff L, McClintock C, Lau E, et al. Spirituality cuts in half the relative risk for depression: findings from the United States, China, and India. Spirituality in Clinical Practice 2017;4:22-31. https://doi.org/10.1037/scp0000127

28 Miller L, Wickramaratne P, Gameroff MJ, et al. Religiosity and major depression in adults at high risk: a ten-year prospective study. Am J Psychiatry 2012;169:89-94. https://doi.org/10.1176/appi.ajp.2011.10121823

29 Bartholomew C. Medicine and the humanities in medical school curricula. West Indian Med J 2009;58:84-86.

30 Ryff CD. Spirituality and well-being: theory, science, and the nature connection. Religions 2021;12:914. https://doi.org/10.3390/rel12110914

31 Abuhammad S, Al-Natour A. Mental health stigma: the effect of religiosity on the stigma perceptions of students in secondary school in Jordan toward people with mental illnesses. Eliione 2021;7:e06957. https://doi.org/10.1016/j.heliyon.2021.e06957

32 Dagani J, Buizza C, Ferrari C, et al. Psychometric validation and cultural adaptation of the Italian medical student stressor questionnaire. Curr Psychology 2020. https://doi.org/10.1007/s12144-020-00922-x [Epub Ahead of Print]

33 Buizza C, Ghilardi A, Ferrari C. Beliefs and prejudices versus knowledge and awareness: how to cope stigma against mental illness. A college staff E-survey. Community Ment Health J 2017;53:589-597. https://doi.org/10.1007/s10597-017-0116-9

34 Sanua VD. Religion, mental health, and personality: a review of empirical studies. Am J Psychiatry 1969;125:1203-1213. https://doi.org/10.1176/ajp.125.9.1203

35 Larson DB, Pattison EM, Blazer DG, et al. Systematic analysis of research on religious variables in four major psychiatric journals, 1978-1982. Am J Psychiatry 1986;143:329-334. https://doi.org/10.1176/ajp.143.3.329

36 Hackney CH, Glenn SS. Religiosity and mental health: a meta-analysis of recent studies. Journal for the Scientific Study of Religion 2003;42:43-56.

37 Pettinato CM. Religione e guarigione: libertà religiosa e principio di autodeterminazione in materia di salute mentale (salus aegroti suprema lex o voluntas aegroti suprema lex). Stato, Chiese e pluralismo confessionale 2019;17. https://doi.org/10.13130/1971-8543/11665

38 Koenig H, King D, Carson VB. Handbook of religion and health, 2nd ed. New York: Oxford University Press 2012.

39 Koenig HG, McCullough ME, Larson DB. Handbook of religion and health, 1st ed. New York, NY: Oxford University Press 2001.

40 Corker EA, Beldie A, Brain C, et al.; FEDORA Study Group. Experience of stigma and discrimination reported by people experiencing the first episode of schizophrenia and those with a first episode of depression: the FEDORA project. Int J Soc Psychiatry 2015;61:438-445. https://doi.org/10.1177/0020764014551941

41 WHOQOL SRPB Group. A cross-cultural study of spirituality, religion, and personal beliefs as components of quality of life. Soc Sci Med 2006;62:1486-1497.

42 Pargament KI, Lomax JW. Understanding and addressing religion among people with mental illness. World Psychiatry 2013;12:26-32.

43 Moreira-Almeida A, Koenig HG, Lucchetti G. Clinical implications of spirituality to mental health: review of evidence and practical guidelines. Rev Bras Psiquiatr 2014;36:176-182.

44 Verhagen PJ, Van Praag HM, Lopez-Ibor JJ, et al. Religion and psychiatry: beyond boundaries. Chichester: John Wiley & Sons 2010.

45 Rasmussen JD, Kakuhikire B, Baguma C, et al. Portrayals of mental illness, treatment, and relapse and their effects on the stigma of mental illness: population-based, randomized survey experiment in rural Uganda. PLoS Med 2019;16:e1002908. https://doi.org/10.1371/journal. pmed.1002908

46 Koenig, Harold G, Dana ER, et al. Manuale di religione e salute, 2nd ed. New York: Oxford University Press 2012.

47 World Psychiatric Association. Institutional program on the core training curriculum for psychiatry. Yokohama, Japan, August 2002 (https://www.yumpu.com/en/document/read/24194236/english-version-world-psychiatric-association).

48 Moreira-Almeida A, Sharma A, van Rensburg BJ, et al. WPA position statement on spirituality and religion in psychiatry. World Psychiatry 2016;15:87-88. https://doi.org/10.1002/wps.20304

TABLE I. *Sampling characteristics (n = 642).*

Sampling characteristics	n(%)
Sex	
Female	390(60.70%)
Male	252(39.30%)
Age	
31-40 years	443(69.00%)
41-50 years	54(8.40%)
51-60 years	55(8.60%)
61-70 years	69(10.70%)
> 71 years	16(2.50%)
	5(0.80%)
Religion	
Believer	510(79.40%)
Atheist	132(20.60%)
Marital status	
Single	443(69.00%)
Married	151(23.50%)
Cohabitant	29(4.50%)
Divorced	16(2.50%)
Widower	3(0.50%)
Educational level	
Elementary	4(0.60%)
Lower average	47(7.30%)
Diploma	439(68.40%)
Degree	152(23.70%)
Job role	
Student/trainee	352(50.60%)
Worker	265(41.30%)
Not employed/retired/housewife	52(8.10%)

TABLE II. *Perception of psychiatric disease.*

Questions/answers	N (%)
Item no. 1: In the province where you live, are there facilities to welcome people with mental disorders?	
Yes	509(79.30%)
No	133(20.70%)
Item no. 2: Do you know the name of any Mental Disorder?	
Yes	546(85.00%)
No	96(15.00%)
Item no. 3: Do you think there is a difference between Mental Retardation and Mental Disorder?	
Yes	557(86.80%)
No	28(4.40%)
I don't know	57(8.90%)
Item no. 4: Can you recognize someone with a mental disorder?	
Yes	539(84.00%)
No	103(16.00%)
Item no. 5: I am afraid of people with mental illness	
Very unlikely	106(16.50%)
Unlikely	205(31.90%)
Uncertain	194(30.20%)
Likely	118(18.40%)
Very likely	19(3.00%)
Item no. 6: Would you have any objections to having people with mental illness in the neighborhood?	
Very unlikely	225(35.00%)
Unlikely	220(34.30%)
Uncertain	127(19.80%)
Likely	51(7.90%)
Very likely	19(3.00%)
Item no. 7: Would you avoid a conversation with neighbors who have suffered from a mental illness?	
Very unlikely	300(46.70%)
Unlikely	224(34.90%)
Uncertain	62(9.70%)
Likely	37(5.80%)
Very likely	19(3.00%)
Item no. 8: Would you work with someone who has a mental illness?	
Very unlikely	32(5.00%)
Unlikely	83(12.90%)
Uncertain	169(26.30%)
Likely	230(35.80%)
Very likely	128(19.90%)
Item no. 9: Would you invite someone home if you know they have suffered from a mental illness?	
Very unlikely	35(5.50%)
Unlikely	47(7.30%)
Uncertain	111(17.30%)
Likely	279(43.50%)
Very likely	170(26.50%)
Item no. 10: Would you be worried about visiting someone with a mental illness?	
Very unlikely	187(29.10%)
Unlikely	230(35.80%)
Uncertain	125(19.50%)
Likely	77(12.00%)
Very likely	23(3.60%)

TABLE II. *continue.*

Questions/answers	N (%)
Item no. 11: Would you accept as a friend a person who was a psychiatric patient in the past?	
Very unlikely	22(3.40%)
Unlikely	31(4.80%)
Uncertain	94(14.60%)
Likely	262(40.80%)
Very likely	233(36.30%)
Item no. 12: If someone who was a psychiatric patient in the past came to live in the apartment next to yours, would you greet them if you happen to meet them?	
Very unlikely	15(2.30%)
Unlikely	7(1.10%)
Uncertain	12(1.90%)
Likely	145(22.60%)
Very likely	463(72.10%)
Item no. 13: If this happens to you, would you have a conversation with a neighbor who has suffered from a mental illness?	
Very unlikely	9(1.40%)
Unlikely	9(1.40%)
Uncertain	32(5.00%)
Likely	226(35.20%)
Very likely	366(57.00%)
Item no. 14: If someone who was a psychiatric patient in the past came to live in the apartment next to yours, would you go and visit him?	
Very unlikely	27(4.20%)
Unlikely	49(7.60%)
Uncertain	145(22.60%)
Likely	295(46.00%)
Very likely	126(19.60%)

TABLE III. *Community attitudes toward the mentally ill according to religious belief in the Southern Italian population (n = 642).*

Scale/sub-dimensions according to religious belief	Atheist (n = 132; 20.56%) μ ± s.d.	Believer (n = 510; 79.44%) μ ± s.d.	F	p
Authoritarianism:				
One of the main causes of mental illness is a lack of self-discipline and will power	2.63 ± 0.98	2.82 ± 1.02	3.804	.052
The best way to handle the mentally ill is to keep them behind locked doors	1.42 ± .73	1.60 ± .81	4.941	.027*
There is something about the mentally ill that makes it easy to tell them from normal people	2.90 ± .85	3.12 ± .89	6.341	.012*
As soon as a person shows signs of mental disturbance, he should be hospitalized	2.13 ± .91	2.41 ± .98	9.011	.003*
Mental patients need the same kind of control and discipline as a young child	2.30 ± .93	2.70 ± 1.03	16.217	< .001*
Mental illness is an illness like any other	3.06 ± 1.09	3.16 ± 1.20	.762	.383
The mentally ill should not be treated as outcasts of society	4.29 ± 1.06	4.27 ± 1.03	.060	.806
Less emphasis should be placed on protecting the public from the mentally ill	2.74 ± 1.18	2.90 ± 1.16	1.864	.173
Mental hospitals are an outdated means of treating the mentally ill	3.79 ± 1.15	3.59 ± 1.22	2.980	.085
Virtually anyone can become mentally ill	4.04 ± .88	4.11 ± .83	.679	.410
Benevolence:				
The mentally ill have for too long been the subject of ridicule	3.92 ± 1.02	3.91 ± 1.02	.000	.992
More tax money should be spent on the care and treatment of the mentally ill	4.06 ± .87	4.24 ± .77	5.321	.021*
We need to adopt a far more tolerant attitude toward the mentally ill in our society	4.17 ± .82	4.26 ± .72	1.561	.212
Our mental hospitals seem more like prisons than like places where the mentally ill can be cared for	3.36 ± .98	3.43 ± .96	.580	.447
We have a responsibility to provide the best possible care for the mentally ill	4.38 ± .85	4.34 ± .73	.208	.649
The mentally ill don't deserve our sympathy	1.32 ± .66	1.43 ± .68	2.563	.110
The mentally ill are a burden on society	1.57 ± .82	1.56 ± .73	.066	.797
Increased spending on mental health services is a waste of tax dollars	1.50 ± .65	1.53 ± .68	.226	.635
There are sufficient existing services for the mentally ill	2.43 ± .80	2.42 ± .80	.017*	.896
It is best to avoid anyone who has mental problems	1.72 ± .77	1.76 ± .81	.277	.599

TABLE III. *continue*

Scale/sub-dimensions according to religious belief	Atheist (n = 132; 20.56%) μ ± s.d.	Believer (n = 510; 79.44%) μ ± s.d.	F	p
Social restrictiveness:				
The mentally ill should not be given any responsibility	2.31 ± .94	2.51 ± .94	4.621	.007*
The mentally ill should be isolated from the rest of the community	1.48 ± .70	1.47 ± .68	.002	< .001*
A woman would be foolish to marry a man who has suffered from mental illness, even though he seems fully recovered	1.76 ± .86	1.90 ± .87	2.812	.004*
I would not want to live next door to someone who has been mentally ill	1.86 ± .93	1.99 ± .94	2.255	.004*
Anyone with a history of mental problems should be excluded from taking public office	2.08 ± .87	2.30 ± .94	5.559	.009
The mentally ill should not be denied their individual rights	3.97 ± 1.23	4.02 ± 1.13	.212	< .001*
Mental patients should be encouraged to assume the responsibilities of normal life	3.97 ± .89	4.04 ± .77	.845	.001*
No one has the right to exclude the mentally ill from their neighborhood	4.45 ± .79	4.38 ± .80	.805	.001*
The mentally ill are far less of a danger than most people suppose	3.79 ± .93	3.72 ± .89	.637	.001*
Most women who were once patients in a mental hospital can be trusted as babysitters	3.03 ± .82	2.90 ± .82	2.615	.004*
Community mental health ideology:				
Residents should accept the location of mental health facilities in their neighborhood to serve the needs of the local community	3.99 ± .89	4.01 ± .80	.059	<.001*
The best therapy for many mental patients is to be part of a normal community	4.03 ± .88	4.12 ± .75	1.432	.002*
As far as possible, mental health services should be provided through community based facilities	4.17 ± .88	4.17 ± .73	.006	< .001*
Locating mental health services in residential neighborhoods does not endanger local residents	3.90 ± .99	3.82 ± .95	.761	.001*
Residents have nothing to fear from people coming into their neighborhood to obtain mental health services	4.08 ± .89	3.95 ± .82	2.637	.004*
Mental health facilities should be kept out of residential neighborhoods	2.13 ± .95	2.17 ± .89	.185	< .001*
Local residents have good reason to resist the location of mental health services in their neighborhood	2.01 ± .96	2.18 ± .92	3.486	.005*
Having mental patients living within residential neighborhoods might be good therapy but the risks to residents are too great	2.30 ± .95	2.38 ± .86	.736	.001*
It is frightening to think of people with mental problems living in residential neighborhoods	1.84 ± .80	1.93 ± .82	1.231	.002*
Locating mental health facilities in a residential area downgrades the neighborhood	1.73 ± .84	1.76 ± .77	.131	< .001*

**p < .05 is statistically significant.*

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Original article

Involving parents in the remote diagnosis of Autism during the COVID-19 pandemic: a case study

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SUMMARY

Objective

To evaluate the feasibility of remotely providing a diagnosis of autism during the Coronavirus Disease pandemic of 2019.

Methods

A child psychiatrist guided the parents' Autism Diagnostic Observation Schedule (ADOS-2) administration to assess their child's developmental delay through a video conference. Trained clinicians (n = 10) rated the recorded procedure. Interrater reliability for each item was evaluated using the kappa statistic and percent agreement.

Results

The mean percent agreement across all items was 96%, range = 85.96-100%, and mean weighted kappa = .81, range = .44-1.

Conclusions

This study highlights the feasibility of providing early identification and continuous psychiatric care during a pandemic lockdown.

Key words: autism, ADOS-2, module-T, inter-rater reliability, COVID-19

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Introduction

The Coronavirus Disease 2019 (COVID-19) pandemic have disrupted access to mental health services [1]. Even when diagnostic interviews are feasible, masks and social distancing are obstacles to evaluating social responses such as gestures, facial expressions and smiling. Therefore, the need for telepsychiatry methods of remote assessment has been recognized by clinicians worldwide.

Prior to COVID-19, studies had shown the feasibility of these approaches [2]. The everyday use of devices such as smartphones and tablets and the ubiquity of wi-fi allows parents to record their child's behavior and share them with clinicians, expanding the material available for making their clinical assessments.

Some researchers have standardized the observation of videos from different sources and settings such as home, schools, clinics, and even videos uploaded to social networks. Initially, studies focus on the identification of early symptoms of autism and their subtypes [3,4]. More recently, the interest shifted towards diagnosis [5-7]. Studies show that live videoconference allows clinicians

to guide caregivers to complete a diagnostic interview or remotely perform an intervention[8]. In order to cover the diagnostic needs during the lockdown period, we present a case study to illustrate the feasibility of remote application of Autism Diagnostic Observation Schedule (ADOS-2) [9], by the parents of a child with developmental delays.

Methods

Selection and participation

Parents concerned for their child's development, virtually contacted a child psychiatrist during the lockdown; they completed an online interview to gather the medical and developmental history of the child as well as autism screening scales [10,11]. As the child was 19 months and non-verbal, we invited parents to administer an online ADOS-2 (T-module) encouraging parent´s participation to elicit autism codable behaviors [9].

Procedure

An experienced certified child and adolescent psychiatrist provided parents with a detailed explanation of the activities to perform with their child (including jointly viewing an illustrative video). Parents were asked to gather similar toys to those used in the original schedule.

Administration took place in the parents' house and the session was streamed by the father using a mobile smartphone. The psychiatrist guided the mother through the sequence of the eleven different activities and monitored each task.

Ten child psychiatrists experienced in autism (median = 9, range = 4-30 years) received a link to the video to provide an independent rating. They assigned a rating of 0-3 as per ADOS guidelines. Raters signed a privacy statement.

Analysis

Interrater reliability for each item was evaluated using the kappa statistic and percent agreement [12]. Comparisons used re-coded scores to decrease variability among raters.

Results

Percent agreement across all items' scores averaged 96% (range = 85.96-100%) with a corresponding average weighted kappa of .81 (range = .44-1), reflecting a fair to excellent agreement across items. Specifically, 9 out of the 14 items were in perfect agreement (Tab. I).

Discussion

In this case study, we explored an alternative way of administering the ADOS-2 under extreme duress, such as the current sanitary emergency. Our results support the parental administration under the instruction of a trained clinician as a useful alternative in exceptional circumstances such as

TABLE I. *Interrater reliability for each ADOS item.*

Domain	Item	Weighted kappa	ASE	PA
Communication				
Frequency of spontaneous vocalization directed to others	A2	1	0	100
Gestures	A8	.44	.15	92.56
Reciprocal social interaction				
Unusual eye contact	B1	1	0	100
Facial expressions directed to others	B4	.44	.15	92.56
Integration of gaze and other behaviors during social overtures	B5	1	0	100
Shared enjoyment in interaction	B6	1	0	100
Showing	B12	1	0	100
Spontaneous initiation of joint attention	B13	1	0	100
Response to joint attention	B14	1	0	100
Quality of social overtures	B15	1	0	100
Repetitive and restrictive behavior				
Intonation of vocalizations and verbalizations	A3	1	0	100
Unusual sensory interest in play material/person	D1	.49	.10	85.96
Hand and finger movements/posturing	D2	.44	.15	92.56
Unusually repetitive interests or stereotyped behaviors	D5	.52	.08	80.73

Abbreviations. ASE: approximate standard error; PA: percent agreement

the lockdown and temporary closing of outpatient services as a result of the COVID-19 pandemic. While agreement between raters was excellent for this case, the present study should not be a referent for any given case. Both, current and previous studies involving parent-child interaction and video evaluation have shown this is a feasible procedure [7,13], however, limitations need to be mentioned. Our case showed clear autistic traits, for borderline cases an in-person assessment would still be needed, even during an emergency. Less complex observational tools that allow the assessment of children's behavior in non-clinical environments may help in such scenarios.

Teleconference also has challenges. Video and audio quality, parental ability to handle a technology or lack of control of what happens off-screen may complicate online protocols. Despite this, a clear trade-off was presented on by the COVID-19 pandemic and clinicians have explored remote assessment as an option for the diagnosis and treatment of ASD [14]. This has also met legal issues [15].

Worldwide, there is an urgent need to implement a cost-effective diagnostic assessment that patients with ASD require [8,16]. Restricted mobility and access to psychiatric services, such as those experimented during lockdown response to the COVID-19 pandemic, make clear that assessment protocols need to be modified to include these situations. Our results highlight the feasibility of alternative models of remote diagnosis, including those that incorporate parent's active participation, but also the need for simpler assessment tools.

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Conflict of interest statement

Lilia Albores-Gallo receives monetary contribution for certification of CRIDI interview.

The rest of the Authors declare no conflict of interest.

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Authors' contributions

AGL, ZRP designed the study. RMF performed the statistics. PGP, GNP, AOMA, TSG, VRT

STL, AVS, HBC help with video rating. All authors contributed to the manuscript.

Ethical considerations

The IRB of the Children´s Psychiatric Hospital granted an exemption for ethical approval. However, after being debriefed on the procedure, parents signed an informed consent that included consent to record the process and to use the data for research purposes.

References

1 Moreno C, Wykes T, Galderisi S, et al. How mental health care should change as a consequence of the COVID-19 pandemic. Lancet Psychiatry 2020;7:813-824. https://doi.org/10.1016/S2215-0366(20)30307-2

2 Dahiya AV, McDonnell C, DeLucia E, et al. A systematic review of remote telehealth assessments for early signs of autism spectrum disorder: video and mobile applications. Pract Innov 2020;5:150-164. https://doi.org/10.1037/pri0000121

3 Maestro S, Casella C, Milone A, et al. Study of the onset of autism through home movies. Psychopathology 1999;32:292-300. https://doi.org/10.1159/000029102

4 Werner E, Dawson G. Validation of the phenomenon of autistic regression using home videotapes. Arch Gen Psychiatry 2005;62:889. https://doi.org/10.1001/archpsyc.62.8.889

5 Fusaro VA, Daniels J, Duda M, et al. The potential of accelerating early detection of autism through content analysis of YouTube videos. PLoS One 2014;9:e93533. https://doi.org/10.1371/journal.pone.0093533

6 Reese RM, Jamison R, Wendland M, et al. Evaluating interactive videoconferencing for assessing symptoms of autism. Telemed E-Health 2013;19:671-677. https://doi.org/10.1089/tmj.2012.0312

7 Reese RM, Jamison TR, Braun M, et al. Brief report: use of interactive television in identifying autism in young children: methodology and preliminary data. J Autism Dev Disord 2015;45:1474-1482. https://doi.org/10.1007/s10803-014-2269-5

8 Mahmoud H, Naal H, Cerda S. Planning and implementing telepsychiatry in a community mental health setting: a case study report. Community Ment Health J 2020;57:35-41. https://doi.org/10.1007/s10597-020-00709-1

9 Lord C, Rutter M, Dilavore P, et al. Autism diagnostic observation schedule, 2nd ed. (ADOS-2) Manual. Torrance, CA: Western Psychological 2012.

10 Albores-Gallo L, López-figueroa JA, Náfate-López O, et al. Psychometric properties of VEAN-Hi (Valoración del Espectro Autista para Hispanos), autism spectrum assessment for Hispanic Children (ASA-HiCh). A free open access instrument. Neuropsychiatry 2016;3:88-95. https://doi.org/10.21767/NPY.1000126

11 Canal-Bedia R, García-Primo P, Martín-Cilleros MV, et al. Modified checklist for autism in toddlers: cross-cultural adaptation and validation in Spain. J Autism Dev Disord 2010;41:1342-1351. https://doi.org/10.1007/s10803-010-1163-z

12 Cicchetti DV, Lord C, Koenig K. Reliability of the ADI-R: multiple examiners evaluate a single case. J Autism Dev Disord 2008;38:764-770. https://doi.org/10.1007/s10803-007-0448-3

13 Corona LL, Weitlauf AS, Hine J, et al. Parent perceptions of caregiver-mediated telemedicine tools for assessing autism risk in toddlers. J Autism Dev Disord 2020;51:476-486 https://doi.org/10.1007/s10803-020-04554-9

14 Ellison KS, Guidry J, Picou P, et al. Telehealth and autism prior to and in the age of COVID-19: a systematic and critical review of the last decade. Clin Child Fam Psychol Rev 2021;24:599-630. https://doi.org/10.1007/s10567-021-00358-0

15 O'Brien M, McNicholas F. The use of telepsychiatry during COVID-19 and beyond. Ir J Psychol Med 2020;37:250-255. https://doi.org/10.1017/ipm.2020.54

16 Eshraghi AA, Li C, Alessandri M, et al. COVID-19: overcoming the challenges faced by individuals with autism and their families. Lancet Psychiatry 2020;7:481-483. https://doi.org/10.1016/S2215-0366(20)30197-8

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Original article

Dissociation between cognitive-behavioral and emotional-psychophysiological aspects in Eating Disorders and its pre-post treatment stability

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SUMMARY

Objective

The present work aims to assess the effectiveness of an integrate treatment in a group of patients with Eating Disorders (EDs).

Methods

15 women with an ED, who underwent a multidisciplinary treatment, were subdivided into two groups (Anorexia Nervosa and Bulimia Nervosa). Participants were evaluated by: Symptom Questionnaire (SQ) and Psychophysiological Profile (PPP). Administration was repeated six months after the start of treatment and at treatment termination.

Results

Elevated levels of anxiety, depression, somatic symptoms and hostility at the diagnostic phase and low levels of physiological reactivity were observed. A significant reduction in patient-reported depressive symptoms was detected within six months following the onset of treatment. Progressive improvement of anxiety and hostility was observed in the medium-long term. At the physiological level, an increase in skin conductance values was observed during the stress phase in the medium-long term.

Discussion

A partial desynchronization emerged between patients' physiological and cognitive responses.

Key words: eating disorders, integrated treatment, dissociation, emotion regulation, clinical psychophysiology

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Introduction

Although the use of an integrated treatment approach for various psychopathologies [1] is gradually spreading in clinical settings, the majority of current empirical researches still tends to focus attention exclusively on the effectiveness of a single psychoactive element utilized in the treatment. Secondly, the interest seems to be addressed on specific clinical population, or to focus on the comparison of the observable effects following the psychotherapeutic treatment of different theoretical and methodological matrices. Research on the therapeutic effectiveness of various interventions also raises a series of methodological problems related both to the choice of instruments used to assess a symptom's course and to differing operational definitions of clinical improvement [2,3].

The present study therefore endeavored to match an "outcome" research model aimed at analyzing the results of a treatment, to a "process" research model aimed at investigating how the recovery process manifests itself over time [4-6]. This goal was accomplished in accordance with a multi-dimensional approach, through the utilization of both a subjective

patient self-report measure and objective physiological indexes [7-12]. In addition, this study sought to verify the presence of the noted phenomenon of "fractionation", or division of different response channels (e.g., cognitive, emotional, physical), which are not necessarily associated to a significant change in the other aspects of the syndrome, e.g. the physiological one [11,13-17].

In fact, clinical research has repeatedly highlighted how this aspect is easily found in patients with with Eating Disorders (ED) [1]. Some reactions as the presence of negative emotion, difficulty in regulating emotions [18], as well as interceptive difficulties [19] and alexithymia [20], are very often associated with both Anorexia Nervosa (AN) and Bulimia Nervosa (BN) [4,5].

In addition, alexithymia and emotional dysregulation have been identified as comorbidities that can greatly interfere with the treatment of ED and persist even after symptoms remission [14]. Furthermore, the stability of these factors, and the strong connection with the stable personality traits and the constitutional provisions, is highlight.

Specifically, individuals with BN and the AN-binge/purge (AN-BP) subtype have been shown to have greater amount of negative urgency, impulsivity, and novelty seeking [21-24], while AN-R is characterized by a more hyper controlled, anxious, reward insensitive and rigid temperament [23,25,26].

Finally, the observation regarding the difficulty of generalizing empirical results, obtained in the experimental studies, to the clinical reality has become acknowledged [20,27,28]. The samples used in empirical studies are often unrepresentative of the situations that therapists find themselves confronted within their active practices. Hence, the sample considered in the present article does not constitute an "experimental" group as much as a true and proper "clinical" sample, as it is comprised of patients treated in an outpatient context and not selected "a priori" in relation to specific variables.

The principal aim of the present study was to assess the effectiveness of a multidimensional treatment approach in a clinical population that (a) satisfies the current international criteria for ED diagnoses, as indicated in the latest version of DSM [1], and (b) concurrently underwent both a cognitive-behavioral psychotherapy (CBT), and a controlled psychopharmacological support treatment. The therapeutic effects investigated are therefore attributable to an Integrated Therapy (IT) that is the combination of two interventions, both psychological and pharmacological.

ED and pharmacological treatments

While there is proven efficacy of antidepressant therapy for the short-term treatment of AN and BN, many studies support the role of psychotherapy, particularly CBT, in the treatment of these disorders [29-31]. Numerous papers have examined the combination of pharmacotherapy and psychotherapy. These studies used different antidepressants and different psychotherapeutic modalities, starting from nutritional counselling up to group and individual psychotherapy [29-32]. Overall, CBT was more effective than antidepressant medication alone, and the combination of the two was still superior to the drug alone [33]. However, it is unclear how much benefit comes from adding the drug to effective psychological treatment. Some studies have found that adding the antidepressant to psychotherapy does not further reduce binge eating or purging, while this combination nevertheless appears to improve symptoms such as anxiety, depressed mood and dietary restriction [29-31,34]. Some authors have also compared the association of a drug with CBT or with individual supportive psychotherapy, comparing the effect of combining the drug with the two different types of psychotherapy. The addition of some antidepressants seems, in some cases, to increase the effectiveness of both CBT on binge eating and depressive symptoms. However, the combination of the drug with CBT has shown greater efficacy than both treatment with the drug alone. It should be emphasized that the long-term benefits of short-term treatment protocols have only been demonstrated for psychotherapy and not for drug alone. Some studies also highlight the possibility that certain personality traits and anger levels may influence adherence to treatment and the drop-out rate [33,34]. However, SSRIs, in particular fluoxetine, have some utility in the treatment of BN alone, but the results are much discussed and more research is needed. Pharmacological studies have not yet uniquely identified active ingredients capable of bring about a consistent and lasting improvement in the symptoms of AN. Therefore, there are no drugs approved by the FDA or AIFA for the treatment of AN [30-32].

Methods

Sample

All subjects of this research completed an informed consent and received a description of the results of the test administered; all the data have therefore been performed in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki. Patient's anonymity was preserved and the obtained data were used exclusively for scientific purposes.

The sample was comprised of 15 women between the ages of 15 and 23-years-old (M = 16.6; SD =± 5.13) who were suffering from an ED according to the DSM-5 criteria [1], not directly attributable to a specific medical condition or endogenous pathology. The exclusion criteria were severe psychiatric (i.e., psychotic symptoms, bipolar disorder and severe personality disorders) or medical comorbidities, neurological trauma or disorder, or drug addiction.

The total sample was recruited from a Clinical Psychology section of a Child Neuro-Psychiatric Centre at the St. Chiara University Hospital in Pisa (Italy). No drugs treatment were administered at the time of first consultation, with the exception of one subject who continued fluoxetine therapy, who was previously prescribed at a dose of 20 mg/3/die. In the period prior to taking charge of the patient at the clinical psychology outpatient clinic, some general practitioner and two psychiatrist had prescribed some psych drugs. Anxiolytic therapies, with both benzodiazepines and SSRIs were prescribed, generally with a very low compliance, but neither antipsychotic nor tricyclic. All subjects were subdivided into two groups, depending on whether the patients' predominant symptoms adhered to the criteria proposed by the DSM-5 [1] for the diagnosis of AN or BN. This subdivision was conducted specifically in reference to the symptoms and the psychopathological characteristics reported by the patients at the time of their initial intakes by a mental health professional. Thus, the subdivision omitted patients' possible successive migrations toward conduct considered more typical of other psychopathological sub-profiles. For example, the conversion of the patient with a diagnosis of AN, Restricted-type to that of AN Purging-type was observed. To that end, any presence of being marked underweight (BN I ≤ 17.5) and of amenorrhea were considered to be particularly significant, and this made it possible to identify a group of AN patients (AN, n = 9) and a group of BN patients (BN, n = 6) (Tab. I).

All of the patients underwent a cognitive-behavioral psychotherapeutic treatment as well as a pharmacological regime, considered appropriate for each case based on the prevalent symptomatology. The integrated intervention lasted for no less than one year, but duration varied from patient to patient. Overall, in the cases in which the patient was particularly impaired, the therapy was prolonged until approximately two years after the end of the initial four-session evaluation phase.

Materials and procedure

The Symptom Questionnaire [35-37] was administered to the entire sample during the initial diagnostic phase (*phase 1).* The SQ is a tool made to evaluate the patient's current state that enables an assessment (a) of the subjective level of suffering experienced by the patient in the past week and (b) of the different, often interconnected, components of the same clinical profile. The questionnaire is composed of 92 dichotomous items, organized in four scales that assess anxiety (A), depression (D), somatic symptoms (S), and hostility (H). During administration of the questionnaire, patients are asked to respond to items because of how they felt in the past week. The SQ has been demonstrated to have excellent test-retest reliability, which, according to researchers, is due to the high consistency of the responses shown by the patients whose clinical profile remained invariable [35]. Such observations render this instrument as particularly adequate, not only for the initial assessment of the patients' complex clinical profiles, but, also, for monitoring the course of their self-reported symptoms overtime. The SQ was newly re-administered to each patient at a six-month follow up after the onset of therapy (*phase 2)* and upon termination (*phase 3)*. Specifically, the therapeutic intervention terminated once the patient's weight was stabilized and any compensatory behaviors (e.g., abuse of laxatives or induced vomiting) were eliminated.

In association with the SQ, a Psychophysiological Profile (PPP) [38] was carried out for each of the three treatment phases (diagnostic phase; six-month follow up; termination). The purposes of the PPP administration were to gather information on the possible presence and consistency of a psychophysiological impairment, as well as to verify the concordance of the psychophysiological results with the patients' verbal reports of symptoms. The PPP is a psychophysiological evaluation structured in three phases: "rest" or baseline, stress, and recovery. In the baseline phase (*phase b;* 6 minutes), each patient is instructed to close his/her eyes and to remain still and relaxed. In the "stress" phase (*phase s;* 4 minutes), the patient is presented a mental task (MAT) consisting of subtracting the number 13 from the number 1007 and continuing to subtract 13 from each successive result that is obtained. "Recovery" phase (*phase r*; 6 minutes) in when the patient is instructed to relax again. Five physiological parameters are recorded during each phase: skin conductance (or Galvanic Skin Response, GSR), Heart Rate (HR) Inter Beat Interval (IBI), Heart Rate Variability (HRV), Peripheral Temperature (PT), and electrical potential of the forehead muscles (surface Electromyogram, sEMG).

TABLE I. *Description of the characteristics of the sample (age and type of Eating Disorder).*

Sample characteristics		
N. Subjects	15	
AGE	Range	15-23
	Mean (SD)	16.6 (± 5.13)
ED	AN Freq. %	60%
	BN Freq %	40%

Data analysis

The SPSS.14 software was utilized to process all statistical analysis.

The following descriptive statistics were computed:

- the median scores for the four clinical scales of the SQ administered in the three different treatment

phases (*phases 1, 2, 3*) for the total sample and for the two subgroups (AN, BN);
- the mean and the standard deviation for each psychophysiological parameter recorded for each of the PPP's three phases (*phase b, s, r*) in the three different treatment phases (*phase 1, 2, 3)* for the total sample and for the two subgroups (AN, BN).

One of the purpose of this study was identify possible significant differences in the psychopathological characteristics of the two subgroups (AN, BN); for this, considering the small sample size, the following non-parametric statistical analyzes were conducted:
- a Mann-Whitney U test comparison of the AN and BN subgroups' scores on the four clinical scales of the SQ that were administered during the initial diagnostic phase (*phase 1)*;
- a Mann-Whitney U test comparison of the AN and BN subgroups' values for the five physiological parameters for the three phases of the PPP recorded during the initial diagnostic phase (*phase 1)*.

In order to assess the course of patients' self-reported symptoms and any changes in their autonomic disposition during treatment, the following analyses were conducted:
- a comparison among the scores obtained for each clinical scale of the SQ for the total sample in the three treatment phases (*phases 1, 2, 3),* using the Friedman and Wilcoxon test;
- for each physiological parameter, a comparison among the values recorded during the three treatment phases (*phases 1, 2, 3*) with each phase of the PPP (*phase's b, s, r*) of the total sample, using the Friedman and Wilcoxon statistical test.

Results

The descriptive analyses computed from total sample's SQ scores during the diagnostic phase (*phase 1)* reveal that, from a clinical point of view, the values for all of the scales appear to be significant. Patients reported elevated levels of anxiety (scale A), depression (scale D), hostility (scale H), and somatic symptoms (scale S) (Fig. 1). However, the Mann-Whitney U test did not find statistically significant differences in scores for the two subgroups (AN and BN).

The descriptive analyses computed from the total sample's PPP values recorded during diagnostic phase (*phase 1*), show moderately high baseline values in muscle tension (sEMG > 4 μV) and rather low baseline values in skin conductance (GSR < 6 μS). On the other hand, baseline peripheral temperature (PT), and heart rate (HR) values did not seem to be particularly indicative. During the stress phase, a meager activation was observed in all of the patients, especially in GSR. The temperature appeared to be nearly constant for the entire profile and showed no variations during the mental stress task (MAT)

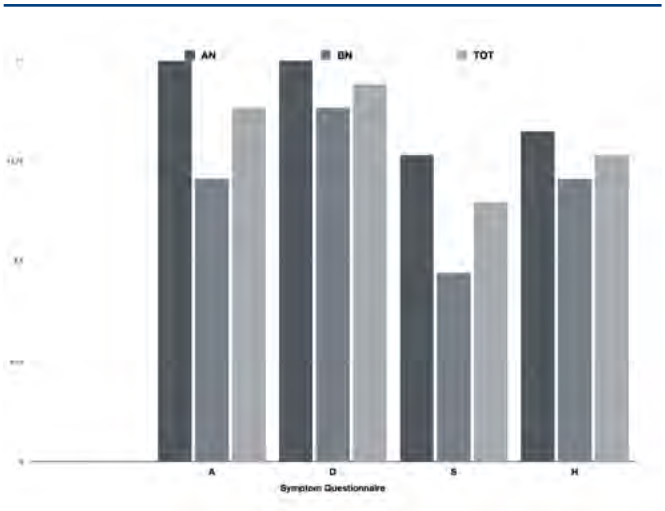

FIGURE 1. *SQ: median scores obtained for the SQ sub-scales for the total sample and for the two subgroups, AN and BN.*

administration. As for the last phase of the PPP, after the elimination of the stress stimulus, the recovery was rather meager, especially regarding the heart rate level. Overall, the mean values reported for the sample denote a generally low level of reactivity (Tab. II).

From the statistical analyses conducted using the Mann-Whitney U test, there are no statistically significant differences that emerged between the two subgroups, AN and BN, for any of the psychophysiological parameters recorded.

Concerning the course of the SQ self-reported symptoms, statistically significant reductions in anxiety, depression, and hostility levels were observed for the total sample (Fig. 2).

The median scores obtained from the SQ scales at the three-treatment assessment points have been calculated. Specifically regarding the depressive symptoms, improvement was already progressive and constant within the short-term (within six months of treatment onset). Significant differences were observed between the scale D scores obtained in the first and second SQ administrations (*phases 1-2;* $p < .02$), between the second and third administrations (*phases 2-3;* $p < .05$), and between the first and last administrations (*phases 1-3;* $p < .05$). Significant reductions in self-reported anxiety and hostility levels were observed only in the medium-long term (more than six months after treatment onset; scale A: *phases 2-3*, $p < .01$; *phases 1-3*, $p < .005$; scale H: *phases 2-3,* $p < .02$, *phases 1-3,* $p < .002$). No statistically significant differences were found between the scale S (somatic symptom) scores obtained during the three treatment assessment periods; nevertheless a progressive decrease in these scores was observable (Tab. III).

TABLE II.

Psychophysiological Profile (PPP): mean values obtained for the total sample (TOT) and for the two subgroups on four physiological parameters of the three PPP phases (b: baseline; s: stress; r: recovery).

	AN		BN		TOT	
	Mean	Standard Deviation	Mean	Standard Deviation	Mean	Standard Deviation
sEMG b (μV)	5	2	4	1	**4**	2
sEMG s	5.4	1.9	5.2	.8	5.4	1.5
sEMG r	4.8	1.9	4.2	.5	4.6	1.5
GSR b (μS)	2.4	1.8	4.1	2.1	**3.0**	2.0
GSR s	3.0	1.9	5.8	3.4	**4.0**	2.8
GSR r	2.7	1.8	5.0	2.8	**3.5**	2.4
PT b (°C)	30.8	2.2	31.5	3.3	31.1	2.5
PT s	30.71	2.14	31.51	3.36	30.99	2.54
PTr	30.77	2.17	31.29	3.53	30.96	2.61
HR b (bpm)	68	15	68	9	68	13
HR s	72	16	73	10	73	13
HR r	71	15	68	7	70	12

Abbreviations: sEMG: surface Electromyography; GSR: Galvanic Skin Response; PT: Peripheral Temperature; HR: Heart Rate

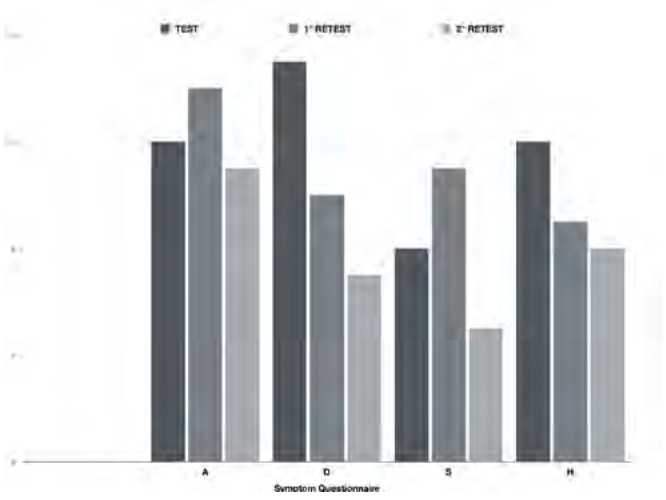

FIGURE 2. *SQ: median scores obtained for the total sample at the three treatment assessment points (diagnostic phase, six-month follow up, termination).*

TABLE III.

Comparison of scores obtained from the SQ scales for the total sample during the three treatment assessment phases (diagnostic phase, six-month follow up, termination); non parametric Friedman and Wilcoxon test

	Friedman	1-2	1-3	2-3
A	< .002	n.s.	< .005	< .01
D	< .001	< .02	< .001	< .05
S	n.s.	n.s.	n.s.	n.s.
H	< .005	n.s.	< .005	< .02
TOT	< .005	< .05	< .002	< .01

Abbreviations: A: Anxiety; D: Depression; S: Somatic Symptoms; H: Hostility

The mean values for each physiological parameter recorded in each PPP phase during the three treatment assessment points have been evaluated. As for the treatment's effectiveness regarding the autonomic disposition of the patients, statistical analyses revealed a significant difference among GSR values recorded during the stress phases ($p < .02$) (Tab. IV). In particular, it was possible to identify an increase in GSR levels (activation) during stress-induction. Such an increase, however, is only observable after several months of therapy. Statistically significant differences emerged only when comparing the PPP carried out at the six-month follow-up to that recorded at termination (*phases 2-3*), and when comparing the PPP carried out a the diagnostic phase to that recorded at termination (*phases 1-3*).

Discussion

Overall, the results of the present study seem to confirm the most recent experimental research regarding the ef-

TABLE IV. *Comparison of GSR values for the total sample during the three treatment assessment points (diagnostic phase, six-month follow-up, termination) for every phase of the PPP (rest/baseline, stress, recovery); non parametric Friedman and Wilcoxon test.*

	Friedman	1-2	1-3	2-3
Rest/Baseline	n.s.			
Stress	< .05	n.s.	< .02	< .02
Recovery	n.s.			

fectiveness of CBT in the treatment of ED when it is used in adjunct to pharmacological treatment [39,40]. Moreover, analyzing how the "recovery" process unfolds, it was possible to observe significantly reduced levels of self-reported depression within six months of therapy onset as well as decreased anxiety and hostility scores within the first year. This short-term cognitive-level improvement was observed to occur gradually and progressively and was also found to extend to long-term.

At the physiological level, the only index that showed significant improvement involved skin conductance (GSR) reactivity in the stress phase. Furthermore, such change was found only in the medium-long term (more than six months after the onset of treatment). Indeed, meager physiological reactivity during the stress phase and the low GSR levels have frequently been observed in depressed patients, in addition to patients suffering from an ED [9,41]. Therefore, it was possible to observe a partial discordance in patients' responses to the treatment: patients' self-perceived improvement preceded any changes observable at the physiological level. The patients examined in this study showed an improvement in mood that seemed to precede the improvements revealed through "objective" measures. This finding can be explained, in part, as being consistent with organic impairments induced by fasting and purging behaviors. Often, it is necessary to establish a period of rehabilitation and normalization of eating behaviors before one can observe a normal reestablishment of the patient's physiological functioning.

Similar results were found by Lachish and colleagues [42] investigating the efficiency of cardiac function in anorexic patients. Using HR and HRV, as parameters for the comparison between AN and controls, a significant difference was highlighted at the beginning and at the end of the treatment; furthermore after 24 and 36 months from the remission of symptoms and weight restoration an improvement has been described. This indicates a shift of sympatho-vagal balance, toward vagal tone predominance, and a reduced sympathetic tone [42]. It additionally reflects a physiological adaptation to prolonged low energy state [43-45].

In a recent review [43] the time required for recovery of cardiac function was highlighted: bradycardia and HRV increase can be observed up to 2 years after symptom remission [46] as well as after 7 or even 10 years [46-48].

However, the data also seems to confirm the possibility that clinical indices coming from different channels (cognitive, physiological, behavioral) are relatively independent. Furthermore, the tendency frequently found in patients suffering from EDs shows a little "ego dystonic awareness", which means they have difficulty recognizing their emotional states and biological needs [4,5,14,15,20,28,49,50].

In fact, alexithymia has been shown to be a stable trait in ED patients resulting in a predisposing and perpetuating factor: failure to recognize emotions and needs arising from one's body allows for the maintenance of a low BMI [22]. As a stable factor, alexithymia persists even after the reduction of depression and anxiety [51], ED behaviors [4], and can negatively affect the outcome of therapy [52]. It has been hypothesized that AN patients with alexithymia symptoms have greater difficulty in learning new specific strategies to effectively deal with negative emotions without the use of ED behaviors.

In fact, these behaviors in restricted AN (e.g. restriction/hunger) and BN (e.g., bingeing and elimination behaviors) usually function as maladaptive strategies to regulate or compensate for deficits in emotion regulation [22,26]. Furthermore, some experimental research demonstrates a tendency for females suffering from EDs to "exhibit" intense emotional reactions on the behavioral and verbal levels, despite experiencing little physiological activation [8,9,13,53].

Although the literature contains recent studies aimed at studying the emotional-psychophysiological aspects in ED, there is no research that has taken into consideration other psychophysiological parameters than HR and HRV [42,43,46-48].

In the present study, for the first time, these parameters were measured together with GSR, an indicator so far little studied [8,9,13,53-57]. In fact, it is interesting to note that this parameter is the only one that manifests reactivity after the treatment. Particularly, GSR represents the efficiency of cognitive functionality and so reflects the motivational activation and the attentional processes [7]. In light of this, the greater physiological reactivity found in this study following the therapeutic intervention may be, at least partially, interpreted as reflecting the patients' learning of new cognitive strategies for processing and managing their emotional experiences.

Another aspect that could explain an increase in the GSR parameter is the remission of depressive symptoms: usually, the low GSR reflects the presence of cognitive deficits, such as difficulty concentrating [8,9]. However, further studies need to be conducted: it would be

useful to verify if GSR could be an indicator of improved cognitive impairment in patients with ED [54]. To date, there are few studies in the literature that analyze the stress response in patients with ED taking into account skin conductance, and, of these studies, many of the results are controversial [8,9,13,53-57], probably also due to the different emotional and stressful stimuli selected by the authors to evaluate autonomic reactivity.

In addition, monitoring the effects of any form of psychotherapy raises a number of problems relative to the measurement criteria, decisions regarding when to carry out assessments, and possible generalization of the obtained results [2]. It is by now evident that the effects of treatment often do not involve only variables explicitly considered by the clinician, but much more global issues affecting the individual. Measurement of therapeutic change obtained with the various assessment tools also requires special attention in regard to the interpretation of the data collected "before and after" [2,3]. In testing the effectiveness of a treatment, it can be useful to consider the differences between the values collected at different times or to assess the mean change obtained from patients belonging to the same diagnostic category. Although this, it is essential not to neglect the possible influence of patients' initial levels of subjective suffering, as well as the many other variables that can notably differentiate between apparently similar psychopathological dispositions.

Experimental research has ample clarity between different diagnostic categories and this allows for the creation of homogeneous groups of patients who are similar in terms of pathological features. Despite this, each individual's clinical profile can still hide its own idiosyncratic maintenance factors behind nosological definitions. These idiosyncrasies are explained by the specific personal history of the patient, the relationship between the patient and his/her "environment", the meanings that the patient cognitively attaches to events, and stable traits of personality [2,27,28,41]. Therefore, concerning the effectiveness assessments of different interventions, it becomes crucial to reconcile and integrate a more normative vision of the results with a more subjective vision that focuses on the peculiarities of the individual. This holds true both in the study of individual cases and in investigations of actual clinical populations [8,9,27,28].

Thus, in addition to the initial diagnostic phase, a thorough investigation also becomes necessary in the assessment of the therapeutic effects. Such an investigation does not focus only on the detection of single symptoms and the most salient dysfunctional characteristics, but aims to gather a true "configuration" of qualitatively different responses [8,9]. The adoption of a multidimensional model of care makes it necessary to reformulate the concepts "recovery" or "remission" in order to consider all levels of analysis and their possible discordance. In fact, once accepted that there are frequent "splits" in individuals' responses, and that there is a need for a holistic investigation of each clinical case, the importance of assessing the true "result" of an intervention is greatly enhanced by the possibility of studying its "process" [4-6]. In other words, the collection of various indices throughout the duration of therapy is, in itself, an excellent tool for monitoring the therapy's validity, as well as for providing important information about which aspects (i.e., cognitive, behavioral, physiological) respond best to treatment.

Consequently, one can deduce that there is very importance of emphasizing a treatment, psychological pharmacological integrated or less does not dwell only on a general disorder profile or on self-reported symptoms. The previously mentioned discordance, between cognitive-affective, physiological and behavioral levels [11,13-17,55,] necessarily prompts the clinician to continue to monitor treatment until there is not just the absence of symptoms, but also an objective assurance that the therapeutic changes have stabilized.

Ultimately, these considerations suggest, at least in part, the need to "relativize" the concept of improvement and to consider new methodological pathways for studying different therapeutic interventions' effects. This concept only underlines the importance, even in the psychiatric, psychotherapeutic and clinical fields in general, of the need to obtain clinical evidence of the goodness of the treatment and the efficacy of the treatment itself as it is administered.

Limitation

The main limitation of this study is the small sample. This study could be replicated by involving a larger number of participants. This could favor possible comparisons between male and female gender as well as comparisons between the various subtypes that characterize the spectrum of eating disorders, namely AN with restrictions, AN with binges, and BN.

Further factors, such as co-morbidities present, could also be considered by distinguishing any associations with anxiety, depressive, or obsessive disorder.

Furthermore, the evaluation of the emotional aspects could be enriched by tests and questionnaires aimed at investigating alexithymia and the capacity for emotional self-regulation; for example, the Toronto Alexithymia Scale (TAS) [52] and the Difficulties in Emotion Regulation Scale (DERS) [53] could prove useful for possible comparisons with the objective data derived from the PPP.

Further tools could also be used for the evaluation of the psychophysiological structure. For instance, it is known that mineral and electrolyte alterations affect the function of the ANS and contribute to disturbances of the cardiac autonomic function. Therefore, their dosages could be useful to understand and better describe the organic compromise as well as the slowness in psycho-

physical recovery even after the remission of symptoms. Finally, further studies may also examine the value of HRV, considering that in recent literature it is repeatedly reported as a very useful parameter for the diagnostic setting and for the description of some psychophysiological impairment.

In this light, the effectiveness of a combination of therapy like the CBT, less or more integrated with the psychopharmacological one, and biofeedback training may be evaluated in order to improve treatment outcomes, and ty to obtain a good and healthy mind-body integration.

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Conflict of interest statement

The Authors declare no conflict of interest.

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Authors' contributions

CP and RL took care of carrying out the research. CP, SG and NR wrote the paper and took care of the corrections.

All Authors read and approved the final version of the manuscript.

Ethical consideration

This study was approved by the Institutional Ethics Committee of the University of Pisa.

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 par- ticipant/patient for study participation and data publication.

References

1 American Psychiatric Association. Diagnostic and statistical manual of mental disorders, 5th e. Arlington, VA: Author 2013.

2 Sakaluk JK, Williams AJ, Kilshaw RE, et al. Evaluating the evidential value of empirically supported psychological treatments (ESTs): a meta-scientific review. J Abnorm Psychol 2019;128:500-509. https://doi.org/10.1037/abn0000421

3 Hilbert A, Hoek HW, Schmidt R. Evidence-based clinical guidelines for eating disorders: international comparison. Curr Opin Psychiatry 2017;30:423-437. https://doi.org/10.1097/YCO.0000000000000360

4 Meneguzzo P, Garolla A, Bonello E, et al. Alexithymia, dissociation and emotional regulation in eating disorders: Evidence of improvement through specialized inpatient treatment. Clin Psychol Psychother 2021:1-7. https://doi.org/10.1002/cpp.2665. [Epub Ahead of Print]

5 Brown TA, Avery JC, Jones MD, et al. The impact of alexithymia on emotion dysregulation in anorexia nervosa and bulimia nervosa over time. Eur Eat Disord Rev 2017;26:150-155. https://doi.org/10.1002/erv.2574

6 Smeraldi E, Cavallaro R, Migone P. Valutazione dei risultati terapeutici. In: Pancheri P, Cassano G, Eds. Trattato italiano di psichiatria. Milano: Masson Editore 1999.

7 Pruneti C, Vanello N, Paterni M, et al. Combined functional magnetic resonance imaging and skin conductance to detect localized neural response to psychological stress: a pilot study. Arch Ital Biol 2021;159:21-27. https://doi.org/10.12871/00039829202112

8 Pruneti C, Saccò M, Cosentino C, et al. Relevance of autonomic arousal in the stress response in psychopathology. J Basic Appl Sci 2016;12:176-184.

9 Pruneti C, Lento RM, Fante C, et al. Autonomic arousal and differential diagnosis in clinical psychology and psychopathology. Italian Journal of Psychopathology 2010;16:43-52.

10 Price CJ, Crowell SE, Pike KC, et al. Psychological and autonomic correlates of emotion dysregulation among women in substance use disorder treatment. Subst Use Misuse 2019;54:110-119. https://doi.org/10.1080/10826084.2018.1508297

11 Delgado-Pastor LC, Ciria LF, Blanca B, et al. Dissociation between the cognitive and interoceptive components of mindfulness in the treatment of chronic worry. J Behav Ther Exp Psychiatry 2015;48:192-199. https://doi.org/10.1016/j.jbtep.2015.04.001

12 Delgado LC, Guerra P, Perakakis P, et al. Treating chronic worry: psychological and physiological effects of a training programme based on mindfulness. Behav Res Ther 2010;48:873-882. https://doi.org/10.1016/j.brat.2010.05.012

13 Rommel D, Nandrino JL, De Jonckheere J, et al. Maintenance of parasympathetic inhibition following emotional induction in patients with restrictive anorexia nervosa. Psychiatry Res 2015;225:651-657. http://dx.doi.org/10.1016/j.psychres.2014.11.030

14 Haynos AF, Roberto CA, Martinez MA, et al. Emotion regulation difficulties in anorexia nervosa before and after inpatient weight restoration. Int J Eat Disord 2014;47:888-891. https://doi.org/10.1002/eat.22265

15 Haynos AF, Fruzzetti AE. Anorexia nervosa as a disorder of emotion dysregulation: Evidence and treatment implications. Clin Psychol Sci Pract 2011;18:183-202. https://doi.org/10.1111/j.1468-2850.2011.01250.x

16 Stegagno L, Palomba D. Psicofisiologia. Torino: Boringhieri Editore 1991.

17 Mavissakalian M, Michelson L. Patterns of psychophysiological change in treatment of agoraphobia. Behav Res Ther 1982;19:677-691.

18 Lavender JM, Wonderlich SA, Engel SG, et al. Dimensions of emotion dysregulation in anorexia nervosa and bulimia nervosa: A conceptual review of the empirical literature. Clin Psychol Rev 2015;40:111-122. https://doi.org/10.1016/j.cpr.2015.05.010

19 Solmi M, Collantoni E, Meneguzzo P, et al. Network analysis of specific psychopathology and psychiatric symptoms in patients with eating disorders. Int J Eat Disord 2018;51:680-692. https://doi.org/10.1002/eat.22884

20 Gramaglia C, Ressico F, Gambaro E, et al. Alexithymia, empathy, emotion identification and social inference in anorexia nervosa: a case-control study. Eat Behav 2016;22:46-50. https://doi.org/10.1016/j.eatbeh.2016.03.028

21 Farstad SM, McGeown LM, von Ranson KM. Eating disorders and personality, 2004-2016: a systematic review and meta-analysis. Clin Psychol Rev 2016;46:91-105.

https://doi.org/10.1016/j.cpr.2016.04.005

22 Brockmeyer T, Bents H, Holtforth MG, et al. Specific emotion regulation impairments in major depression and anorexia nervosa. Psychiatry Res 2012;200:550-553. https://doi.org/10.1016/j.psychres.2012.07.009

23 Cassin SE, von Ranson KM. Personality and eating disorders: a decade in review. Clin Psychol Rev 2005;25:895-916. https://doi.org/10.1016/j.cpr.2005.04.012

24 Keel PK, Brown TA, Holland LA, et al. Empirical classification of eating disorders. Annu Rev Clin Psychol 2012;8:381-404. 10.1146/annurev-clinpsy-032511-143111

25 Harrison A, Sullivan S, Tchanturia K. et al. Emotional functioning in eating disorders: attentional bias, emotion recognition and emotion regulation. Psychol Med 2010;40,1887-1897. https://doi.org/10.1017/S0033291710000036

26 Kaye WH, Frank GK, Bailer UF, et al. Neurobiology of anorexia nervosa: clinical implications of alterations of the function of serotonin and other neuronal systems. Int J Eat Disord 2005;37(Suppl):S15-19; discussion S20-11. https://doi.org/10.1002/eat.20109

27 Thompson-Brenner H, Boswell JF, Espel-Huynh H, et al. Implementation of transdiagnostic treatment for emotional disorders in residential eating disorder programs: a preliminary pre-post evaluation. Psychother Res 2019;29:8,1045-1061. https://doi.org/10.1080/10503307.2018.1446563

28 Westwood H, Kerr-Gaffney J, Stahl D, et al. Alexithymia in eating disorders: Systematic review and meta-analyses of studies using the Toronto alexithymia scale. J Psychosom Res 2017;99:66-81. 0.1016/j.jpsychores.2017.06.007

29 Hay P. Current approach to eating disorders: a clinical update. Intern Med J 2020;50:24-29. https://doi.org/10.1111/imj.14691

30 Himmerich H, Kan C, Au K, Treasure J. Pharmacological treatment of eating disorders, comorbid mental health problems, malnutrition and physical health consequences. Pharmacol Ther 2021;217: 107667. https://doi.org/10.1016/j.pharmthera.2020.107667

31 Crow SJ. Pharmacologic treatment of eating disorders. Psychiatr Clin North Am 2019;42:253-262. https://doi.org/10.1016/j.psc.2019.01.007

32 Davis H, Attia E. Pharmacotherapy of eating disorders. Curr Opin Psychiatry 2017;30:452-457. https://doi.org/10.1097/YCO.0000000000000358

33 Wilson GT, Fairburn CG, Agras WS. Cognitive-behavioral therapy for bulimia nervosa. In: Garner DM, Garfinkel PE, Eds. Handbook of treatment for eating disorders. New York: Guilford Press 1997, pp. 67-93.

34 Fassino S, Abbate-Daga G, Pierò A, et al. Dropout from brief psychotherapy within a combination treatment in bulimia nervosa: role of personality and anger. Psychother Psychosom 2003;72:203-210. https://doi.org/10.1159/000070784

35 Fava G, Ravanelli C. Il processo diagnostico a partire dal dato quantitativo: il Symptom Questionnaire. In: Granieri A, Ed. I test di personalità: quantità e qualità: Torino: UTET 1998.

36 Fava GA, Kellner R, Perini GI, et al. Italian validation of the symptom rating test (SRT) and symptom questionnaire (SQ). Can J Psychiatry 1983;28:117-123.

37 Kellner R. Symptom Questionnaire. Firenze: Organizzazioni Speciali 1981.

38 Fuller GD. Biofeedback methods and procedures in clinical practice. San Francisco: Biofeedback Press 1979.

39 Davis LE, Attia E. Recent advances in therapies for eating disorders. F1000Res 2019;8:F1000 Faculty Rev-1693. https://doi.org/10.12688/f1000research.19847.1

40 Pruneti C. Positive psychology: old and new theoretical requirement for "Living this moment". J Depress Anxiety 2016;5:242.

41 Lachish M, Stein D, Kaplan Z, et al. Irreversibility of cardiac autonomic dysfunction in female adolescents diagnosed with anorexia nervosa after short- and long-term weight gain. World J Biol Psychiatry 2009;10(4 Pt 2):503-511. https://doi.org/10.1080/15622970902980770

42 Peyser D, Scolnick B, Hildebrandt T, et al. Heart rate variability as a biomarker for anorexia nervosa: a review. Eur Eat Disord Rev 2021;29:20-31. https://doi.org/10.1002/erv.2791

43 Jenkins ZM, Eikelis N, Phillipou A, et al. Autonomic nervous system function in anorexia nervosa: a systematic review. Front Neurosci 2021;15:682208. https://doi.org/10.3389/fnins.2021.682208

44 Schmalbach I, Herhaus B, Pässler S, et al. Autonomic nervous system response to psychosocial stress in anorexia nervosa: a cross-sectional and controlled study. Front Psychol 2019;12:649848. https://doi.org/10.3389/fpsyg.2021.649848

45 Casu M, Patrone V, Gianelli MV, et al. Spectral analysis of R-R interval variability by short-term recording in anorexia nervosa. Eat Weight Disord 2002;7:239-243. https://doi.org/10.1007/bf03327462

46 Nakai Y, Fujita M, Nin K, et al. Relationship between duration of illness and cardiac autonomic nervous activity in anorexia nervosa. Biopsychosoc Med 2005;9:12. https://doi.org/10.1186/s13030-015-0032-6

47 Jacoangeli F, Mezzasalma FS, Canto G, et al. Baroreflex sensitivity and heart rate variability are enhanced in patients with anorexia nervosa. Int J Cardiol 2013;162:263-264. https://doi.org/10.1016/j.ijcard.2012.10.073

48 Gilboa-Schechtman E, Avnon L, Zubery E, et al. Emotional processing in eating disorders: specific impairment or general distress related deficienty? Depress Anxiety 2006;23:331-339.

49 Montebarocci O, Codispoti M, Surcinelli P, et al. Alexithimia in female patients with eating disorders. Eat Weight Disord 2006;11:14-21.

50 Nowakowski ME, McFarlane T, Cassin S. Alexithymia and eating disorders: a critical review of the literature. J Eat Disord 2013;1. https://doi.org/10.1186/2050-2974-1-21.

51 Speranza M, Loas G, Wallier J. et al. Predictive value of alexithymia in patients with eating disorders: A 3-year prospective study. J Psychosom Res 2007;63:365-371. https://doi.org/10.1016/j.jpsychores.2007.03.008

52 Tchanturia K, Liao PC, Uher R, et al. An investigation of decision making in anorexia nervosa using the Iowa Gambling Task and skin conductance measurements. J Int Neuropsych Soc 2015;13:635-641. http://dx.doi.org/10.1017/s1355617707070798

53 Garner DM, Dalle Grave R. Terapia cognitivo comportamentale dei disturbi dell'alimentazione. Positive press 2002.

54 Nandrino JL, Berna G, Hot P, et al. Cognitive and physiological dissociations in response to emotional pictures in patients with anorexia. J Psychosom Res 2012;72:58-64. https://doi.org/10.1016/j.jpsychores.2011.11.003

55 Connelly M., Denney DR. Regulation of emotions during experimental stress in alexithymia. J Psychosom Res 2007;62:649-656.

56 Infrasca R. Alexithymia, neurovegetative arousal, and neuroticism. Psychother Psychosom 1997;66: 276-280.

57 Bagby RM, Parker JD, Taylor GJ. The twenty-item Toronto Alexithymia Scale-I. Item selection and cross-validation of the factor structure. J Psychosom Res 1994;38:23-32. https://doi.org/10.1016/0022-3999(94)90005-1

58 Gratz KL, Roemer L. Multidimensional assessment of emotion regulation and dysregulation: Development, factor structure, and initial validation of the difficulties in emotion regulation scale. J Psychopathol Behav Assess 2004;26:41-54. https://doi.org/10.1023/B:JOBA.0000007455.08539.94

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Damage reduction as endpoint in the management of substance addiction

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SUMMARY

Objectives

The treatment of addiction is very complex and results from the integration of pharmacological and psychological techniques whose end-point is generally to obtain and maintain total abstention from substances of abuse for the individual patient; however, this goal in clinical practice is often very difficult to achieve given the high psycho-behavioral dependence on many substances, the frequent psychiatric and poly-abuse comorbidity and the low motivation of many patients, at least at the beginning, to stop completely and definitively with one or more substances that often accompany them for many years or decades. Thus in recent times it has appeared as an idea the implementation, generally more realistic, of methods that imply the reduction and change of consumption, and consequently also of the physical damage, associated with psychoactive substances. In this article we will deal with the methods that lead to this result, with practical examples where this is already applied and with possible ideas for the future management of some situations of frequent clinical confirmation.

Materials and methods

The work was carried out by searching on sites of scientific articles such as PubMed, Researchgate and Google Scholar, by typing in keywords such as "addiction", "harm reduction", "addiction drug therapy", as well as in paper manuals of psychiatry and psychopharmacology.

Results and conclusions

We have found many articles, both recent and past years, of studies and data that testify that harm reduction is, for many subjects, a more realistic and easily achievable endpoint, both as an intermediate step towards complete abstention and as an objective primary, especially in the case of significant psychiatric comorbidity, poly-abuse or unfavorable socio-economic conditions and in some cases, such as for tobacco smoking or intravenous drug use, it also allows to reduce physical complications and public health expenditure, going for the benefit not only of practitioners working in mental health centers but of all branches of medicine, including general medical care.

Key words: damage reduction, psychoactive substances, addiction, psychopharmacology

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Introduction

The consumption of psychotropic substances has played an integrated role in human history for millennia, but with notable differences both like the substances used and in the reasons for their use. The meaning of the assumption can be various, religious, ritualistic, self-medicating (to "chemically" affect a negative mood or psychic tension as in the case of alcohol) or for the pursuit of pleasure, as well as to improve their performance (this is the case, for example, of stimulants, cocaine in the first place, without excluding nicotine and caffeine). Just think, for example, that all over the world 48% of the total adult population consumes alcohol at least occasionally, 33% smokes tobacco and at least 5% consumes illicit substances [1]. In Italy the situation in recent years is not very different; according to data from the anti-drug police department [2], in 2019 almost 55 drug emissions and 223,541 cannabis plants were seized (with

a decrease of 55.7 and 57.4% from 2018), in addition to 59,457 doses/narcotic substances tablets (+ 74.4%). 82% of the substances seized are cannabis products: the quantities of hashish and marijuana respectively, a difference from previous years, are substantially equivalent. In Italy, there are about 550 seats and in 2019 they assisted over 136,000 drug addicts, of which over 65% with heroin-related problems and over 30% from cocaine. Alcoholic services take care of over 90,000 patients, which however are about 10% of the total real number of alcoholics in Italy (which amounts to over 800,000 patients potentially deserving of treatment) and over 5 million people are considered "drinkers at risk", ie non-alcohol dependent but abusers and potentially susceptible to the development of alcohol-related physical diseases over time [3]. The total abstinence does not always constitute a feasible or acceptable goal given that a strong ambivalence often prevails between the awareness of having to stop consuming a substance that compromises the state of health and the constant desire to seek pleasure and its gratifying effects so that the individual is free to make a personal choice about his or her modality of use of the substances themselves. It is therefore essential in the beginning to understand what the patient wants to achieve first, as well as his level of motivation and self-efficacy [4]. It should be kept in mind that in this class of patients (not sufficiently motivated for total and immediate cessation and often with little family and social support) the short-term relapse rates (within 6 months) are very high; this is why in recent years the idea of a new possible management model has been born that does not imply an immediate detachment from the subs tance but remodeling and review of the relationship between the employer and the substance itself. This is how the idea of the approach based on "harm reduction" was born, a model already in use for some substances and which seems to give more feasible and consolidable results in the long term than complete abstinence, which can in any case then be obtained at a later time. The management approach based on harm reduction implies a paradigm shift that sees in the first place, not the rapid and complete withdrawal from the abused substance but a reduction in its frequency of use or a different way of taking it that results in both the overall improvement of the psycho-physical health of the patient and an incentive for a subsequent possible complete abstention. In detail, an approach of this kind involves various aspects [5,6]:

- the reduction of consumption induces an improvement in the physical health of the subject, with a minor cumulative dose and this allows to delay, slow down or avoid the damage, depending on the type of substance, the time of therapy in the history of the disease and patient-related factors such as age and comorbidities;
- improves mental health by reducing both the psychic effects of chronic intoxication (eg pro-depressive effect of alcohol and opioids or stimulating effects such as insomnia, anxiety, and mania from cocaine or amphetamines) and episodes of acute intoxication and binge, with positive effects also on the possible psychiatric comorbidity;
- furthermore, for some substances, the passage from injection to enteral administration or through special instruments (we will see later) significantly reduces the risk of transmission of serious and chronic infections such as HIV and HCV, improving expectancy and quality of life. How damage reduction can be implemented are 3: reduction of the frequency of consumption, of the dose taken in a single time and, in the case of venous users, change of administration by non-injection route or by using sterile disposable material, properly disposed of later. We will now see in detail the application models currently already in use.

Materials and methods

The work was carried out by searching on some sites of scientific articles (PubMed, Researchgate and Google Scholar) by typing in keywords such as "addiction", "harm reduction", "addiction drug therapy". Moreover, up-to-date paper books relating to addiction psychiatry and psychopharmacology were used. In drafting the work we focused on selecting only recent articles or texts where harm reduction was explicitly mentioned as a primary or secondary endpoint, without neglecting however the relationship of this approach with the traditional one of maintenance with agonists and comparing them for specific groups of substances, evaluating both the potentially beneficial effects on mental health and physical comorbidities.

Discussion

Tobacco

Tobacco smoking remains a truly global epidemic. Widespread after the discovery of America and now cultivated in various parts of the world, the tobacco plant (Nicotiana tabacum) is part of the Solanaceae family and is by far the most abused substance also given its high ability to induce psycho-addiction. To date, more than 13 million people smoke in Italy (ISTAT 2020 data) and where every year between 70 and 80 thousand die from smoking-related diseases, mainly tumors, cardiovascular and respiratory diseases, and where, of the more than 40 thousand new diagnoses at the year of lung cancer, 85% is directly attributable to smoking. On the other hand, psychiatric patients tend to smoke 2-3 times more than the general population and, while representing a minority of it, consume alone up

to 44% of total cigarettes, paradoxically receiving less assistance and advice to quit [7]. In recent years, much has been done to discourage consumption, from the increase in cigarette prices to anti-smoking advertising campaigns to the creation of real anti-smoking centers, currently over 300 throughout the country. Unfortunately, all this seems not to be enough and most smokers remain relatively insensitive to the motivational drive to change and the data show it: only 30% try to quit smoking every year, and of these only 5% become abstinent long term [8]. What reasons? The most important is that tobacco use is both physical and behavioral addiction to nicotine even though it is commonly accepted as a simple habit or bad habit and there is still a great deal of neglect among doctors and healthcare professionals who only rarely offer true and their paths to their clients. There is no acceptable threshold dose for smoking: total and permanent abstention alone is the central goal in the management of the smoking patient, but this goal is poorly accepted especially by heavy smokers (up to 60 cigarettes a day). So the health authorities have tried to find a "middle way" to obtain the initial therapeutic engagement for these subjects and today there are two important approaches to harm reduction in this population [9,10]:

- the exclusive switch to electronic cigarettes (e-cigs, now on the market for over fifteen years) or to heated tobacco products (IQOS, more recently introduced): toxicological studies have shown the reduction of exposure by over 90% of the polluting particulate in subjects "vapors" compared to traditional smokers and as regards IQOS the reduction is between 30 and 70% depending on the chemical species involved [11-13]. The e-cigs were the first devices initially developed to promote the complete cessation of tobacco but the current guidelines are more in favor of harm reduction as it has not been demonstrated uniformly in studies that subjects who switch to 'exclusive use of the e-cig always manage to stop permanently, even if this determines the absorption of nicotine always by inhalation and therefore much more similar to the traditional cigaretteThe IQOS, which arrived on the market in 2015, is a hybrid between the two as they contain tobacco which, however, is not burned but only heated up to about 350 degrees to vaporize the nicotine [14]. According to some studies, the transition to the use of these new devices would make it possible to significantly reduce the incidence and mortality rate from cancer but to date in Italy no health policies are promoted in this sense, preferring the perspective of prohibition which is certainly effective. but unfortunately poorly accessible for many at-risk groups of the population (including adolescents, highly addictive smokers, psychiatric patients);
- the use of traditional anti-smoking drug therapies not to achieve total cessation but to allow a reduction in consumption without causing the patient to suffer excessive nicotine withdrawal symptoms between one cigarette and the next (this is because, given the short half-life of the nicotine, heavy smokers tend to light the next cigarette every time the nicotinemia is reduced to zero, especially in rapid metabolizers and in subjects who have developed high tolerance). Various studies have, for example, showing that the use of nicotine transdermal patches stabilizes the patient by reducing the desire to smoke overall, especially during nocturnal awakenings, in the morning, and in times of stress, improving compliance [15,16]. This method allows the strong smoker to perceive being able to control consumption, managing to stay a few more hours without the need to smoke and therefore allowing, at least in some, to increase their self-efficacy and fully bring out the will for complete cessation. The same goes for the other nicotine releasing pharmaceutical forms and also for varenicline, taking into account that the best results are obtained by combining two pharmaceutical forms for NRTs (transdermal patch and quick release preparations as needed) and also psychological support is always important because it maintains and improves motivation and strengthens the therapeutic alliance [17].

Among the new treatment strategies is the use of two partial agonists, varenicline and cytisine, which since the early 2000s has shown great promise in making patients quit smoking or at least in reducing the number of cigarettes. Varenicline, an alfa4 beta2 nicotinic cholinergic partial agonist, on the market since 2006, it has revolutionized the management strategy of heavy smokers in anti-smoking centers because it is not only capable of acting on withdrawal symptoms, reducing or canceling them, but above all capable of reducing the craving for tobacco, stabilizing mood and levels of anxiety typically increased during smoking withdrawal [7]. Agonist nicotine therapies, which replace the substance as it is taken with smoking, release nicotine with a different kinetics than smoked one, which after an average of 8 seconds immediately reaches the CNS, instead with transdermal patches it is released slowly during 24 hours. hours, giving constant nicotinemia but without the positive reinforcement linked to rapid peaks and also rapid formulations such as oral sprays or sublingual tablets, while waiting for the withdrawal symptoms, do not completely cancel them and do not improve the craving (but they can still be valid if the person is highly motivated and does not have a high addiction).

Alcohol

The use of alcohol is attested in all cultures since ancient times and occurs along a continuum ranging from episodic and very moderate use to heavy, sporadic, or daily consumption, which can give rise to serious forms of ad-

diction and associated somatic pictures [18]. Consumption patterns vary considerably from individual to individual but overall in recent years we have witnessed a change in them in Western society, passing from the more classic, "Mediterranean" one, ie mainly low or medium alcoholic beverages and during meals or in any case in convivial situations, to the "Nordic" one, with the prevalent use of medium-high alcohol drinks, often between meals and with the specific aim of researching psychoactive effects rather than the pleasure of associated taste; among young people, it is now fashionable to consume with binge modality, ie six or more alcoholic units in a short period for the pure search for a "high", especially by associating other psychoactive substances such as caffeine in energy drinks and psychostimulants [19]. The DSM-V reformulated the diagnostic criteria for alcoholism by linking both actual addiction and abuse under the term "alcohol use disorder" (AUD). Alcohol can cause damage to various organs and systems and 70% of patients with alcohol-related diseases are social drinkers and not alcoholics, which represents only about 5% of the population. 35-40% have a risky consumption and it is precisely among these that most of the subjects who will develop related physical problems, on average after a latency of 10-30 years from the first contact with the substance, must be sought. Even in the case of AUD, the treatment aims to obtain abstention from consumption but we know it to be very difficult: it is, in its natural history, a rather resistant disorder to treatment, generally with many relapses with a strong psycho stimulus, physical to the resumption of consumption due to the mesencephalic neurobiological changes, patients have an intense reactivity to environmental stimuli and emotions. Episodic consumption typically begins in adolescence and is a common habit and generally decreases from around the age of 30. Of consumers at risk, about a third continue towards addiction while the majority maintain or reduce their income [20,21]. Of the alcoholics, without treatment, most have a strong tendency to progress and, after the rare periods of abstention, most, due to sensitization, return to their original consumption in a short time. Of the subjects attending a comprehensive treatment program, 45% achieve long-term abstinence, 35% have a remitting-relapsing path, and 20% show a progression of damage. The highest risk is recorded during the first 3 months of the program (70-80%). With a view to harm reduction, as previously explained for tobacco, starting from 2013 the authorities approved the marketing of a new drug, nalmefene, a class C drug obtainable with a standard repeatable prescription and marketed in 17-milligram tablets. This drug has some peculiarities compared to the others in use: it was in fact designed to be prescribed for the reduction of consumption in adult patients with alcohol dependence who have a high-risk intake but without physical symptoms of suspension and who do not require immediate interventions. detoxification, together with ongoing psychosocial support, aimed at adherence to treatment and reduction of alcohol consumption, only in patients who continue to have a high-risk drinking level two weeks after the initial assessment [7]. This is a very different goal from the classic one which instead provides for the rapid achievement of complete abstention from alcohol consumption and was designed for abusive patients, especially in binge mode, not immediately willing to stop drinking completely but who need (and who are willing) to reduce consumption. The dosage is also particular: in fact, nalmefene is taken as needed: the patient must take a tablet, preferably 1-2 hours before the scheduled time for alcohol consumption, every day when he perceives the risk of consuming alcohol. If the patient has started drinking alcohol without taking the drug, he should take one tablet as soon as possible. The maximum daily dose is one tablet (higher dosages have not shown additional benefits in preclinical studies). The use of drugs that modulate the opioid system in the treatment of alcoholism is not a new concept: naltrexone (NTX), an antagonist on endogenous opioid receptors, has already been approved for some time (1994) to manage alcohol dependence. as it reduces the pleasure associated with the consumption of drinks and the craving associated with abstention [22,23]. However, while the NTX also indicates the maintenance of opioid abstinence, nalmefene is specific for alcoholism as it reduces the reinforcing effects of alcohol and has a particular action profile. Although it is a selective ligand of opioid receptors, it is not a pure antagonist like naltrexone but rather a modulator, with different factions in the various receptor subtypes (it is the antagonist on mu and delta receptors and partial agonist on kappa receptors) [8]. It also has a long half-life and the data from preclinical and clinical studies and the literature do not suggest any form of addiction or abuse potential. The patient who takes nalmefene reports a reduced need for alcohol and above all a clear reduction of binge episodes and an easier non-problematic abstention. However, these are patients who do not need immediate detoxification, for whom traditional drugs and protocols remain valid, but who still deserve a reduction in intake that is not easily obtainable without other pharmacological support. Nalmefene is contraindicated in patients who are taking opioids or who have recently used them or with current or recent addiction as it can trigger a withdrawal crisis in these subjects. However, it can also be used in patients with non-advanced liver disease.

Illicit substances

The use of illicit substances has seen, since the 1980s, an epidemiological change, with a reduction in the consumption of opioids (primarily heroin) and a progressive increase in the use of natural and synthetic

stimulants. This phenomenon is attributable to social and cultural factors but also related to the availability of the substances themselves and their characteristics: heroin depresses nervous functions, inducing sedation, drowsiness, lethargy, and severe physical and mental dependence, as well as various typical somatic complications opioids; stimulants, on the other hand, activate mental functions resulting in euphoria, disinhibition, greater fatigue resistance and increased performance and for these reasons they are often used by adolescents and by a segment of the population that is also well integrated socially and in contexts of polyabuse, especially together with alcohol [9,10]. But one of the most characteristic factors is that heroin gives the typical feelings of gratification especially if administered by injection and most heroin addicts self-administer the substance intravenously several times a day given its short half-life. However, this entails various physical consequences, first of all, the high risk of transmission of blood infections such as HIV, HCV, and HBV due to the exchange of syringes between potentially infected people, as well as that of undergoing vascular complications such as phlebitis and embolic diseases caused by contaminants present in the substance. However, it must be said that this practice is not exclusive to heroin: stimulant substances such as cocaine, amphetamines, ketamine can also be injected (remember the classic combination of heroin and cocaine, known as "speedball"). The use of non-sterile injecting practices was the main determinant in the 80s and 90s which contributed to the spread of the infections mentioned above in this population and still today, albeit to a much lesser extent, remains a significant social scourge [24]. For all these substances there is no acceptable threshold dose and the final goal remains complete and definitive detoxification but, in a significant percentage of cases, due to the lifestyle, the addictive environment, and the associated complications, it is not possible to achieve sufficient adherence to treatment and patients relapse after a short time or will never go to a SerT. Thus, since the late 1980s, an attempt has been made to answer a question: can drug addicts learn how to use drugs responsibly, if not by stopping their consumption, at least by adapting it to avoid the most dramatic consequences? The strategic solution would therefore not be to use all the energy in an attempt to fully recover drug addicts but to learn to live with the phenomenon and promote, as much as possible, strategies to reduce the harm related to consumption [9,25]. Thus, especially abroad, operating models have been applied aimed at least reducing the damage related to the methods of recruitment, moving to legal administration under medical supervision. In particular, three interventions already in use should be remembered [26]:

- the distribution of sterile syringes via mobile units;
- the opening of centers for controlled consumption and information on the responsible use of drugs;
- the controlled distribution of heroin.

Such programs have already spread in Europe (in the Netherlands, for example, since 1984, in Denmark and Great Britain since 1986, and Switzerland since 1998). These policies do not in themselves imply the principle of legalization, although many promoters of these models are also in favor of it for some substances as it would lead to an increase in the quality of the drug with a decrease in the impurities contained and a reduction in the price of substances and related phenomena such as crime and prostitution. Since the discovery of HIV and HCV viruses, both in the 1980s and of their mode of transmission, the distribution of free sterile material (syringes, tampons, water) to drug addicts has begun in the first place, encouraging their return. from these, used syringes for their correct disposal. Even today there are "low-threshold services", organized mainly in mobile street units and first reception centers and represented by volunteers who implement this distribution of sterile material in the places preferentially frequented by these people also through regional projects [27,28]. The effects of these measures were immediately positive: in Italy, the prevalence of HIV infection among drug addicts fell from 60% in 1986 to values of about 3% in recent years (up to the 1990s, with the availability of HAART, caused rapid spread and death within 1-3 years from the infection). The same applies to HCV, albeit with less dramatic results: the seroprevalence of the infection among drug addicts up to the 1990s was very high, close to 100%, being much more contagious per syringe than HIV [7] and it can also be transmitted simply by sharing other used instruments other than syringes such as filters. Today, also thanks to the new direct-acting antivirals, mortality has decreased sharply and new infections are reducing over time [7]. Concerning the controlled distribution of substances in Switzerland on 13 May 1992, the Federal Council ruled in favor of the controlled experimental distribution of heroin to seriously addicted drug users. Today, this therapeutic approach is part of everyday life in Switzerland. In total there are 21 centers distributed throughout the territory; the DiaMo Narcotis laboratory in Thun produces every year, under strict supervision, between 200 and 300 kilos of diamorphine, the pharmaceutical form of heroin. According to various sources, crime related to drug dealing has reduced as drug addicts are no longer forced to commit crimes to obtain the doses, each of them is considered a patient and covered by the health insurance fund, subjected to medical treatment and psychological assistance. In Italy to date, low-threshold units have been a reality for many years but, as regards the controlled distribution of

substances for serious and recurrent cases, there are neither interventions already approved of this type nor short-term legislative proposals that provide for such methods of management, even if the heroin problem is far from solved. Finally, it should be remembered that also the use of a partial agonist drug, varenicline, which has contributed a lot to increase the percentage of subjects who are able to obtain abstinence or a reduction in the consumption of illicit opioids thanks to some of its particular characteristics. An example of the utility of buprenorphine in the management of heroin withdrawal, which has accompanied methadone in an almost similar way in terms of efficacy, even if still fairly little prescribed. A disadvantage concerns its formulation in sublingual tablets as some heroin addicts have started over the years, after having solubilized the tablets in water, to inject them into a vein. For this reason, today there is a tablet formulation that combines buprenorphine and naloxone: this opioid antagonist is not active orally as it is not absorbed but, if injected into a vein, it reaches the brain where it rapidly antagonizes the effects of opioids and also, in subjects addicted, often triggers withdrawal symptoms [11]. This aspect is not possible instead with methadone, a complete agonist, often used directly in the vein with the risk of both overdose and venous or arterial puncture injuries such as phlebitis and moreover it is a syrup in a sugar solution, associated with an increased risk of diabetes and metabolic problems.

Benzodiazepines

Benzodiazepine abuse (BDZ) is a major problem in all care settings, both inpatient and outpatient, and all of these compounds have abusive properties, albeit with differences in half-life and hypnotic and anxiolytic potency. It is estimated that in Italy the users of these compounds are about one in 10 adults and that over 3 million people are “long term users”, therefore off-label. Unfortunately 40 to 80% of these subjects have a dependence on these drugs [29,30]. Abusers are usually offered as a strategy or with a slow dosage or, in the case of short half-life drugs such as triazolam, alprazolam, or lorazepam, switching to long half-life compounds, complete agonists such as diazepam or lorazepam. clonazepam, with the same logic of switching from heroin to methadone, stabilizing plasma concentrations and reducing interdose withdrawal symptoms and allowing for easier downsizing. In recent years, however, a new technique has taken hold for high dose abusers (over 50 milligrams of diazepam-equivalent per day for at least 6 months) based on the use of flumazenil as a slow subcutaneous infusion for one week of hospitalization, associated with prophylaxis. antiepileptic [31]. Flumazenil, BDZ receptor antagonist, if administered not as a rapid bolus but as a slow infusion acts as a partial agonist allowing the restoration of the dysregulated GABA-A receptors in chronic BDZ abuse, restoring their normal function and restoring the original sensitivity that such patients they had lost over time [7,12]. Currently in Italy this treatment is carried out only by the addiction medicine department of the Verona Polyclinic [13].

Conclusions

The problem of managing addictions remains a huge but poorly represented public health issue to date in Italy, despite the data indicating an increase in consumption, especially among the under-30s. Various strategies have been adopted to cope with this problem and among these a leading role sees those that imply the reduction of harm for those subjects with important addictive behaviors and not immediately willing or able to stop their consumption especially for psycho-concurrent social events [14]. The goal of harm reduction services is not the abstention from substance use, as that of traditional care services (although abstention is obviously a desirable but not immediately necessary development). The operators who deal with this meet people in the places of consumption and The relationship between operators and consumers is informal, with a non-judgmental approach because the primary objective is to prevent people from dying, avoid the transmission of diseases and prevent social damage. They also play a control role that benefits everyone and contain the health costs of any hospitalization and treatment for diseases such as hepatitis C or HIV and are a tool to hook the undeclared, which would not turn to the Sert. Various have been described, both for legal and illegal substances (the latter above all for their mode of intake) but to date, unlike the scenario of other European countries, Italy does not have health policies aimed in this direction, involving on the one hand the presence of centers that work very well and take care of over 136 thousand patients followed over time but a large number of potential patients continue to escape health control, endangering their health and that of others due to the spread of infections serious [15].

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Conflict of interest statement

The Authors declare no conflict of interest.

For the purposes of compliance with the provisions of art. 6-bis of Law no. 241/1990 and of the art. 7 of the Code of Conduct for public employees, issued with Presidential Decree no. 62/2013; - aware of the penal sanctions resulting from untruthful declarations and / or

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Authors' contributions

We worked in an integrated way on the development of the article, both contributing to the drafting of all the paragraphs and to the complete bibliography and website research. AM and EM had the idea of writing the article. AM initiated and contributed to implement the research of the sources and developed the theory and EM performed the calculations. Together, AM and EM verified the methods, investigating the specific aspect and AM has supervised the results of this work. All Authors discussed the results and contributed to the final manuscript.

Ethical consideration

The articles that contributed to this review were reviewed by considering international ethical standards.

References

1 Latt N, Conigrave K, Medicina delle dipendenze. Milano: Springer 2014.

2 Relazione annuale al Parlamento sul fenomeno delle tossicodipendenze in Italia, anno 2020 (http://www.politicheantidroga.gov.it).

3 Rezza G. Infections and other causes of mortality correlated with drug addiction. Ann Ist Super Sanita 2002;38:297-303.

4 Wodack A. Demand reduction and harm reduction (http://www.globalcommissionondrugs.org/wp-content/themes/gcdp_v1/pdf/Global_Com_Alex_Wodak.pdf).

5 Zucchetto A, Bruzzone S, De Paoli A, et al. AIDS and injecting drug use: survival determinants in the highly active antiretroviral therapy era. Epidemiol Prev 2009;33:184-189.

6 Dati alcolismo in Italia, 2020 (http://www.quotidianosanita.it/studi-e-analisi/articolo.php?articolo_id=86722).

7 Naveillan P, Mandiola E. Developing countries. Health education in the primary prevention of alcoholism. Hygie 1985:4:48-52.

8 Warburton H, Turnbull PJ, Hough M. Occasional and controlled heroin use not a problem? London, UK: Joseph Rowntree Foundation, 2005.

9 Finberg S. Drug abuse: clarification please. Pharm J 2000;264:883. [controllare citazione]

10 Harris M, Scott J, Wright T, et al. Injecting-related health harms and overuse of acidifiers among people who inject heroin and crack cocaine in London: a mixed-methods study. Harm Reduct J 2019;16:60. https://doi.org/10.1186/s12954-019-0330-6

11 Veronese C, Boffi R. Cigarette smoke, e-cig vapor and "heat-not-burn": a comparison between the emissions of toxic compound (https://www.tabaccologia.it/filedirectory/PDF/1_2017/06-tabaccologia1_2017.pdf).

12 Smith D, Shahab L, Blount B. Differences in exposure to nicotine, tobacco-specific nitrosamines, and volatile organic compounds among electronic cigarette users, tobacco smokers, and dual users from three countries. Toxics 2020;8:88. https://doi.org/10.3390/toxics8040088

13 Shein M, Jeschke G. Comparison of free radical levels in the aerosol from conventional cigarettes, electronic cigarettes, and heat-not-burn tobacco product. Chem Res Toxicol 2019;32:1289-1298. https://doi.org/10.1021/acs.chemrestox.9b00085

14 Hatsukami DK, Carroll DM. Tobacco harm reduction: past history, current controversies and a proposed approach for the future. Prev Med 2020;140:106099. https://doi.org/10.1016/j.ypmed.2020.106099

15 Le Houezec J, McNeill A, Britton J. Tobacco, nicotine and harm reduction. Drug Alcohol Rev 2011;30:119-123. https://doi.org/10.1111/j.1465-3362.2010.00264.x

16 McNeill A, Munafò MR. Reducing harm from tobacco use. J Psychopharmacol 2013;27:13-18. https://doi.org/10.1177/0269881112458731

17 Parascandola M. Tobacco harm reduction and the evolution of nicotine dependence. Am J Public Health 2011;101:632-641. https://doi.org/10.2105/AJPH.2009.189274

18 Lugoboni F, Zamboni L. In sostanza: manuale sulle dipendenze patologiche. CLAD Onlus 2018.

19 Maremmani I, Presta S, Petracca A. Nalmefene: profilo clinico e real world evidence nel trattamento della dipendenza da alcol. Journal of Psychopathology 2014;20:80-91.

20 Handbook for action to reduce alcohol-related harm, 2009, pp. 78 (https://www.euro.who.int/__data/assets/pdf_file/0012/43320/E92820.pdf)

21 Charlet K, Heinz A. Harm reduction-a systematic review on effects of alcohol reduction on physical and mental symptoms. Addict Biol 2017;22:1119-1159. https://doi.org/10.1111/adb.12414

22 Erdozain AM, Morentin B, Bedford L, et al. Alcohol-related brain damage in humans. PLoS One 2014;9:e93586. https://doi.org/10.1371/journal.pone.0093586

23 Single E. Harm reduction as an alcohol-prevention strategy. Alcohol Health Res World. 1996;20:239-243.

24 Fazzi I, Scaglia A. Tossicodipendenza e politiche sociali in Italia. Milano: FrancoAngeli 2001.

25 Grund JP, Coffin P, Roustide MJ, et al. The fast and furious – cocaine, amphetamines and harm reduction (https://www.emcdda.europa.eu/system/files/publications/555/downloads/att_101265_EN_emcdda-harm%20red-mon-ch7-web.pdf).

26 The state of harm reduction in Western Europe 2018 (https://www.hri.global/files/2019/05/20/harm-reduction-western-europe-2018.pdf).

27 Vento A, Ducci G. Manuale pratico per il trattamento dei disturbi psichici da uso di sostanze. Roma: Fioriti Editore 2018

28 Galanter M, Kleber H. Trattamento dei disturbi da uso di sostanze. Milano: Elsevier 2006.

29 Brett J, Murnion B. Management of benzodiazepine misuse and dependence. Aust Prescr 2015;38:152-155. https://doi.org/10.18773/austprescr.2015.055

30 Benini A, Gottardo R, Chiamulera C, et al. Continuous infusion of flumazenil in the management of benzodiazepines detoxification. Front Psychiatry 2021;12:646038. https://doi.org/10.3389/fpsyt.2021.646038.

31 Lader M. Benzodiazepine harm: how can it be reduced? Br J Clin Pharmacol 2014;77:295-301. https://doi.org/10.1111/j.1365-2125.2012.04418.x

Dall'universo dell'autismo allo spettro della catatonia

by Liliana Dell'Osso and Giulia Amatori

(FrancoAngeli, Milano 2022)

Recent scientific literature has highlighted the importance of spectrum approaches for optimizing the diagnosis and treatment of mental disorders. The application of the spectrum model provides a more realistic representation of clinical syndromes, including recognition of subclinical, prodromal, and subthreshold symptoms, which are essential for early diagnosis and prevention. Within this framework, the autism spectrum has been described as a trans-nosographic dimension, a matrix of vulnerability that represents the starting point for the development of various psychopathological trajectories [1].

Dall'universo dell'autismo allo spettro della catatonia ("From the universe of autism to the spectrum of catatonia") by Professor Liliana Dell'Osso and her student Giulia Amatori, explores in detail the possible pathological trajectory that originates from the autism spectrum and culminates in one of the most severe manifestations of mental disorder: catatonia.

The psychopathological vulnerability associated with the autism spectrum is attributed, in particular, to the intense propensity to ruminate about traumatic events, functioning as a process of endless re-experiencing with dysregulation of emotions and vital functions. A process that, perpetrated over time, is likely to lead to a clinical picture comparable to that seen in borderline personality disorder, a mosaic of psychopathological dimensions associated with the frequent removal, reprocessing and exploitation of trauma. In the absence of adequate psychopharmacological treatment, the last stage of the illness trajectory described in the book, could then be characterized by the full-blown, or subthreshold, manifestations of catatonia.

From this point of view, the authors propose three dimensional assessment tools developed at the psychiatric clinic of Pisa, in order to facilitate the recognition of subthreshold symptomatology and prevent the development of potentially preventable mental disorders. The questionnaires reported in the book are the Adult Autism Subthreshold Spectrum (AdAS Spectrum) for the autism spectrum, the Trauma and Loss Spectrum Self-Report (TALS-SR) for the trauma and loss spectrum and, finally, the Catatonia Spectrum (CS), a recently formulated questionnaire designed to investigate the symptoms of the catatonic spectrum: a concept advanced by the DSM-5 itself with the introduction of the category "catatonia without specification".

The psychopathological trajectory described by the authors is also enriched with emblematic clinical cases, able to improve the understanding of the different stages of mental illness.

References

[1] Dell'Osso L, Amatori G, Gesi C, et al. A case of catatonia in the aftermath of the COVID-19 pandemic: does autism spectrum matter? Ann Gen Psychiatry 2021;20:54. https://doi.org/10.1186/s12991-021-00377-9