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Validation of the Italian version of the Night Eating Questionnaire (I-NEQ)

Summary

Objective

Night Eating Syndrome (NES) has been included in the DSM-5 within the category of Other Specified Feeding and Eating Disorders and seems to be highly comorbid with other psychiatric disorders. NES has been frequently measured with the Night Eating Questionnaire (NEQ), but currently no Italian validation exists.

Methods

Overall 574 participants filled out the Italian version of the NEQ (I-NEQ) and the total score and subscales were correlated with measures of eating psychopathology, affective and sleep symptoms. In order to assess the I-NEQ structure, reliability, and test-retest reliability we respectively run confirmatory factor analysis (CFA), Cronbach's α, and intraclass correlation coefficient (ICC) test-retest.

Results

Second-order CFA confirmed the four-factor structure, even if item #9 did not load adequately with the Nocturnal Ingestions factor as in the original version. The alpha coefficients of the four factors ranged from .48 to .71, and the Cronbach's alpha for the total score was .65. The test-retest reliability was good [ICC (95% confidence interval) = .68 (.61-.74)] and sound correlations with other measures were found.

Conclusions

The I-NEQ has acceptable psychometric properties and test-retest reliability and thus seems an acceptable measure to investigate night eating behavior among Italian speakers.

Key words

Eating behavior • Night eating questionnaire • Validation • Night eating syndrome • Eating disorders

Introduction

Night eating syndrome (NES) is currently recognized as an eating disorder (ED) and is classified within the category of other specified feeding or eating disorder (OSFED) in the Diagnostic and Statistical Manual, 5th Edition (DSM-5; APA, 2013).

The concept of NES, firstly described in 1955 as the combination of morning anorexia, evening hyperphagia and insomnia [1], has been revised several times over the last few years, leading to a clear differentiation with sleep-related eating disorder (SRED) [2]. According to the suggested diagnostic criteria, NES is characterized by two core criteria as evening hyperphagia and/or nocturnal ingestions, the awareness of these behaviors and the presence of at least three of five descriptor symptoms (morning anorexia, post-dinner eating, insomnia, depression and the belief that one must eat in order to get to sleep) [3].

The relevance of NES has been highlighted across a number of psychological conditions and mental illnesses including anxiety disorders [4],

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mood disorders [5], and SRED [6]. The NES seems to play an important role in EDs. On the one hand there is a great overlap between NES and binge eating disorder (BED) [7]; on the other NES is associated with emotional eating and food cues [8]. Finally, the impact of NES in bariatric patients on their weight and weight-related comorbidities seems to be an important treatment target [9].
The Night Eating Questionnaire (NEQ) is the most commonly instrument for the screening of NES. It consists of 14 items describing 4 dimensions: morning anorexia, evening hyperphagia, mood/sleep, and nocturnal ingestions [10].
The item 13 that assess awareness of eating is not included in the total score, but serves to differentiate NES from SRED[6]. It has already been translated and validated in several languages, such as German [11], Portuguese [12], Arabic [13], Mandarin Chinese [14] and Spanish [15], showing a range of adequate to questionable psychometric properties. It is important to validate this instrument in different countries given that its validity may be influenced by the cultural and societal pressures and norms related to timing of eating. For example, lunch in Mediterranean countries is heartier and is consumed later when compared to northern Europe countries. Another example of cultural eating practices is related to religious practices (i.e. fasting during Ramadan in Muslim countries or avoiding meat during the Fridays of Lent by Catholics).
To the best of the authors' knowledge, no Italian validation study of the NEQ exists. The original version and the validated translations of this instrument have demonstrated that, on one hand, it had good psychometric properties such as acceptable internal consistency (α = .70 [10]; α = .71 [11]; α = .79) [15], a four-factor structure [10 11 14 15] and a good test-retest reliability [11 14 15]. On the other hand, it showed questionable psychometric properties such as a low Cronbach's α of the Morning Anorexia and Mood/Sleep subscales. Additionally, some items such as item #9 ("Other than only to use the bathroom, how often do you get up at least once in the middle of the night?"), loaded on the Mood/Sleep factor instead of Nocturnal Ingestions [15], and item #5 ("How much of your daily food intake do you consume after suppertime?") in the original version loaded on both the Morning Anorexia and Evening Hyperphagia factors [10].
Thus, present research aims at validating and assessing the psychometric properties of I-NEQ (i.e. internal consistency, construct validity and test-retest reliability) in a sample of Italian speakers.
We hypothesized that I-NEQ would demonstrate adequate internal consistency ($\alpha \geq 70$), satisfactory retest reliability [intraclass correlation coefficient (ICC) $\geq .75$] and moderate to high positive correlations ($r \geq .30$) with other measures of eating psychopathology, affective, and sleeping symptoms.

Methods

Participants and procedures

Data were retrieved from February to April 2017. The students of the first and third year of the School of Medicine from the University Magna Graecia of Catanzaro (Italy) received information on the purpose and methods of this project by one researcher and the possibility to anonymously participate in this study was given them. Detailed information was offered also from the Facebook page of the Outpatient Unit for Clinical Research and Treatment of Eating Disorders of Catanzaro (Italy). Survey forms were directly accessed from a specific link. The online survey included an informed consent, a self-report form regarding socio-demographic variables, and the tests. Anonymity was assured through the use of a nickname (8 alphanumeric and symbols characters) that respondents had to write in either in the test and the retest to facilitate the data matching.
Since the link to fulfill the survey was posted on the social network, the number of subjects who initially entered the study remained unknown. Moreover participants who did not complete correctly all items were automatically dropped from the electronic database so we are unable to determine the initial sample and to estimate the number of drops out.
Overall 574 respondents (327 women and 247 men) completed the first survey form. Data regarding height and weight were self-reported. Mean age was 21.4 ± 2.3 years and mean Body Mass Index was 22.4 ± 4.1 kg/m^2.
Two weeks later the online retest was re-opened for the re-test procedure. All participants had one week to complete the second survey; overall 483 (84%) participants completed this retest after 17.6 ± 2.3 days. Only data of 444 responders were used for analysis because the codes of 39 did not match to those specified in the first survey.

Measures

Night Eating Questionnaire (NEQ). A double and independent forward- and back-translation procedure was carried for the translation into Italian of the NEQ by the authors and one bilingual Italian-English psychologist. After the achievement of a consensus among translators was reached, another Italian-English researcher, blind to the original NEQ, translated into English this preliminary version. Minimal discrepancies that did not invalidate the content of the items were found between the original and the back-translated version. Items were conceptually corresponding to the original test and easily comprehensible. Then the newly developed Italian NEQ was administered to 25 participants whose answers are not included in the present study in order to check the understanding of the items. All 25 considered

the I-NEQ comprehensible and easy to answer to. NEQ follows a Likert type scoring from 0 to 4. The questionnaire contains two stop criteria: when items #9 or #12 are answered "0" the remaining questions are also score "0" (Appendix 1).

Beck Depressive Inventory (BDI). The Italian version of BDI-II [16], a 21 multiple-choice items test, was used to measure depressive symptomatology. It uses a Likert scale scoring (0-3). Minimum, mild, moderate and severe depression correspond respectively to scores between 0-9, 10-16, 17-29 and ≥ 30. Cronbach's alpha in this study was .79.

Binge Eating Scale (BES). Binge eating was assessed by means of the Italian version of the BES [17]. Sixteen items describe the behavioral manifestations, feelings, and cognitions related to binge eating. Total BES scores < 17, 17-27 and > 27 indicate unlikely, possible and probable BED. The internal consistency was .90.

Eating Disorder Examination Questionnaire (EDE-Q). The EDE-Q [18] evaluates symptoms related to eating disorders within the past four weeks. Twenty-two items account for the dimensions eating restraint, eating concern, weight concern, and shape concern. Another six items describe the frequency of altered eating behaviors. Cronbach's alpha in this study was between .91-.95.

Pittsburgh Sleep Quality Index (PSQI). We used the Italian version of the PSQI [19] to evaluate: sleep quality, latency, duration, efficiency, disturbances, daytime dysfunction, and sleep medication use of participants. The PSQI global score allows the classification of good versus bad sleepers. Cronbach's alpha was .66.

Data analyses

Data, presented as means, standard deviations (SD), frequencies and percentages, were analyzed with the Statistical Package for the Social Sciences (SPSS 21.0). Amos 21.0 was used to carry out a Confirmatory Factor Analysis (CFA) to test the factor structure of I-NEQ. The Comparative Fit Index (CFI), the Tucker-Lewis Index (TLI), the Root Mean Square Error of Approximation (RMSEA), Standardized Root Mean Squared Residual (SRMR) and Relative chi-square (χ^2/df) were used to assess the goodness of fit of data. Regarding CFI and TLI, values of .90 and above were considered adequate, whereas values of .95 or above were considered very good; for RMSEA values of .08 and below were considered adequate and .05 or less very good; for SRMR a cutoff value close to .08 was considered adequate. Values of χ^2/df < 3.0 are good and those < 2.0 are very good. The magnitudes of these indices were evaluated according to the recommendations of Hu and Bentler [20]. In order to allow comparisons with previous studies, the I-NEQ internal consistency reliability was measured by Cronbach's alpha. Alpha values ≥ .70 were considered acceptable if dealing with subscales derived from a single questionnaire [21].

Intraclass correlation coefficient (ICC) following a two-way random-effects model with absolute agreement was calculated along with the 95% confidence interval (CI) 22. The agreement level suggested by Cicchetti 23 was applied to interpret the results. Thus ICC < .40, .40-.59, .60-.74, and .75-1.00 was respectively considered as poor, fair, good and excellent level of clinical significance.

Construct validity was measured by correlations run with the corresponding scales and questionnaires; coefficients > .30 were considered advisable 24.

A p-value of < 0.05 was considered statistically significant.

Results

Night eating prevalence and associations with participants' characteristics

Using the cut-off score of 25 [10], 1.2% of the current sample screened positive for NES. The NEQ total score was unrelated to age (r = –.015, p = .718) and BMI (r = .070, p = .092). Women (M = 9.24, SD = 5.2) had a higher mean NEQ total score than men (M = 8.32, SD = 4.3, $t_{(572)}$ = 2.246, p < .05) and even though this effect was small (d = .19), we performed the correlations controlling for gender.

Confirmatory factor analysis

The second-order model in which items were assigned to the four factors, and factors were considered to be part of a higher-order NES construct showed an adequate fit: CFI = .946, TLI = .928, RMSEA = .063, Relative chi-square (χ^2/df) = 2.798, and SRMR = .058, suggesting the appropriateness of the total score of the I-NEQ. Only item #9 ("Other than only to use the bathroom, how often do you get up at least once in the middle of the night?") had a small factor loading on Nocturnal Ingestions factor; the other item loadings were acceptable (Fig. 1).

Reliability and test-retest

Cronbach's alpha of the total scale was α = .65 ranging between α = .48 and α = .71 for the subscales (Table I). The three week test-retest reliability of NEQ total score was good [ICC (95% confidence interval) = .68 (.61-.74)]. Cronbach's alpha coefficient increased when an item was deleted, in particular for items #1 (Morning Anorexia) and #7 (Mood/Sleep). As Table II shows, subscales were positively correlated with each other (rs = .282-.345, ps < .001) and with the total score (rs = .649-.734, ps < .001), except for Morning Anorexia which was unrelated to the other subscales (rs = -.023-.055), and which also had the smallest correlation with the total score (r = .322, p < .001).

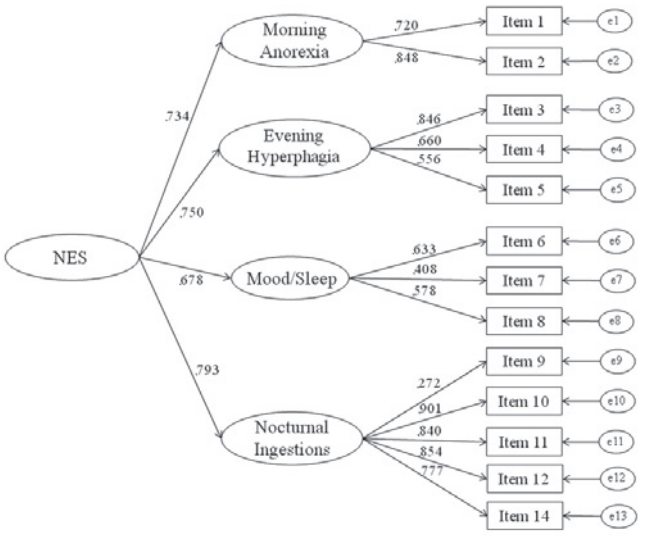

FIGURE 1. *CFA second-order model and its standardized factor loadings.*

Construct validity

NEQ total score was moderately and positively correlated with the EDE-Q total score (r = .317, p < .001) and its subscales: Eating Concern (r = .406, p < .001), Weight Concern (r = .301, p < .001), and Shape Concern (r = .297, p < .001), while a weak correlation with the Restraint subscale (r = .188, p < .001) was evident. The NEQ also showed positive correlations with the BDI (r = .478; p < .001), PSQI (r = .514, p < .001) and BES (r = .474, p < .001) scores.

Discussion

The purpose of this study was to validate the Italian version of the NEQ (I-NEQ) based on the original questionnaire [10] in order to have a reliable and easy-to-administer tool to measure night eating. In fact, this behavior is of interest across a wide variety of disorders and conditions [7-9], and previous validations in other countries showed that cultural differences can impact this topic [11 13]. Present results suggest that the I-NEQ is a tool with acceptable psychometric properties and test-retest reliability and that it is psychometrically very similar to the original NEQ and its validations (i.e. German, Spanish, Arabic). Besides, its structure is fully comparable to the original version with a four-factorial model as demonstrated by the CFA.

However, item 9 ("Other than only to use the bathroom, how often do you get up at least once in the middle of the night?") produced a small factor loading on the Nocturnal Ingestions factor. Interestingly this item loaded on the Mood/Sleep factor in the Spanish version [15]. This could be due to the small number of nocturnal eaters in our sample, so to get up during the night in this sample could be more related to insomnia than to nocturnal eating or depression. Further testing of the performance of this item using a clinical sample of persons with NES would be helpful.

Interestingly, the Morning Anorexia factor showed the weakest correlation with the total I-NEQ score and was unrelated to the other subscales. These results seem to confirm that Morning Anorexia is a descriptor of NES instead of a core feature [3]. In fact, a previous study found

TABLE I. *Psychometric properties of the Italian Night Eating Questionnaire (I-NEQ).*

Item	α-item	Correlation (r) with total score		Nocturnal ingestions	Evening hyperphagia	Mood/sleep	Morning anorexia
1	.687	.230*	Cronbach's α	.70	.71	.48	.56
2	.640	.342*	Mean ± (SD)	.70 ± (1.6)	2.21 ± (2.1)	3.44 ± (2.6)	2.49 ± (1.5)
3	.594	.621*					
4	.601	.607*					
5	.624	.464*					
6	.609	.542*					
7	.677	.544*					
8	.612	.530*					
9	.625	.451*					
10	.630	.527*					
11	.632	.455*					
12	.628	.520*					
14	.625	.479*					

*Mean NEQ total score = 8.84 ± 4.8; *: p < .001; α-item: Cronbach's α if item is deleted; SD: Standard Deviation.*

TABLE II. *Correlations among the subscales of the Italian Night Eating Questionnaire (I-NEQ).*

	I-NEQ Total score	Morning anorexia	Evening hyperphagia	Mood/sleep	Nocturnal ingestions
I-NEQ Total score	-				
Morning anorexia	.322**	-			
Evening hyperphagia	.706**	.026	-		
Mood/sleep	.734**	-.023	.282**	-	
Nocturnal ingestions	.649**	.055	.345**	.302**	-

** $p < .001$

that the morning anorexia items were not significant contributors of the night eating construct [25].

Similar to previous versions in other languages [10 11 13], even if two of the four subscales showed low internal consistency, the internal consistency of the I-NEQ total score was acceptable. In fact our results for the subscales Morning Anorexia and Mood/Sleep are similar to those reported both in the original [10] and in the German [11] versions, so according to Meule et al. [11] future studies should only use the I-NEQ total score.

The test-retest reliability of the I-NEQ total score was good, and it was very similar to the previous validation studies [11 15], even if these used the Pearson correlation to quantify the test-retest reliability. The test-retest reliability represents the proportion of variance in one measurement accounted for by another; ICC ranges from 0 to 1 while Pearson r ranges from -1 to 1 and it must be squared to estimate the proportion of variance. In this way, it is possible to see that the German validation [11] accounted for 59% of variance and the Spanish validation [15] found 73% of the variance accounted for, which are quite similar to the 68% found in our study.

We observed no relation between NES and BMI but, important, we just examined a sample of young adult students. This finding is consistent with studies of university [8 27] and young adult samples [28], but contradictory to some studies of adult populations [29 30]. The lack of relationship between NES and BMI in our study could be due to the relatively young age of the participants as, according to Meule, Allison, Brähler and de Zwaan [26], age moderates the relationship between NES and BMI. Our findings could be further supported by the results of Marshall, Allison, O'Reardon, Birketvedt and Stunkard [31] who showed that weight gain occurs with the persistence of NES and, therefore, an elevated BMI is not likely to be related to NES at a young age.

About convergent validity, the total I-NEQ score was positively correlated with eating pathology (i.e. EDE-Q subscales and total score) and binge eating (i.e. BES), replicating previous studies [8 10 32]. Interestingly, a small, positive correlation with the dietary restraint scale of the EDE-Q was observed, and this is consistent with the assumption that restraint is not a core feature but a descriptor of NES as suggested in the description of the diagnostic criteria [3] as well as in studies using a population-based sample [11]. Moreover, the positive relationship observed between the total I-NEQ score with the PSQI [10 14] and the BDI is consistent with previous studies [14 15 33].

Interestingly, the I-NEQ showed a higher strong association with sleep disturbance, binge-eating and depression than the EDE-Q subscales. Our results seem to confirm the core conceptual features of the NES, defined as a synthesis of sleep, affective and eating disorders. Therefore in the future, it might be useful to investigate the NES in a population that manifests these clinical features.

This study has some limits. The first is that data were gathered by self-report (e.g., anthropometric measures as height and weight) and accordingly they could be biased. The second limit regards the Internet-based data collection because the procedure could result in a self-selected sample of participants [34]. Yet, a recent research has proved that either the Internet or the paper-and-pencil Chinese versions of NEQ had strong reliability and validity [14]. The last limit is that our sample predominantly comprised young normal weight medical students. Literature reveals that the prevalence of NES is higher in obese populations than in the general population [35] but recent studies have investigated this disease in young adult non-obese populations [27] revealing that NES also occurs in this type of sample. In this line of thinking, if we refer to the definition of NES as a combination of eating, mood and sleep disorder, and also to the theory that this syndrome appears to be an adaptation to stress [1], a sample of young medical students, like ours, could be representative because they may be at higher risk to develop poor quality and quantity of sleep, eating and affective disorders [36]. However, forthcoming studies involving both wider representative samples of general population and clinical samples would be appropriate to replicate and extend current results. In conclusion, this study first proved that the I-NEQ is comparable to the

original NEQ and other foreign validations. Secondly it demonstrated that the I-NEQ is an acceptable measure to evaluate night eating symptomatology in Italian speakers. The total score is psychometrically sound, even if item 9 (the frequency of nocturnal awakenings for reasons other than having to go to the bathroom) did not adequately load with the Nocturnal Ingestions factor.

Conflict of interest

None

References

1 Stunkard AJ, Grace WJ, Wolff HG. *The night-eating syndrome: a pattern of food intake among certain obese patients*. Am J Med 1955;19:78-86.

2 Volpe U, Atti A, Cimino M, et al. *Beyond anorexia and bulimia nervosa: what's "new" in eating disorders?* Journal of Psychopathology 2015;21:415-23.

3 Allison KC, Lundgren JD, O'Reardon JP, et al. *Proposed diagnostic criteria for night eating syndrome*. Int J Eat Disord 2010;43:241-7.

4 Sassaroli S, Ruggiero GM, Vinai P, et al. *Daily and nightly anxiety among patients affected by night eating syndrome and binge eating disorder*. Eat Disord 2009;17:140-5.

5 Kucukgoncu S, Tek C, Bestepe E, et al. *Clinical features of night eating syndrome among depressed patients*. Eur Eat Disord Rev 2014;22:102-8.

6 Howell MJ, Schenck CH, Crow SJ. *A review of nighttime eating disorders*. Sleep Med Rev 2009;13:23-34.

7 Succurro E, Segura-Garcia C, Ruffo M, et al. Obese *patients with a binge eating disorder have an unfavorable metabolic and inflammatory profile*. Medicine (Baltimore) 2015;94:e2098.

8 Nolan LJ, Geliebter A. *Night eating is associated with emotional and external eating in college students*. Eat Behav 2012;13:202-6.

9 De Zwaan M, Marschollek M, Allison KC. *The night eating syndrome (NES) in bariatric surgery patients*. Eur Eat Disord Rev 2015;23:426-34.

10 Allison KC, Lundgren JD, O'Reardon JP, et al. *The Night Eating Questionnaire (NEQ): psychometric properties of a measure of severity of the Night Eating Syndrome*. Eat Behav 2008;9:62-72.

11 Meule A, Allison KC, Platte P. *A German version of the Night Eating Questionnaire (NEQ): psychometric properties and correlates in a student sample*. Eat Behav 2014;15:523-7.

12 Harb ABC, Caumo W, Hidalgo MPL. *Translation and adaptation of the Brazilian version of the Night Eating Questionnaire*. Cad Saude Publica 2008;24:1368-76.

13 Elsadek AM, Hamid MS, Allison KC. *Psychometric characteristics of the night eating questionnaire in a middle east population*. Int J Eat Disord 2014;47:660-5.

14 Tu C-Y, Tseng M-CM, Chang C-H, et al. *Comparative validity of the Internet and paper-and-pencil versions of the Night Eating Questionnaire*. Compr Psychiatry 2017;75:53-61.

15 Moizé V, Gluck ME, Torres F, et al. *Transcultural adaptation of the Night Eating Questionnaire (NEQ) for its use in the Spanish population*. Eat Behav 2012;13:260-3.

16 Ghisi M, Flebus GB, Montano A, et al. *Beck depression inventory*. Organizzaz. Firenze 2006.

17 Ricca V, Mannucci E, Moretti S, et al. *Screening for binge eating disorder in obese outpatients*. Compr Psychiatry 2000;41:111-5.

18 Calugi S, Ricca V, Castellini G, et al. *The eating disorder examination: reliability and validity of the Italian version*. Eat Weight Disord Stud Anorexia Bulim Obes 2015;20:505-11.

19 Curcio G, Tempesta D, Scarlata S, et al. *Validity of the Italian Version of the Pittsburgh Sleep Quality Index (PSQI)*. Neurol Sci 2013;34:511-9.

20 Hu L, Bentler PM. *Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives*. Struct Equ Model A Multidiscip J 1999;6:1-55.

21 Nunnally J. *Psychometric theory.* 2nd ed. New York: McGraw-Hil 1978.

22 McGraw KO, Wong SP. *Forming inferences about some intraclass correlation coefficients*. Psychol Methods 1996;1:30-46.

23 Cicchetti DV. *Guidelines, criteria, and rules of thumb for evaluating normed and standardized assessment instruments in psychology*. Psychol Assess 1994;6:284-90.

24 Stewart AL, Ware J. *Measuring functioning and well-being: the medical outcomes study approach*. Durham, Duke University Press 1992.

25 Allison KC, Engel SG, Crosby RD, et al. *Evaluation of diagnostic criteria for night eating syndrome using item response theory analysis*. Eat Behav 2008;9:398-407.

26 Meule A, Allison KC, Brähler E, et al. *The association between night eating and body mass depends on age*. Eat Behav 2014;15:683-5.

27 Runfola CD, Allison KC, Hardy KK, et al. *Prevalence and clinical significance of night eating syndrome in University students*. J Adolesc Heal 2014;55:41-8.

28 Fischer S, Meyer AH, Hermann E, et al. *Night eating syndrome in young adults: delineation from other eating disorders and clinical significance*. Psychiatry Res 2012;200:494-501.

29 de Zwaan M, Roerig DB, Crosby RD, et al. *Nighttime eating: a descriptive study*. Int J Eat Disord 2006;39:224-32.

30 Tholin S, Lindroos A, Tynelius P, et al. *Prevalence of night eating in obese and nonobese twins*. Obesity (Silver Spring) 2009;17:1050-5.

31 Marshall HM, Allison KC, O'Reardon JP, et al. *Night eating syndrome among nonobese persons*. Int J Eat Disord 2004;35:217-22.

32 Harb A, Levandovski R, Oliveira C, et al. *Night eating patterns and chronotypes: a correlation with binge eating behaviors*. Psychiatry Res 2012;200:489-93.

33 Lundgren JD, Allison KC, O'Reardon JP, et al. *A descriptive study of non-obese persons with night eating syndrome and a weight-matched comparison group*. Eat Behav 2008;9:343-51.

34 Mayr A, Gefeller O, Prokosch HU, et al. *Web-based data collection yielded an additional response bias- but had no direct effect on outcome scales*. J Clin Epidemiol 2012;65:970-7.

35 Vander Wal JS. *Night eating syndrome: a critical review of the literature*. Clin Psychol Rev 2012;32:49-59.

36 Liao Y, Knoesen NP, Castle DJ, et al. *Symptoms of disordered eating, body shape, and mood concerns in male and female Chinese medical students*. Compr Psychiatry 2010;51:516-23.

APPENDIX. ITALIAN NIGHT EATING QUESTIONNAIRE (I-NEQ)

1) Di solito quanto si sente affamato/a al mattino?				
0	1	2	3	4
Per nulla	Pochissimo	Un po'	Abbastanza	Molto
2) Generalmente, quando mangia per la prima volta nella giornata?				
0	1	2	3	4
Prima delle 9	Tra 9:01 e 12	Tra 12:01 e 15	Tra le 15:01 alle 18	Dopo le18:00
3) Sente il bisogno incontrollabile o l'impulso di mangiare qualcosa dopo cena, ma prima di andare a dormire?				
0	1	2	3	4
Per nulla	Poco	Abbastanza	Molto	Moltissimo
4) Quanto riesce a controllarsi nel mangiare tra la cena e l'ora di andare a dormire?				
0	1	2	3	4
Per nulla	Poco	Abbastanza	Molto	Completamente
5) Quanto del cibo che mangia quotidianamente consuma dopo cena?				
0	1	2	3	4
0% (nulla)	1-25% (entro un quarto)	26-50% (circa metà)	51-75% (più della metà)	76-100% (quasi tutto)
6) Attualmente, quanto si sente depresso o veramente a terra?				
0	1	2	3	4
Per nulla	Poco	Abbastanza	Molto	Moltissimo
7) Quanto si senti giù, il suo umore è più basso al: (se non cambia durante la giornata metta una X sul pallino o altrimenti prosegua).				
0	1	2	3	4
Al mattino presto	Tarda mattinata	Pomeriggio	Sera presto	Sera tardi / notte
8) Quanto spesso ha problemi a prendere sonno?				
0	1	2	3	4
Mai	Qualche volta	Circa la metà delle volte	Di solito	Sempre
9) Quante volte le capita di alzarsi almeno una volta nella notte per motivi differenti dall'andare in bagno?				
0	1	2	3	4
Mai	Meno di 1/7 gg.	Circa una volta a settimana	Più di 1/7 gg.	Sempre

Se ha risposto 0 alla domanda 9 il questionario termina qui

10) Sente il bisogno impellente o l'impulso di mangiare qualcosa quando si sveglia la notte?				
0	1	2	3	4
Per nulla	Poco	Abbastanza	Molto	Moltissimo
11) Quando si sveglia la notte, ha bisogno di mangiare qualcosa per potersi riaddormentare?				
0	1	2	3	4
Per nulla	Poco	Abbastanza	Molto	Moltissimo

segue

12) Quando si sveglia nel cuore della notte, quante volte le capita di mangiare ?				
0	1	2	3	4
Mai	Qualche volta	Circa la metà delle volte	Spesso	Sempre

Se ha risposto 0 alla domanda 12 il questionario termina qui

13) Quando mangia nel cuore della notte, quanto è consapevole di stare mangiando ?				
0	1	2	3	4
Per nulla	Poco	Abbastanza	Molto	Completamente
14) Quanto controllo ha sul mangiare quando si alza la notte?				
0	1	2	3	4
Per nulla	Poco	Abbastanza	Molto	Completamente

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Postmodernity, insecurity and job loss Focus on the unemployed's suffering

Summary

Objectives
Recent research shows clear correlations between the subjective perception of job's insecurity and physical, mental and relational health. This article highlights the difficulties of workers, and particularly the impact of uncertainty and job loss on their self-esteem and psychophysical well-being. The work presents and contextualizes the perception of job insecurity as an effect of postmodern society.

Methods
The research involved 60 subjects that have lost the jobs and received a 3 month intervention of active policies organized in groups focusing on empowerment and employability. At two times before and after group participants filled in Rosenberg Self Esteem Scale (RSES) and Health Survey-36 (SF-36) in order to evaluate the levels of self-esteem and sense of well-being and the changes after the group intervention.

Results
We shown low levels of self-esteem in the whole sample at t1 and significant increasing after intervention. Concerning SF-36, initial values indicated a high level of physical and psychological problems and poor levels of well-being. Only a few of these variables change significantly after group intervention. There are also differences between groups depending on the sex of the participants, age and perception of social support.

Conclusions
Data suggests that actives policies interventions can produce good results but more specific interventions would be needed in relation to the individual characteristics. We underlined the necessity to specify the general categorization of "unemployed" in order to act more effective actions based on specific target's conditions.

Key words
Postmodernity • Unemployment • Self-esteem • Well-being • Empowerment • Group

Introduction

Empirical evidences of the consequences of insecurity and loss of work

The perception of job insecurity is an effect of the economic changes that involve many postmodern societies and it is increasing in most European countries. In many sectors of life, as in the work, the postmodernism has replaced the categories of security, stability and permanence with those of flexibility, uncertainty and mobility. This change has important impact on the lives of workers and on their psychophysical well-being. Starting by an analysis of literature on these aspects, this article highlights the difficulties of workers, and particularly the impact of uncertainty and job loss on their self-esteem and psycho-physical well-being.

Recent research suggests that job's insecurity reflects the national level of unemployment [1] and shows clear correlations between the subjective

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perception of job's insecurity and the national percentages of unemployment at a given time [2]. The loss of job is an experience with strong psychological impacts and severe consequences on physical, mental and relational health [3 4]. Beyond the economic security, in fact, the job loss involves personal and social aspects, which change the lifestyle and, therefore, have important repercussions on the sense of identity [5 6].

Particularly, we can identify two main research fields on this theme: 1) the first analyzes the consequences of job insecurity and loss within the organization itself; 2) the second analyzes the consequences of job insecurity and loss on mental health and well-being of individuals [7]. This article is part of the second area of study.

Regarding the first area of studies the job satisfaction is the most commonly studied issue. Research shows that workers who perceive insecurity in their work are less satisfied than those who perceive safety. Furthermore, insecurity has negative impacts on the organization of work in terms of involvement and engagement toward it [8 9] but also in terms of performance, self-efficacy, confidence for the management and burnout [10-16]. Recent studies have also explored the existence of different patterns of work and workplace attachment and have explored the relationships between adult attachment styles and the level of workplace attachment [17].

Moreover, the scientific literature shows that insecurity or job loss has negative effects outside the work organizations. This is specifically the theme of the second field of studies that analyze the negative effects of insecurity or job loss on family and marriage relationships and also on the children's attitudes toward work [18-20].

Regarding this theme, the literature shows that job insecurity negatively correlates with well-being and life satisfaction and positively with burnout; moreover the literature highlights the contribution of job insecurity or loss on the sense of coherence, self-esteem, self-efficacy, emotional stability and on the perception of quality of life [21-28].

Other studies show that job insecurity is associated with negative affectivity and analyze the impact of personality traits on job insecurity [29- 33] and that temporary workers and unemployed subjects show increased levels of irritation, anxiety, psychosomatic disorders and physical complaints (for example: insomnia, eating disorders, increase of tobacco consumption, increase risk of cardiovascular disease, etc.) [34 35].

Job insecurity is so detrimental that some studies show that it is more problematic than the certainty of dismissal, probably because the certainty (even if negative) permits to regain control over own life and decide what to do [36 37]. Important in this regard is the concept of *employability* [38-40] and the interventions in his favor, which will be discussed following.

All this has social and health costs that deserve to be thorough, therefore, more attention should be given to the effects of insecurity and job loss on well-being, psycho-physical health, on working and family relations, etc. and also more attention should be given to possible interventions that can reduce these effects.

Therefore, mostly in the light of the evidence of the second research area, this paper evaluates the impact of loss of work on psycho-physical well-being of the precarious and, in particular, analyzes the levels of self-esteem and perception of the quality of life in people who have lost their jobs and receive an economic subsidy. In line with the literature presented above we can hypothesize to detect: at t1 (before the intervention of active policies) low levels of self-esteem (H_1) and low levels of perceived quality of life (H_2).

What intervention for reduce the negative consequences of uncertainty and job loss?

The empirical evidences pose the question on how reduce the negative effects of insecurity and job loss and various studies suggest that different variables can intervene on negative impacts of job loss or insecurity.

Different studies suggest that: the participation to change process (namely the opportunity to participate in decisions), the open communication on organizational changes, as well as a greater organizational justice are important factors that influence the well-being and work performance [41-43].

About the issues identified by the second research area, studies suggest that different variables can intervene on negative impacts of job insecurity or job loss. The conditions of discomfort are not generalizable: gender, age, family and social support, cultural level, length of service, presence of other work experience, personality dispositions, affectivity, locus of control, and other dispositions as self-efficacy, core self-evaluations, etc. represent an important distinction on effect of insecurity and job loss [24]. In fact, if the experience of insecurity and job loss has important effects in all cases, generally the youngers suffer less than the older because they are more easily employable. Therefore, the development of employment capacity is an important action to mitigate the negative effects of insecurity and job loss.

The concept of employability refers to the development of professional skills (such as language competence) but also interpersonal skills (such as adaptability, flexibility, creativity, etc.) needed to re-enter into the world of work. Therefore, if the employability can reduce the negative impacts of insecurity and job loss, it becomes an important goal of research, but until now it has received less attention as potential moderator of the consequences of insecurity or job loss [39].

According to data diffused by ISTAT (Italian National Institute of Statistics) in May 2017, in Italy, the unemploy-

ment rate was 11.3% and the youth unemployment rate at 37%.

About passive policies, we want to emphasize that unlike France, Germany, Sweden or other EU countries, Italy does not provide for economic subsidies (eg income of citizenship) for more than two years. From this point of view, it continues to have a system of unemployment protection more similar to Greece than that of the EU average.

Instead, for answer to this serious social problem, the Ministry of Labor and Social Policy has promoted the so-called *Active Policies of Labor*, that, in contrast to the *Passive Policies* (as the economic subsidies), aim to develop employability through requalification, orientation and skills assessment courses. At present, however, these initiatives are until little-used, and citizens have not yet developed a culture on this regard. In fact, in large part, the subjects who participated in these courses have asked the acquisition of practical skills rather than the implementation of personal skills (exploitable to any workplace and generally in life, as would like the *Active Policies of Labor*).

In the light of what has been said, general objectives was also to identify appropriate strategies to counter such negative effects and address the research on less analyzed issues to date.

In particular, research analyzes the changes that occurred between the beginning and the end of an active policy intervention aimed at increasing the employability of those involved in research. Active policy intervention has been organized into median groups with the aim of improving self-esteem and quality of life, as well as improving perceiving of own employability. The groups have worked to the assessment of their own skill, and on the enhancement of communicative and assertive skills. Particularly, in this contribution, the data relating to self-esteem and perception of quality of life are reported. In line with the literature presented above it is assumed to detect, at t2 (after the intervention of active policies) improved self-esteem levels (H_3) and an improved level of the perception of quality of life (H_4).

Materials and methods

Participants

The research was requested and sponsored by a center for employment in the province of Palermo and involved 60 subjects, 30 men and 30 women. The average age was of 36.2 (SD 8.81) years old, ranged between 18 and 50 years. Participants have a working tenure between 2 and 35 years (M=14.5 SD .89). All subjects have lost the jobs by average 1 year and 1/2 and are currently receiving economic aid. Moreover, dividing the participants by gender, in our sample, women have an average age of 36 years (SD 7.98), ranged between 23 and 50 years and an average working tenure of 11.77 years (SD 7.89) ranged between 2 and 30 years; men have an average age of 36.4 years (SD 9.70) ranged between 18 and 50 years and an average working tenure of 17.23 years (SD 9.29) ranged between 2 and 35 years.

Furthermore, 3% of participants claimed to have sought psychological support and 10% of them said they would take benzodiazepines (prescribed by the generalist physician) because of insomnia and restlessness. None of the participants have a history of physical and mental disability.

The intervention of active policies was organized in median groups (from 6 to 10 components each). The groups met weekly for 3 months and were conducted by a psychologist and a participant observer. All subject participated to groups with a percentage of absences of no more than 15%.

Participation in research has been voluntary; all participants were informed of the research goals and signed informed consent.

Measures

Rosenberg Self Esteem (R-SES[44]): it is a 10-item self-report measure of global self-esteem. It consists of 10 statements related to overall feelings of self-worth or self-acceptance. The items are answered on a four-point scale ranging from strongly agree to strongly disagree. A higher score indicates a better level of perceived self-esteem, whose level is considered acceptable from the cut-off of 15. In the present study, the R-SES demonstrated an excellent internal consistency with a Cronbach's α value of .87.

Short Form Health Survey-36 (SF-36[45]): it is a questionnaire consisting of 36 items that assess functional status and sense of well-being. It consists of 8 subscales that assess multiple questions in 8 health concepts: physical functioning (SF-36_PF), role limitations due to physical health problems (SF-36_PR), bodily pain (SF-36_BP), general health (SF-36_GH), vitality (SF-36_VT), social functioning (SF-36_SF), role limitations due to emotional problems (SF-36_ER), and mental health (SF-36_MH). These 8 domains are grouped into 2 main dimensions: one physical and the other mental. The SF-36 also includes a ninth domain on the assessment of health in general, where the subjects are asked to report the level of change in their overall health within a year. The standardized score for each subscale ranges from 0 to 100. A higher score indicates a better level of perceived health. In the present study, the SF-36 demonstrated a good internal consistency with a Cronbach's α value ranged between .78 and .92 for all subscales.

Data analysis

In the first step we verified the univariate normality of dis-

tributions using the Skewness and Kurtosis indices, after descriptive analyze were made in order to evaluate the distribution of variables in the study group. Considering the reduced sample size, non-parametric statistics were used to test the hypotheses of the study, in particular, the Wilcoxon rank-sum test was used to compare the two related samples at t1 and t2 in order to detect differences in the study variables after participating in the group intervention. Finally, in order to evaluate the effect size range for non the Wilcoxon (Z) values we use the formula $r= Z/\sqrt{N}$ (where N is the total number of the sample); the standard values of r are: small size = 0.1, medium size = 0.3, large size = 0.5.

Results

In Table I are reported socio-demographic data of research participants: age, years of work, schooling, and emotional support perceived. It is possible to observe that the women have an average age slightly lower than men (Women age: M 36; SD 7.98; Men age: M 36.4; SD 9.71) and they work an average of fewer years than men (Women working years: M 11.77; SD 7.89; Men working years: M 17.23; SD 9.29). Furthermore women have higher levels of schooling than men, and have experienced more affective support than men.

Table II shown descriptive statistics for all variables of the study with Skewness and Kurtosis indices, as can be seen, almost all variables are normally distributed and no serious violations of univariate normality are observed.

In Table III are reported the average self-esteem levels of the research participants (measured in t1 and t2). At T1 we observe an average level below the reference cutoff in the entire sample (M 13.40; SD 4.72). However, if we split the sample according to the socio-demographic variables, interesting differences emerge:

Particularly, if we splitting the sample according to the variable:

- *Sex*: we observe that women have an average score slightly higher than the reference cutoff (M 15.76; SD 5.44); While men have a mean score lower than the reference cutoff (M 11.13; SD 2.25):
- *Age:* we do not notice differences. We estimate mean levels below the reference cutoff in both subjects less than or equal to 35 years (M 14.55; SD 5.04) and subjects over 35 (M 12.32; SD 4.20):
- *Schooling levels*: we observe average below the reference cutoff for lower schooling levels (M 11.20, SD 2.497, M 14.91, SD 5.43), and scores above the cutoff for subjects with higher levels of schooling (M 17.50; SD 5.13);
- *Perceived affective support*: we see an average level of self-esteem lower than the cutoff for those who do not perceive affective support (M 10.85; SD 2.43) and an average higher than the cutoff level for subjects who instead received affective support (M 15.14; SD 5.65).

The Table III also shows the results for Wilcoxon rank-sum test and effect size r. Applied to the whole sample the Wilcoxon rank-sum test shows significant increases in mean self-esteem levels between t1 and t2, i.e. between before and after the intervention (Z -3.33; p .001). Even in this case, however, if we distinguish the sample according to the variables selected interesting differences can be observed.

Particularly, distinguishing according to the variable:

- *Sex*: we see a significant increase in both groups (Z -2.33, p .021; Z -2.19, p .028), but, the average of the men's group remains below the cutoff;
- *Age:* we see a significant increase in the group of subjects over 35 years (Z -2.76, p .006), but they do not exceed the cutoff;
- *Schooling levels*: we see a significant increase only for subjects with intermediate level of education (Z -2.74, p .006).
- *Affective support* we see a significant increase in both groups (Z -2.52, p .011; Z -2.35, p .019), but in this case, despite the significant increase, the average level of self-esteem of the subjects that do not feel affective support remains below the reference cutoff.

For all significant values the calculation of r indicated a moderate effect size (see Table III).

In the Table IV we can see scores obtained at t1 and t2 in the eight health domains of the SF-36 by the research participants.

If we consider the sample as a whole, we see scores

TABLE I. *Descriptive statistics for whole sample and for women and man subsamples.*

	Age					Years of work				Level of Schooling			Affective Support	
	N	M	Min	Max	SD	M	Min	Max	SD	Middle school	Secondary school	University degree	Yes	No
All subjects	60	36.2	18	50	8.81	14.5	2	35	8.98	30	22	8	40	20
Women	30	36	23	50	7.98	11.77	2	30	7.91	10	13	7	26	4
Men	30	36.4	18	50	9.70	17.23	2	35	9.29	20	9	1	14	16

TABLE II. *Descriptive statistics and univariate normality test at t1 and t2 for whole sample.*

	Mean	SD	Skewness	Std. Error	Kurtosis	Std. Error
Self-Esteem t1	13.40	4.72	1.01	.31	.59	.61
Self Esteem t2	14.40	4.77	.80	.31	.01	.61
SF-36 Physical Functioning t1	79.27	9.56	-.01	.31	-.42	.61
SF-36 Physical Functioning t2	82.27	8.12	.10	.31	-.33	.61
SF-36 PR: Role limitations due to physical health problems t1	78.80	11.25	-.44	.31	-.91	.61
SF-36 PR: Role limitations due to physical health problems t2	82.78	9.41	-.64	.31	-.14	.61
SF-36 Bodily Pain t1	74.43	9.00	-.27	.31	.01	.61
SF-36 Bodily Pain t2	76.83	8.46	-.23	.31	-.63	.61
SF-36 General Health t1	68.65	7.66	.24	.31	-1.23	.61
SF-36 General Health t2	70.72	7.97	.09	.31	-1.16	.61
SF-36 Vitality t1	65.28	7.41	.17	.31	-.08	.61
SF-36 Vitality t2	70.33	8.48	.26	.31	-.43	.61
SF-36 Social Functioning t1	75.82	5.85	.50	.31	-.18	.61
SF-36 Social Functioning t2	80.80	6.03	-.45	.31	-.44	.61
SF-36 Role limitations due to emotional problems t1	75.33	7.78	.43	.31	-.40	.61
SF-36 Role limitations due to emotional problems t2	79.43	6.95	.07	.31	-.89	.61
SF-36 Mental Health t1	69.13	8.07	-.28	.31	-1.38	.61
SF-36 Mental Health t2	73.63	7.31	-.75	.31	-.17	.61

TABLE III. *Self Esteem – descriptive statistics and Wilcoxon rank-sum test at t1 and t2 for whole sample and subsamples.*

		Times	Mean	N	SD	Z	P	Effect size r
All subjects		t1	13.4	60	4.72	-3.33	0.001	-0.31
		t2	14.4	60	4.77			
Sex	Women	t1	15.67	30	5.44	-2.19	0.028	-0.28
		t2	16.73	30	5.23			
	Men	t1	11.13	30	2.25	-2.32	0.021	-0.29
		t2	12.07	30	2.77			
Age	< 35	t1	14.55	29	5.04	-1.76	0.078	-0.23
		t2	15.17	29	4.79			
	> 35	t1	12.32	31	4.19	-2.76	0.006	-0.35
		t2	13.68	31	4.71			
Level of schooling	Middle school	t1	11.2	30	2.49	-1.44	0.148	-0.18
		t2	11.63	30	2.39			
	Secondary school	t1	14.91	22	5.43	-2.74	0.006	-0.41
		t2	16.41	22	5.13			
	University degree	t1	17.5	8	5.12	-1.34	0.18	-0.33
		t2	19.25	8	4.09			
Support	No affective support	t1	10.85	20	2.43	-2.53	0.011	-0.40
		t2	11.9	20	2.49			
	Affective support	t1	14.68	40	5.08	-2.35	0.019	-0.26
		t2	15.65	40	5.16			

Note: bold indicates the values below the cut-off levels.

lower than the reference average in the subscales: Physical Functioning (PF); Social Functioning (AS), Role Limitations due to Emotional Problems (ER). In the first two scales, despite of the increase in scores between t1 and t2, the expected average levels are not reached.

But if we divide the sample on the basis of the considered variables, between t1 and t2, we observe instead:

- an increase of scores in *Physical Functioning* (PF) scale for men, women, people over 35 years of age, subjects with lower levels of schooling and, indistinctly, on based perceived affective support. The increase, however, does not allow the expected average levels to reach. These subjects complain about difficulties in regular daily physical activities (including how to wash and dress). As can be seen in the table, this fatigue in daily activities seems to be the condition that more characterize our sample;
- an increase of score in the *Social Functioning* (SF) scale, that reach the expected average levels for men and women over 35 years; with lower levels of education and independently of perceived affective support. These subjects improve their ability in daily activities and participation in social moments;
- an increase of scores in *Role Limitations due to Emotional Problems* (ER), that reach the expected mean levels in women and in subjects over 35 years, in subjects with lower levels of schooling and independently based on to the perceived affective support.

We observe also an involvement (but less extensive) of the scales*: Role limitations due to Physical Health Problems* (PR), *Bodily Pain* (BP), *General Health* (GH), and *Mental Health* (MH).

Observing these scales, we note scores below the reference mean, but also increments between t1 and t2 that allow to reach the expected levels. In particular:

- *Role Limitations due to Physical Health Problems* (PR): there is an increase in the scores that reaches the expected average levels for the subgroups of women; people over 35; people with lower levels of schooling and in both subgroups divided by presence of perceived affective support;
- *Bodily Pain* (BP): there is an increase in the scores that reaches of the expected average levels, especially in women and people with lower levels of schooling;
- *General Health* (GH): there is an increase in scores that reaches the expected average levels in people over 35 years of age;
- *Mental Health* (MH): there is an increase in the scores that reaches the expected average levels in people over the age of 35.

In the Table IV it is also possible to observe the results of the Wilcoxon rank-sum test that would have been applied to scores obtained at t1 and t2, to verify the significance of the change. The Wilcoxon rank-sum test shows significant increases for all research participants, both when the group is considered as a whole and in the different subgroups obtained in function of the variables. Scores significantly increased, with the exception of those with the highest level of schooling, which were already in the average (except for the PR scale). Also in this case the calculation of r indicated a moderate effect size for all significant values ($0.28 < r < 0.41$).

Discussion and conclusions

Coherently with data suggested by national and international research, this study detects significant dimensions of psycho-physical suffering in research participants. The whole sample, in fact, shows lower levels of self-esteem than the reference values, difficulty in daily activities (including washing or dressing), emotional and social difficulty.

Particularly compromised is the self-esteem of men compared to women, of the older people (over 35) compared with younger, and in the subjects with less education and perception of the affective support. The level of suffering in these subjects is such that even after the intervention of active policies and the significant increase of the scores (recorded between t1 and t2, by t-test for paired samples), the self-esteem levels remain critical for the most suffering portions of our sample.

Although this study provides evidence about the relationship between the experience of loss of work and the emergence of a psychological and psycho-physical discomfort that can only be partially resolved through social interventions, some limitations need to be noted. The most obvious limitations of this study are the sample size that limits the quality of data analysis and results, and, secondly the sample recruitment modalities, which included participants from one geographic region. This limits the possibility of generalization.

Despite the above mentioned limits, this first exploratory study has allowed us to start a theoretical-clinical reflection process that goes beyond the data; we have to ask us why are older men with lower levels of schooling showing more suffering in terms of self-esteem?

We can find some answers in the cultural and transpersonal factors [46] that have characterized our society up to a few generations back. Up until the middle of the last century, in fact, in Italy, men had the task of providing for the economic maintenance of the family and their personal realization was linked to work. Women, mainly occupied by the house and the children found in this activity their realization. Perhaps, these cultural and, for some respects, transpersonal aspects can

TABLE IV. *SF-36 – descriptive statistics and Wilcoxon rank-sum test at t1 and t2 for whole sample and subsamples.*

		N	Times	PF	PR	BP	GH	VT	SF	ER	MH
	Italian cut-off scores			84.46	78.21	73.67	65.22	61.89	77.43	76.16	66.59
All subject		60	t1	79.27	78.80	74.43	68.65	65.28	65.28	75.33	69.13
			t2	82.27**	82.78**	76.83**	70.72**	70.33**	70.33**	79.43**	73.63**
Sex	Women	30	t1	78.40	77.53	72.83	67.53	65.67	76.13	73.30	66.83
			t2	81.47**	80.87**	76.23**	70.73**	70.93**	81.23**	79.20**	71.73**
	Men	30	t1	80.13	80.07	76.03	69.77	64.90	75.50	77.37	71.43
			t2	83.07**	84.70**	77.43**	70.70	69.73**	80.37**	79.67**	75.53**
Age	< 35	29	t1	84.10	84.72	78.93	72.76	67.76	77.86	77.38	73.72
			t2	86.28**	87.62**	81.00**	75.24**	73.17**	83.14**	82.66**	77.97**
	> 35	31	t1	74.74	73.26	70.23	64.81	62.97	73.90	73.42	64.84
			t2	78.52**	78.26**	72.94**	66.48**	67.68**	78.61**	76.42**	69.58**
Level of schooling	Middle school	30	t1	77.50	76.73	72.33	67.80	63.20	74.50	74.90	68.27
			t2	80.77**	80.83**	74.67**	69.73**	67.47**	79.73**	77.93**	73.13**
	Secondary school	22	t1	79.86	79.55	75.86	68.77	66.18	76.00	74.64	69.50
			t2	83.50**	84.32**	78.73**	70.68	72.23**	81.09**	79.27**	74.41**
	University degree	8	t1	84.25	84.50	78.38	71.50	70.63	80.25	78.88	71.38
			t2	84.50	85.88	79.75	74.50	75.88**	84.00	85.50**	73.38
Support	No affective support	20	t1	79.20	81.70	74.20	69.45	66.70	74.25	75.00	69.60
			t2	83.25**	84.25**	76.45**	71.25**	71.90**	78.90**	79.35**	75.40**
	Affective support	40	t1	79.30	77.35	74.55	68.25	64.58	76.60	75.50	68.90
			t2	81.78**	82.05**	77.03**	70.45**	69.55**	81.75**	79.48**	72.25**

*Note: bold indicates the values below the cut-off levels; ** Wilcoxon rank-sum test: differences between t1 and t2 p < .01; SF-36 Subscales: PF: physical functioning; PR: role limitations due to physical health problems; BF: bodily pain; GH: general health; VT: vitality; SF: social functioning; ER: role limitations due to emotional problems; MH: mental health.*

represent protective factors for some portions of the sample. It would be useful therefore, to investigate these hypotheses with further studies able to focus discriminative protective natural factors on the basis of the characteristics of the sample. Data also suggest that if actives policies interventions can produce good results, more specific interventions would be needed for the most suffering part of the sample. Therefore, if it is useful to predispose protective interventions, it is necessary to think them more calibrated in relation to the characteristics of individual subjects (unemployed is a too general category to think a valid intervention of actives policies, in the same way, for everyone). Therefore, more efforts must be made in the direction to predispose enhancement actions based on specific target's conditions.

Finally, if we consider that the effects of postmodernism inevitably involve the world of work with its categories of uncertainty and instability[47], and if we consider that uncertainty and instability in the world of work produce, as we have seen, serious impacts in terms of self-esteem and psycho-physical well-being, it is necessary to counteract the effects of these increasingly common conditions especially for the most helpless subjects portion: older men, with lower levels of schooling and less perceived affective support.

If we consider the psychophysical repercussions and especially the psychomotor slowdown (in daily activities) and somatizations (especially found in women and subjects with lower levels of schooling) connected with job loss it seems, paradoxically, that in a world that asks for speed and ability, the response and the "resistance" when it is impossible to adapt, is made mostly of "slow" symptoms that may be questioned and deepened as peripherals of the pathology of slowness and fatigue. For these reasons it may be helpful to evaluate the uncertainty and the loss of work as a risk factor respect to depressive experiences.

Conflict of interest

None

References

1 De Weerdt Y, De Witte H, Catellani P, et al. *Turning right? Socio-economic change and the receptiveness of European workers to the extreme right. Results of a survey in Europe*. Leuven: Hoger Instituut voor de Arbeid-KULeuven 2004.

2 Nätti J, Happonen M, Kinnunen U, et al. *Job Insecurity, temporary work and trade union membership in Finland 1977-2003*. In: De Witte H, ed. *Job insecurity, union involvement and union activism*. Aldershot: Ashgate 2005, pp. 11-48.

3 De Witte H. *Job insecurity and psychological well-being: REVIEW of the literature and exploration of some unresolved issues*. Eur J Work Organization Psychol 1999;8:155-77.

4 Schabracq MJ, Cooper CL. *The changing nature of work and stress*. J Manager Psychol 2000;15:227-41.

5 Ferraro AM, Guarnaccia C, Iacolino C, et al. *Postmodernity: clinical and social reflections about new forms of psychopathology*. Journal of Psychopathology 2016;22:229-35.

6 Ferraro AM, Giannone F, Lo Verso G. *Dis-identity: new forms of identity and psychopathology – socioanthropological changes and self-development.* World Futures 2014;70:377-85.

7 De Witte H, Vander Elst T, De Cuyper N. *Job insecurity, health and well-being*. In: *Sustainable Working Lives.* Springer: Netherlands 2015, pp. 109-128.

8 Rosenblatt Z, Talmud I, Ruvio A. *A gender-based framework of the experience of job insecurity and its effects on work attitudes.* Eur J Work Organization Psychol 1999;8:197-217.

9 Ashford S, Lee C, Bobko P. *Content, causes, and consequences of job insecurity. a theory-based measure and substantive test.* Acad Manag J 1989;32:803-29.

10 Sverke M, Hellgren J, Näswall K. *No security: a meta-analysis and review of job insecurity and its consequences*. J Occup Health Psychol 2002;7:242-64.

11 Hartley J, Jacobson D, Klandermans B, et al. *Job insecurity: coping with jobs at risk*. London: Sage 1991.

12 Armstrong-Stassen M. *Production workers' reactions to a plant closing: the role of transfer, stress and support*. Anxiety Stress Coping 1993;6:201-14.

13 Guarnaccia C, Scrima F, Civilleri A, et al. *The role of occupational self-efficacy in mediating the effect of job insecurity on work engagement, satisfaction and general health.* Curr Psychol 2016;1-10.

14 Borg I, Elizur D. *Job insecurity: correlates, moderators and measurement*. Int J Manpower 1992;13:13-26.

15 De Cuyper N, De Witte H. *Job insecurity among temporary versus permanent workers: effects on job satisfaction, organizational commitment, life satisfaction and self-rated performance.* Work Stress 2007;21:65-84.

16 Tilakdharee N, Ramidial S, Parumasur SB. *The relationship between job insecurity and burnout*. Sajems 2010;13:254-71.

17 Scrima F, Rioux L, Di Stefano G. *I hate my workplace but I am very attached to it: workplace attachment style: an exploratory approach*. Personnel Rev 2017;46:936-49.

18 Westman M, Etzion D, Danon E. *Job insecurity and crossover of burnout in married couples.* J Organ Behav 2001;22:467-81.

19 Barling J, Dupre KE, Hepburn CG. *Effects of parents job insecurity on children´s work beliefs and attitudes.* J Appl Psychol 1998;83:112-8.

20 Lim VKG, Leng Loo G. *Effects of parental job insecurity and parenting behaviors on youth's self-efficacy and work attitutes*. J Vocat Behav 2003;63:86-98.

21 Hellgren J, Sverke M, Isaksson K. *A two dimensional approach to job insecurity: consequences for employee attitudes and well-being.* Eur J Work Organization Psychol 1999;8:179-95.

22 Cheng Y, Chen CW, Chen CJ, et al. *Job insecurity and its association with health among employees in the Taiwanese general population*. Social Sci Med 2005;61:41-52

23 Ciairano S, Callari TC, Rabaglietti E, et al. *Life satisfaction: the contribution of job precariousness, sense of coherence and self-efficacy: a study in Italian adults*. In: Nguyen BS, eds. *Psychology of satisfaction.* Hauppauge, NY: Nova Science Publishers 2012, pp. 87-108.

24 De Witte H. *Job insecurity: review of the international literature on definitions, prevalence, antecedents and consequences.* J Industrial Psychol 2005;31:1-6.

25 Lim V. *Moderating effects of work-based support on the relationship between job insecurity and its consequences*. Work Stress 1997;11:251-66.

26 Dekker S, Schaufeli W. *The effects of job insecurity on psychological health and withdrawal: a longitudinal study.* Australian Psychologist 1995;30:57-63.

27 Burchell B. *The effects of labour market position, job insecurity and unemployment on psychological health.* In: Gallie D, Marsh C, Vogler C, eds. *Social change and the experience of unemployment*. Oxford: University Press 1990, pp. 188-212.

28 Judge TA, Bono JE. *Relationship of core self-evaluations traits self-esteem, generalized self-efficacy, locus of control, and emotional stability with job satisfaction and job performance: a meta-analysis.* J Appl Psychol 2001;86:80-92.

29 Scrima F, Di Stefano G, Guarnaccia C, et al. *The impact of adult attachment style on organizational commitment and adult attachment in the workplace*. Personal Individ Diff 2015;86:432-7.

30 Brief AP, Burke MJ, George JM, et al. *Should negative affectivity remain an unmeasured variable in the study of job stress?* J Appl Psychol 1988;2:193-8.

31 Schaubroeck J, Ganster DC, Fox ML. *Dispositional affect and workrelated stress.* J Appl Psychol 1992;3:322-35.

32 Roskies E, Louis-Guerin C, Fournier C. *Coping with job insecurity: how does personality make a difference?* J Organ Behav 1993;14:617630.

33 Näswall K, Sverke M, Hellgren J. *The moderating role of personality characteristics on the relation between job insecurity and strain.* Work Stress 2005;19:37-49.

34 Griep Y, Kinnunen U, Nätti J, et al. *The effects of unemployment and perceived job insecurity: a comparison of their association with psychological and somatic complaints, self-rated health and life satisfaction.* Int Arch Occup Environ Health 2015;89:1-16.

35 Mattiasson I, Lindgarde F, Nilsson JA, et al. *Threat of unemployment and cardiovascular risk factors: longitudinal study of quality of sleep and serum cholesterol concentration in men threatened with redundancy.* BMJ 1990;301:461-6.

36 Iversen L, Sabroe S. *Psychological well-being among unemployed and employed people after a company closedown: a longitudinal study*. J Soc Issues 1988;44:141-52.

37 Mohr GB. *The changing significance of different stressors after the announcement of bankruptcy: a longitudinal investigation with special emphasis on job insecurity*. J Organ Behav 2000;21:337-59.

38 De Cuyper N, De Witte H, Kinnunen U, et al. *The relationship between job insecurity and employability and well-being among Finnish temporary and permanent employees.* Int Studies Manag Organization 2010;40:57-73.

39 Fugate M, Kinicki AJ, Asforth BE. *Employability: a psycho-social construct, its dimensions, and applications*. J Voc Behav 2004;65:14-38.

40 De Cuyper ND, Bernhard-Oettel C, Berntson E, et al. *Employability and employees' well-being: mediation by job insecurity*. Applied Psychol 2008;57:488-509.

41 Schweiger D, De Nisi A. *Communication with employees following a merger: a longitudinal field experiment*. Acad Mana J 1991;34:110-35.

42 Parker SK, Chmiel N, Wall T. *Work characteristics and employee well-being within a context of strategic downsizing.* J Occup Health Psychol 1997;3:289-303.

43 Greenberg J, Lind E. *The pursuit of organizational justice: from conceptualization to implication to application.* In: Cooper, Locke, eds. *Industrial and organizational psychology. Linking theory with practice*. Oxford: Blackwell 2000, pp. 72-108.

44 Prezza M, Trombaccia FR, Armento L. *La scala dell'autostima di Rosenberg: traduzione e validazione Italiana.* Firenze: Giunti Organizzazioni Speciali 1997.

45 Apolone G, Mosconi P, Ware JE. *Questionario sullo stato di salute SF-36.* Milano, Guerini e Associati 1997.

46 Giannone F, Giordano C, Di Blasi M. *Group psychotherapy in Italy*. Int Group Psychother 2015;65:501-11.

47 Sennet R. *The corrosion of character. The personal consequences of work in the new capitalism*. New York-London: W.W. Norton 1998.

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Effectiveness and acceptability of psycho-education group intervention for people hospitalized in psychiatric wards and nurses

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Summary

Objective

To assess effectiveness and acceptability of a Psycho-education Group Intervention (PGI) on a sample of patients admitted to a Psychiatric Inpatient Unit (PIU) and on ward nurses.

Methods

Case-control study. PGI was delivered according to the model of Vendittelli and colleagues (2008). Male and female patients aged 18-70 were eligible. Cases attended the PGI, while controls did not. A 5-item ad hoc Likert-scale was used to record ward atmosphere. The Italian version of the Simple Feedback Question Form for people attending Cognitive Behaviour Therapy Group (SFQF-CBTG) was administered to each patient before discharge. The primary outcome was readmission rate after 6 months from discharge, secondary outcomes were ratings of ward atmosphere by nurses and feed-back from people hospitalized. All Statistics were performed with STATA 13.1.

Results

Fifty-two patients were enrolled, 17 cases and 35 controls. No significant differences emerged in the primary outcome, though compulsory readmissions were noticeable only among controls. Ratings of ward atmosphere in relation to group activities did not differ. Seventeen SFQF-CBTG were filled in. Most cases reported at discharge to have found the group "helpful", stating that "they would attend it in the future again", and "group topics were not difficult".

Conclusions

No evidence emerged in favour or against effectiveness of the PGI for patients and ward nurses, though the intervention was rated as acceptable and feasible.

Key words
Rehabilitation • Psycho-education • Inpatients

Introduction

The 1978 Italian reform of mental health not only brought to the closing down of asylums but led to a complete reorganization of the structure and concept of mental health care. Beside community mental health centres and services, out-patient facilities conceived to become the core of a strongly community-based organization, small psychiatric in-patient units (PIUs) were established, in the context of general hospital. These were conceived originally as acute wards, for both voluntary and compulsory hospitalizations, though over time their role and functions developed [1-4]. Nowadays PIUs function as crossroads and liaison centres among many other care providers inside and mostly outside of the general hospital.

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Among the interventions delivered in PIUs, early rehabilitation interventions are also included, commonly structured as group psycho-education sessions.
Evidence exists supporting the feasibility and effectiveness of both consumer and family psycho-education [5-8], especially based at community mental health centers [9 10] (with recent research pointing out that family interventions may be not only cost-effective, but also cost-saving [11]. On the contrary, evidence is still lacking for psycho-education group interventions (PGI) delivered to people admitted to PIUs, since the few international studies available on this topic were carried out on groups of highly selected patients, with limited generalizability to the very heterogeneous clinical population of Italian PIUs [12]. Therefore, aim of the present study was to assess effectiveness and acceptability of a PGI in a sample of PIU patients and nurses.

Methods

Study features and data collection

This is a case-control study, approved by the Modena Ethics Committee and following quality standards for clinical research. The overall period of observation (from recruitment of the first participants during the first admission, to a 6-month follow-up after the discharge of the last patient) was January 1st, 2013 – March 31st, 2014.
The data under analysis were collected from the register of meetings (names of attendants to each) and from the IT system of the local Department of Mental Health (gender, age, psychiatric history, psychiatric diagnosis, voluntary vs. compulsory admission, recurrent admission to the psychiatric ward). Data were registered in a dataset on a Microsoft Excel 2010 sheet, and anonymized with access to the matching keys consented only to the PI of the study (SF).

Description of the clinical intervention

Meetings followed the procedure detailed in the PGI manual, describing appropriate rules and strategies to be applied [13]. The meetings took place every day, from Monday to Friday, in the morning, in the ward meeting room; the duration was one hour for each meeting and participation was voluntary. The PGI sessions were conducted by one resident in psychiatry and one ward nurse, alternatively acting as "conductor" and "co-conductor", and taking notes on a white board. Five fixed ("regular") topics were assigned to each meeting, and repeated cyclically. Additional topics could be introduced ("optional"), according to needs. A register of meetings was regularly filled in, recording: date, topic of the day, number and names of people attending, names of conductor and co-conductor. Afternoon rehabilitation group activities were also available in the ward: these meetings were co-conducted by a final-year student in Psychiatric Rehabilitation and a ward nurse, and also took place every day, from Monday to Friday, in the ward meeting room. Several activities were proposed: breathing and relaxation technics, music therapy, painting, discussion groups, problem solving, social skill training. Again, participation was on a voluntary basis, and duration was one hour.

Inclusion and exclusion criteria and definition of cases and controls

All people admitted to the Modena PIU in the period of observation, aged between 18 and 70 years, and living in the catchment area of the Modena Department of Mental Health (around 700 thousand inhabitants, placed in the Emilia-Romagna Region, Italy), were eligible and invited to the study. Cases were people who took part to at least five groups in the morning AND at least one rehabilitation activity in the afternoon during hospitalization; controls were people who did not take part to any of them. Exclusion criteria were: being bedridden or having a medically unstable physical condition, not being able to speak/understand Italian, presence of a severe cognitive impairment or psycho-organic syndromes, patients admitted from and/or discharged to prison.

Outcome measures

Effectiveness of the PGI was assessed as reduction in the risk of subsequent readmissions, both compulsory and voluntary, and as differences in the mean and median scores of the ward atmosphere. This was assessed by means of an ad hoc scale developed by Vendittelli et al. in collaboration with the Italian National Health Institute, and already used for similar purposes [13-17]. This 5-item scale records professional ratings of the quality of communication with patients, the presence/absence of aggressive, violent or bizarre behaviours, and the quality of the atmosphere in the ward. This third sub-score was defined as outcome measure of effectiveness of the PGI on nurses, who are the professional group in closest contact with PIU patients.
Acceptability of the PGI was assessed by means of the Italian version of the Simple Feedback Question Form for people attending Cognitive Behaviour Therapy Group (SFQF-CBTG) [18]. This is a 5-item self-administered scale with ratings on a 0-10 Likert scale: patients were asked to fill it in before discharge.

Statistical analysis

STATA 13.1 (College Station, Texas) was used for all analyses. Descriptive statistics included frequencies and proportions for binary variables, mean, median, range and standard deviation for continuous variables.

Inferential analysis was carried out with parametrical (Student's T-Test) and non-parametrical statistical tests (Fisher's Exact Test; Wilcoxon-Mann-Whitney's test).
Also, binary logistic models were implemented. First, all collected variables were tested individually with the response variable (0 = not relapsed, 1 = relapsed). Only covariates reaching a $p < 0.25$ level of statistical significance at the univariate analysis where subsequently included in the multiple model [19]. In the multivariate regression analysis, the usual level of significance $p < 0.05$ was set.

Results

Sample features

Table I summarises the main features of the sample. This was composed of 52 subjects suffering from severe mental disorders, all Caucasian, 62% (n = 32) of which female. Seventeen people were enrolled as cases (33% of the overall sample), and 35 as controls (67% of the overall sample). Schizophrenia Spectrum and Other Psychotic Disorders were the most common diagnoses both among cases and controls (53% *vs* 54%). Table I also displays the results of the simple logistic regression, showing a statistically significant difference between cases and controls as to: age (with more cases aged less than 47 years); psychiatric diagnosis (with more bipolar/depression disorders and less personality disorders among cases); median length of hospitalization (with more cases having hospitalizations longer than 12 days) and previous hospitalizations (with more cases having been hospitalized before).

Effectiveness on people affected by psychiatric disorders

Table II displays the results of the multiple regression analysis. The variable Diagnosis, though initially included (significant at the simple logistic regression), was found to have a p-value of .58; therefore, it was excluded and the model was run again.
Significant differences between cases and controls as to the number of re-admissions and of voluntary vs. compulsory re-admissions were tested with the Fisher's exact test. Results are listed in Table III.

Effectiveness of PGI on ward atmosphere

The mean sub-score measuring ward atmosphere among patients was 2, both when the group took place and when it did not. Among ward nurses, the atmosphere was rated 1 as a mean, again with no difference whether the group activity took place or not. No significant differences were found (results not shown).

Acceptability of PGI

Table IV displays mean values of scores at the SFQF-CBTG among patients of the PGI (n = 17), referring to the participants' subjective level of satisfaction after

TABLE I. *Sample features, cases vs controls, including results of the simple logistic regressions.*

		Cases (n = 17)	Controls (n = 35)	OR	p-value	95% CI
Sex M/F (M/F%)		6/11 (35/65%)	14/21 (40/60%)	1.20	.76	.39-3.70
Age Mean (SD)		39 (16)	46 (13)	-	-	-
Age Dichotomized according to the median (47 years)	< 47	11 (65%)	15 (43%)	0.38	.10	.12-1.19
	≥ 47	6 (35%)	20 (57%)			
Primary Diagnosis (according to the DSM-5)				1.83	.10	.88-3.77
Schizophrenia Spectrum and Other Psychotic Disorders		9 (53%)	19 (54%)			
Bipolar and related disorders + depressive disorders		7 (41%)	7 (20%)			
Personality disorders + substance-related and addictive disorders		1 (6%)	9 (26%)			
Median length of hospitalization (16 days)	< 16	7 (44%)	24 (68%)	0.15	< .01	.04-.55
	≥ 16	10 (56%)	11 (32%)			
Previous hospitalizations (median: 1; range: 0-15)	No	10 (59%)	24 (69%)	4.8	.01	1.41-16.37
	Yes	7 (41%)	11 (31%)			

TABLE II. *Results of the multiple logistic analysis.*

	OR	p-value	95% CI
Participation to PGI	3.60	.18	.57-23.00
Age (dichotomic, less or more than 47)	0.13	.02	.02-.75
Length of hospitalization (dichotomic, less or more than 12 days)	0.02	< .01	.01-.26
Previous hospitalizations	15.90	< .01	2.37-106.82

TABLE III. *Differences in number of readmissions (cases vs controls), and in the voluntary vs compulsory readmissions (cases vs controls).*

	Controls (n, %)	Cases (n, %)	Total (n, %)	Fisher's exact test
Not re-admitted	21 (60)	9 (53)	30 (58)	F = 0.77; p = .43
Re-admitted	14 (40)	8 (47)	22 (42)	
Total	35 (100)	17 (100)	52 (100)	
Voluntary readmission	11 (79)	8 (100.0)	12 (80)	F = 0.27; p = 0.24
Compulsory readmission	3 (21)	0 (0.0)	3 (20)	
Total	14 (100.0)	8 (100.0)	22 (100.0)	

TABLE IV. *Acceptability of GPI: results at the SFQF-CBTG.*

	"I think the group helped me"	"I learned something that may be helpful"	"I think the group was boring"	"I will participate again"	"Topics discussed were difficult"
Mean	8.87 = enough/very much	8.13 = tend to agree	7.31 = tend to disagree	8.07 = tend to agree	5.88 = were not difficult
SD	1.02	1.54	3.59	1.03	3.05

attending the group. Participation was generally rated positively.

Discussion and conclusions

The study here discussed aimed at assessing effectiveness and acceptability of a PGI in a sample of PIU patients and nurses. No significant results emerged from the analysis of primary outcome. Yet, compulsory re-admissions were registered only among people who did not attend PGI (controls), consistently with other studies in this field [17]. Nevertheless, this finding needs further in-depth analysis of causative relationships, since it may be possible that people attending the groups were those also showing higher adherence to care.

Both mean and median scores of ward atmosphere were compared, given that in previous studies only mean was calculated, while in the present study the distribution of this variable was not normal. Ratings from both patients and ward staff did not differ whether the group intervention was held or not. Yet, interestingly, results were similar to those reported after the first year of treatment at the PIU in Campobasso, Italy [15]. This may imply that a longer duration of intervention is required to impact positively on the ward atmosphere, which, moreover, may be influenced by other factors related to the ward work-organization.

The pooled results of the 17 SFGF-CBTGs showed a good level of acceptability by participants, who agreed on finding the intervention "helpful" and on "having learned something that may be helpful" from it, and also expressed the intention to take part to the group again, in the future. The topics covered during the groups were found "not difficult", suggesting that people hospitalized in PIU, even in acute conditions, may be able to participate and learn more than it is sometimes expected by ward personnel. Interestingly, if for any reason the group was cancelled (personnel too busy on urgent activities, residents away for training engage-

ments etc.), people were asking about it, and whether it was going to be re-scheduled. Some participants took notes during groups, and expressed interest in continuing such activity in the community mental health service once discharged. Similarly, nurses frequently rated the PGI as "interesting" or "productive". It was described as useful in fulfilling the need of patients to be informed adequately, but also not "too seriously", in the more relaxed and informal situation allowed by the group. For this, some nurses described the experience of taking part to groups as "relaxing". Altogether, these data suggest a good level of acceptability of the PGI by both people hospitalized and personnel, consistently with previous studies [17].

Relapses were not influenced by participation to the GPI; differently, they were more common among younger people and among those who had been already hospitalized in the past, consistently with available literature [20]. Interestingly, the longer the hospitalization, the lesser the probability of relapse. This as well had been already reported, though its meaning is less clear, considering the many variables co-impacting in the discharge process [20].

Even if no significant results stemmed out, a good level of feasibility and acceptability of the PGI was noticeable, from both patients and ward nurses. Such findings prompt to further research on the impact of psychoeducation, and psychotherapy in general, on subjects (both users and personnel) and institutions; psychotherapy interventions may concur dramatically to improve therapeutic standard within psychiatric services, with positive impact also on the organizational level [21].

This study has several limitations. First, due to its retrospective nature and small sample size, no causal relation can be inferred. Yet, despite the negative results as to the primary outcome, the positive rating in terms of acceptability of the PGI was reliable and found to be similar to the one reported in other Italian PIUs [17]. Second, many missing values were found in the scale measuring ward atmosphere. Nevertheless, the available data were consistent with previously published studies, adopting longer follow up periods [16]. Finally, it was not possible to include measures of the frequency of patients' aggressiveness towards self or others or in the use of physical restraints. Yet, the rating of the ward atmosphere may be reliably considered as a proxy for such events, since the scale includes specific items on aggressive episodes.

The study here described could not provide evidence in favour or against effectiveness of the PGI on users and nurses of an in-patient psychiatry acute ward. Nevertheless, good overall acceptability and feasibility were confirmed. Further prospective multicentre research is needed, reaching larger samples of subjects and testing the effectiveness of the PGI activity possibly for longer periods, after discharge, in community care.

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Conflict of interest

None

References

1 Munizza C, Gonella R, Pinciaroli L, et al. *CMHC Adherence to National Mental Health Plan Standards in Italy: a survey 30 years after national reform law*. Psychiatr Serv 2011;62:1090-3.

2 Jones K, Poletti A. *The Italian experience in mental health care.* Hosp Community Psychiatry 1986;37:795-802.

3 Cazzullo C, Comazzi M, Guaraldi GP, et al. *General hospital psychiatry in Italy: on the hospitalization of psychiatric patients and consultation-liaison psychiatry after law 180/1978*. Gen Hosp Psychiatry 1984;6:261-5.

4 Ferrannini L, Ghio L, Gibertoni D, et al. *Thirty-five years of community psychiatry in Italy*. J Nerv Ment Dis 2014;6:432-9.

5 Magliano L, Fiorillo A, Malangone C, et al. *Implementing psychoeducational interventions in Italy for patients with schizophrenia and their families*. Psychiatr Serv 2006;57:266-9.

6 Franchini L, Paredi, G, Ballan S, et al. *Effect of psychoeducation combined with acute antidepressant treatment on the persistence of cognitive distortion in patients suffering from mood disorders*. Italian Journal of Psychopathology 2009;15:139-50.

7 Rotondi AJ, Anderson CM, Haas GL, et al. *Web-based psychoeducational intervention for persons with schizophrenia and their Supporters: one-year outcomes.* Psychiatr Serv 2010;61:1099-1105.

8 Lyman R, Braude L, George P, et al. *Consumer and family psychoeducation: assessing the evidence.* Psychiatr Serv 2014;65:416-42.

9 Bazzoni A, Rosicarelli ML, Picardi A, et al. *A controlled clinical trial of a group intervention for relatives of patients with schizophrenia*. Italian Journal of Psychopathology 2003;9:10-6.

10 Fiorillo A, Sampogna G, Del Gaudio L, et al. *Efficacy of supportive family interventions in bipolar disorder: a review of the literature*. Italian Journal of Psychopathology 2013;19:134-42.

11 Breitborde D, Woods S., Srihari V. *Multifamily Psychoeducation for first-episode psychosis: a cost-effectiveness analysis*. Psychiatr Serv 2009;60:1477-83.

12 Veltro F, Vendittelli N, Oricchio I, et al. *Effectiveness of cognitive behavioural group therapy for inpatients: a 4-year follow-up study.* Italian Journal of Psychopathology 2007;13:497-503.

13 Vendittelli N, Veltro F, Oricchio I, et al. *L'intervento cognitivo-comportamentale di gruppo nel servizio psichiatrico di diagnosi e cura*. II ed. Torino: Centro Scientifico Editore 2008.

14 Pingani L, Fiorillo A, Luciani L, et al. *Who cares for it? How to provide psychosocial interventions in the community.* Int J Soc Psychiatry 2012;59:701-5.

15 Veltro F, Falloon I, Vendittelli N, et al. *Effectiveness of cognitive-behavioural group*

therapy for inpatients. Clin Pract Epidemiol Ment Health 2006;2:16.

16 Veltro F, Vendittelli N, Oricchio I, et al. *Effectiveness and efficiency of cognitive-behavioral group therapy for inpatients: 4 year follow-up study.* J Psychiatr Pract 2008;14:281-8.

17 Veltro F, Chiarullo R, Leanza V, et al. *A review of the experience, the effectiveness and the spread of behavioral-cognitive group intervention in psychiatric ward.* Riv Psichiatr 2013;48:130-9.

18 Veltro & Raune, Italian version of the Simple Feedback Question Form for patients attending Cognitive Behaviour Therapy Group, 2011. www.rsmcampobasso.it/attachments/article/108/Simple_Feedback_Question_Form_for_Patients_attending_Cognitive_Behaviour_Therapy_Group.pdf

19 Hosmer DW, Lemeshaw S, eds. *Model-building strategies and methods for logistic regression, in applied logistic regression*. 2nd ed. New York: Wiley 2000.

20 Donisi V, Tedeschi F, Wahlbeck K, et al. *Pre-discharge factors predicting readmissions of psychiatric patients: a systematic review of the literature*. BMC Psychiatry 2016;16:449.

21 Capaldo T, Gazzoletti F, Villicich S. *Some general aspects of group psychotherapy in psychiatric institutions*. Riv Sper di Freniatr Med Leg Alien Men 1971;95:808-17.

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A new generation rating scale for depression: reliability and validity of the Italian version of Symptoms of Depression Questionnaire (SDQ), an RDoC-oriented depression comprehensive assessment

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Summary

Objectives

The DSM-5 criteria for Depression has implicitly assumed either an endophenotype approach and other prognostically relevant features such as anxiety, irritability and anger. The new use of "specifiers" is consistent with the Research Domain Criteria (RDoC) framework, but new assessment tools able to capture such multidimensionality are needed. In this study we explored reliability of the Symptoms of Depression Questionnaire (SDQ), a rating scale developed by the Massachusetts General Hospital's research group for evaluating depression which contains five subscales correlated to specific circuits, according to the RDoC framework.

Methods

This is a cross-sectional study performed between November 2016 and April 2017. After a translation and cross-cultural adaptation procedure, 207 healthy subjects and 36 patients completed the Italian version of SDQ to explore psychometric properties. Other instruments such as Beck Depression Inventory (BDI), Beck Anxiety Inventory (BAI) and the Suicide Behaviors Questionnaire-Revised (SBQ-R) were also administered for demonstrating convergent and discriminant validity.

Results

Results showed that SDQ scores were significantly higher for patients with MDD when compared to healthy controls. Therefore Italian adaptation of SDQ presented a satisfactory capacity in discriminating between healthy subjects and patients. The Italian version of SDQ presented a satisfactory internal consistency (Cronbach α = 0.93) and test-retest reliability (Pearson r = .82). Correlations with BDI, BAI and SBQ-R supported concurrent validity. Cut-off scores of Italian version of SDQ has been calculated using the procedure of the original study.

Conclusions

The present study confirms the reliability and validity of the Italian version of the SDQ, which showed a good construct validity, a good internal consistency, and a good degree of reproducibility. The use of instruments as SDQ developed on growing scientific evidence is crucial to move forward to a more precision medicine approach, on the road to personalized treatment.

Key words

Assessment • Depression • Research Domain Criteria • RDoC • Precision medicine

Introduction

According to recent data, 6.9% of European subjects had depression, and it has been estimated that 30.3 millions of individuals aged 14-65 in EU suffered from major depression in 2010, with females affected 2.3 times more frequently than males [1]. This makes Major depressive disorder (MDD) one of the most common psychiatric condition, and the first leading cause of

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disability adjusted life years lost (DALY), that is a measure of overall burden of disease in Europe, calculated by the number of years lost due to illness, disability or early death [1].

Accumulated evidence from the past two decades indicated the necessity of a new conceptualization of MDD, which has been acknowledged in the Diagnostic and Statistical Manual of Mental Disorders, fifth edition (DSM-5), published in 2013 [2]. Although DSM-5 failed in the goal of classifying endophenotypes [3,4], it implicitly assumed some important changes in respect to previous editions, but since their descriptions are beyond the aim of this paper, they will be not mentioned except in what pertains to it.

Regarding MDD, as no changes have been reported in the core symptoms for the diagnosis neither for its duration (i.e. at least 2 weeks) in respect to DSM-IV, DSM-5 has given more attention to the severity level and subtypes definition, promoting the use of cross-cutting symptom assessments in order to capture the "gradient of disorder"[4]. Even though DSM-5 diagnosis is still linked to a "yes" or "no" decision [4], its promotion of the application of "specifiers" appears to be in line with what fostered by the NIHM's Research Domain Criteria (RDoC) project for leading psychiatry to a precision medicine approach [5,6].

The innovation of RDoC project is the creation of a framework considering five domains of functioning (i.e. negative valence systems, positive valence systems, cognitive systems, systems for social processes and arousal/regulatory systems) based on specific neural circuits that are thought to be dysfunctional in mental disorders. For this new vision of mental illness, new tools to identify such dysfunctions in neural circuits are necessary, that are able to give to clinician all information he needs to provide a more personalized treatment. In this context, it has been developed the Symptoms of Depression Questionnaire (SDQ), an instrument designed to be not only a measure of the depression severity level but a tool for capturing the constellation of depression-related symptoms that have demonstrated to adversely affect cognitive/social functioning and treatment response [7]. Hence, SDQ includes five subscales representing different clusters of symptoms, and appears to be the first measure which investigates MDD considering all five RDoC domains.

In this paper, we provide the preliminary data regarding the reliability and validity of Italian version of SDQ, with indications for clinical practice and future research.

Methods

Study design

This was a cross-sectional study, performed between November 2016 and April 2017, aiming to explore the reliability of the Italian version of SDQ. A total of 207 subjects without evidence of symptoms of psychiatric or neurological disorders participated to our study on a voluntary basis, completing the Italian version of SDQ to determine psychometrical properties. Among the 207 participants, 30 completed the questionnaire again with an interval of 2 weeks in order to measure test-retest reliability. The Italian version of SDQ was completed also by a clinical sample composed by 36 subjects with a diagnosis of Major Depressive Disorder (MDD) according to DSM-5. Patients were recruited based on non-probability consecutive sampling from outpatient clinic of Florence, INS, Institute of Neuroscience. The protocol of this study was approved by the local ethics committee, and after the complete description of the study to the subjects, written informed consent was obtained.

Translation and cross-cultural adaption procedure

After presenting the aim of our study to the authors of the original version of the instrument, they approved our project and gave us permission for translation.

The original version of the SDQ was translated and cross-culturally adapted to Italian: it has been independently translated by two of the authors (I.B. and L.S.), afterwards a consensus translation was controlled through a back-translation by an English mother-tongue translator. The comprehension of each item of the Italian version was assessed in a pilot sample of 10 patients with MDD. A final Italian version was re-edited and confirmed by all authors.

Instruments and procedure

The SDQ is a 44-item, Likert-type, self-report scale developed for measuring symptoms severity across several subtypes of depression[7]. According to this aim, the SDQ includes not only a large number of items describing depressive symptoms, but also several ones investigating co-existing features that characterize patients with depression [8,9]. Therefore, SDQ encloses five subscales, investigating the following dimensions:

1. lassitude, mood, cognitive/social functioning (SDQ-1);
2. anxiety, agitation, anger and irritability (SDQ-2);
3. desire to be dead (SDQ-3);
4. disruptions in sleep quality (SDQ-4);
5. changes in appetite and weight (SDQ-5).

As in the original study, subjects were asked to rate SDQ items according to their own perception in respect to how they felt, using a 6-point scale where score 1 meant better than normal, score 2 meant normal and score from 3 to 6 meant worse than normal. The psychometric properties of the original SDQ have been found to be satisfactory [7].

In addition to SDQ, other measures were administered to demonstrate convergent and discriminant validity and they are: the Beck Depression Inventory (BDI) [10] as a measure of the depression level, the Beck Anxiety Inventory (BAI) [11] as a measure of anxiety symptoms, and

The Suicide Behaviors Questionnaire-Revised (SBQ-R) [12] as a measure of suicidal ideation.
In our study, the Italian version of the BDI showed adequate internal consistency reliability (Cronbach alpha = .76), and this was also the case for the BAI (Cronbach alpha = .76) and for the SBQ-R (Cronbach alpha = .81).

Statistical analysis

Descriptive statistics was applied to assess the missing data, distribution of scores, and socio-demographic characteristics of normative sample as well the clinical group. Construct validity was assessed by exploratory factor analysis (EFA): the Bartlett test of sphericity was used to assess whether the correlation matrix of sample was a single identity and whether satisfactory factor analysis of the data could proceed. The Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy was calculated in order to determine the adequacy of sample size for proceeding factor analysis. For determining the construct of SDQ the principal components analysis (PCA) as a factor extraction method was used, with a Varimax rotation. Decision about the number of prominent factors was taken based on the eigenvalue > 1 and the scree plot method.
Internal consistency reliability of scales was analysed by Cronbach α coefficient, which is considered statistically significant if ranging between 0.70 and 0.95. The test retest reliability was evaluated by the Pearson Correlation coefficient, which needs to be over .70 to indicate the stability of the measure over time. Statistical analyses were performed using the SPSS 21.0 statistical software. P values < .05 were considered to be statistically significant.

Results

Sociodemographic characteristics of participants

Detailed sociodemographic characteristics of normative and clinical samples are shown in Table I and II respectively. Normative sample (n=207) was composed by 85 males (41,1%) and 122 females (58,9%) with a mean age of 31 years old ± 8,65, whereas clinical sample (n=36) was composed by 14 males (38,9%) and 22 females (61.1%) with a mean age of 34,64 ± 10.92. Groups were different in respect to age and education ($p < .05$); however, neither age nor education had a statistically significant effect on SDQ score: $F(1, 1) = 3.730$, $p = .055$ for age, and $F(1,1) = 3.346$, $p = .069$ for education in normative sample, whilst $F(1, 1) = 1.743$, $p = .196$ for age, and $F(1,1) = 3.998$, $p = .054$ for education in clinical sample.

Psychometric properties of the Italian version of SDQ

Both healthy subjects and patients responded to all items of SDQ questionnaire without any difficulties (re-

TABLE I. *Sociodemographic characteristics of Italian normative sample.*

Variables	Frequency	Percent (%)
Sex		
Male	85	41,1
Female	122	58,9
Marital Status		
Single	62	30,0
Married	37	17,9
In a relationship	105	50,7
Divorced	2	1,0
Separated	1	,5
Regional distribution		
Tuscany	132	63,8
Piemonte	2	1,0
Liguria	6	2,9
Lombardia	2	1,0
Trentino-Alto Adige	11	5,3
Veneto	5	2,4
Friuli-Venezia Giulia	1	,5
Emilia Romagna	9	4,3
Umbria	1	,5
Marche	2	1,0
Lazio	10	4,8
Abruzzo	1	,5
Molise	1	,5
Campania	4	1,9
Puglia	6	2,9
Calabria	5	2,4
Sicilia	9	4,3
Education Level		
Less than high school	1	,5
High school	87	42,0
Bachelor's degree	26	12,6
Higher than bachelor's	93	44,9
Employment Status		
Student	97	46,9
Paid employee	64	30,9
Self-employed	26	12,6
Not working – looking for a work	16	7,7
Not-working – other	4	1,9

TABLE II. *Sociodemographic characteristics of Italian clinical sample.*

Variables	Frequency	Percent (%)
Sex		
Male	14	38.9
Female	22	61.1
Marital status		
Single	18	50.0
Married	7	19.4
In a relationship	9	25.0
Divorced	1	2.8
Separated	1	2.8
Regional distribution		
Tuscany	27	75
Piemonte	1	2.8
Lombardia	1	2.8
Emilia Romagna	1	2.8
Marche	1	2.8
Lazio	1	2.8
Abruzzo	1	2.8
Campania	2	5.6
Calabria	1	2.8
Education level		
Less than high school	3	8.3
High school	20	55.6
Bachelor's degree	5	13.9
Higher than bachelor's	8	22.2
Employment status		
Student	12	33.3
Paid employee	15	41.7
Self-employed	9	25.0

sponse rate 100%). Translation of the questionnaire proceeded successfully and the backward translation was corresponded to the original version.

Item analysis

Table III shows differences in SDQ mean total scores and subscales between normative and clinical samples. Means and standard deviations are reported also for BDI, BAI and SBQ. All differences between normative and clinical groups resulted significant ($p < .001$). The results showed that SDQ scores were significantly higher for patients with MDD when compared to healthy controls. Therefore Italian adaptation of SDQ presented a satisfactory capacity in discriminating between healthy subjects and patients.

TABLE III. *Means and standard deviations for subscales, total SDQ and for SBQ-R, BAI and BDI in normative versus clinical sample.*

	Normative sample		Clinical sample
	Mean	SD	Mean
BAI-Total	7.70	7.499	26.25
BDI-Total	5.79	6.103	27.17
SBQ-Total	3.98	1.219	7.78
SDQ-Total	102.04	17.641	157.78
SDQ-1	40.705	8.4758	64.389
SDQ-2	33.174	7.0820	49.972
SDQ-3	12.652	2.6631	22.417
SDQ-4	6.932	2.1464	9.500
SDQ-5	8.749	1.4861	10.500

All differences were significant for $p < .001$

Construct validity

Exploratory factor analysis was performed to investigate the factor structure of the SDQ. The result of Bartlett test of sphericity was significant ($\chi^2 = 7746.197$, df = 946, $p < .001$), whereas the result of the KMO measure was 0.931, which indicated that the sample size was sufficient to factor analysis.

Principle component analysis gave 8 latent factors with eigenvalue greater than 1.00. The extraction of 5 factors was performed using a Varimax rotation (results are shown in Table IV). The eigenvalue of the first factor was 10,179 (23,13% of total variance), the eigenvalue of the second factor was 6,037 (13.72% of total variance), the eigenvalue of the third one was 4,919 (11,17% of total variance), whereas the eigenvalues of fourth and fifth factors were 2.83 and 2.26 respectively (explaining the 6.43 and 5.14 of total variance). The scree plot curve confirmed that 5 factors could be extracted (Figure 1).

Table V shows the factor loadings for the Italian SDQ items. It shows that the first factor was marked by SDQ item 10 ("How has your outlook on life been over the past month?") and item 3 ("How has your affect – or how you display your mood to the external world – been over the past month?"). Items 20 and 7 also presented high loadings on this factor, which are not different to the original SDQ (.67 and .69 for the Italian SDQ versus .65 and .60 for the original SDQ). The second factor was marked by SDQ item 2 ("How responsive has your mood been over the past month?") and 26 ("How anxious/worried have you felt over the past month?"), which captures anxiety, agitation, irritability and anger. The third factor presented some differences in loading with respect to the original study: in fact it appears to be marked by item 24 ("How irritable have you been over

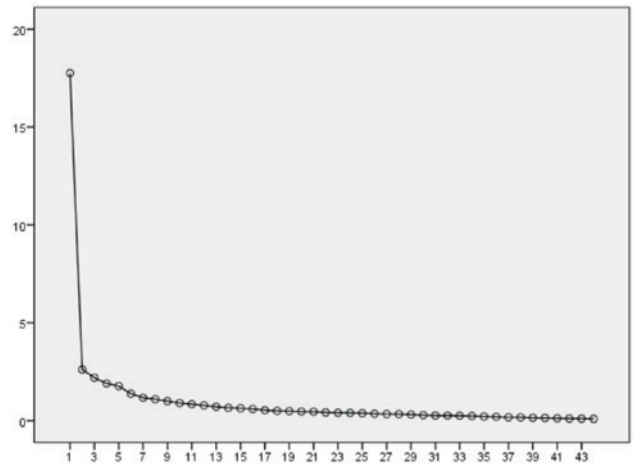

FIGURE 1. *Scree Plot Curve.*

the past month?"), and by the item 17 ("How sleepy during the day have you been over the past month?").
Fourth factor was marked by items 14 ("How has your ability to stay asleep in the middle of the night been over the past month?"), 15 ("How has your ability to stay asleep around the time before waking up been over the past month?") and 13 ("How has your ability to fall asleep been over the past month?") according to the original study, whilst the fifth factor appears to be marked by 31 ("Have you gained weight over the past month?") assessing changes in appetite and weight as in the original version. In Table IX are reported the items of the SDQ subscales

Reliability

The internal consistency of the Italian version of the SDQ in this sample was very good. The Cronbach α coefficient for the 44-item symptom scale was 0.93. The elimination of each item did not lead to a substantial increase in the scale's internal consistency (data not showed). In the 2-week retest reliability, Pearson correlations was .822 *(p < .001, two-tailed)*. Therefore, Italian version of SDQ presented excellent short-term stability.

Concurrent validity

Concurrent validity of all factors (and subscales) is supported by the high correlation with the BDI, BAI and SBQ-R, as showed by the Table VI and VII. As in the original study, Factors 4 and 5, focusing on specific characteristics of depression, presented a lower - although significant - correlation with the BDI total score.
As shown in Table V, all subscales are significantly intercorrelated, but they retain their specificity which is also demonstrated by their higher correlation with the SDQ total scores (p < .001).

TABLE IV. *Matrix of rotated components.*

Matrix of rotated components with loading on all factors*				
	Factors			
	1	2	3	4
SDQ-10	.776	.246	.084	.164
SDQ-3	.739	.409	.129	.061
SDQ-39	.699	.343	.288	.120
SDQ-44	.698	.452	.255	.053
SDQ-35	.698	.128	**.419**	.125
SDQ-7	.688	.318	.129	.059
SDQ-2	.682	.407	.176	.017
SDQ-38	.670	.077	.507	.065
SDQ-20	.668	.307	.403	.150
SDQ-5	.667	.324	-.021	.132
SDQ-42	.665	.359	.292	.103
SDQ-36	.647	.067	.419	.000
SDQ-1	.645	.541	.205	.136
SDQ-9	.643	.513	.163	.162
SDQ-11	.642	.042	-.027	.372
SDQ-41	.634	.318	.194	.148
SDQ-22	.585	.214	.549	.021
SDQ-37	.558	.016	.547	.086
SDQ-12	.555	.142	-.035	.389
SDQ-21	.526	.246	.500	.009
SDQ-16	.507	.078	.317	.209
SDQ-4	.316	.710	.071	.097
SDQ-6	.318	.682	.086	.001
SDQ-26	.238	.657	.441	.186
SDQ-32	.217	.636	.189	.178
SDQ-23	.218	.633	.495	.186
SDQ-43	.416	.590	.268	.033
SDQ-27	.364	.583	.149	.270
SDQ-8	.246	.524	.300	.050
SDQ-40	.390	.438	.070	.076
SDQ-24	-.033	.351	.629	.244
SDQ-17	.217	.096	.615	.153
SDQ-19	.310	.181	.532	-.063
SDQ-18	.079	.076	.524	-.297
SDQ-33	.236	.255	.448	.106
SDQ-25	.087	.364	.433	.173
SDQ-34	.184	.221	.422	.304
SDQ-14	.172	.135	.041	.852
SDQ-15	.198	.191	.032	.765
SDQ-13	.171	.126	.271	.673
SDQ-31	.101	.309	.059	-.063
SDQ-28	.225	.328	.117	.148
SDQ-30	.106	-.058	.274	.066
SDQ-29	.016	.127	.189	.061

** loadings > .30 are significant*

TABLE V. *Correlations between SDQ subscales and SDQ total scores in the normative sample.*

	SDQ-1	SDQ-2	SDQ-3	SDQ-4	SDQ-5	SDQ-Total
SDQ-1	1	.651	.686	.267	.437	.876
SDQ-2	.651	1	.641	.371	.459	.881
SDQ-3	.686	.641	1	.333	.309	.781
SDQ-4	.267	.371	.333	1	.113	.449
SDQ-5	.437	.459	.309	.113	1	.508
SDQ-Total	.876	.881	.781	.449	.508	1

** Pearson's correlation, p > .001*

TABLE VI. *SDQ Full Scale and Subscales concurrent validity correlation in normative sample (ITA).*

Scales	BDI	SBQ-R	BAI
SDQ-Total	.76*	.096	.63*
SDQ-1	.64*	.091	.45*
SDQ-2	.69*	.086	.68*
SDQ-3	.72*	.13*	.45*
SDQ-4	.33*	-.002	.28*
SDQ-5	.36*	.14*	.34*

** p < .05*

TABLE VII. *SDQ Full Scale and Subscales concurrent validity correlation in clinical sample (ITA).*

Scales	BDI	SBQ-R	BAI
SDQ-Total	.64*	.51*	.45*
SDQ-1	.61*	.44*	.28*
SDQ-2	.41*	.17	.69*
SDQ-3	.68*	.62*	.27
SDQ-4	.32*	.32*	-.023
SDQ-5	.27*	.27	-.106

** p < .05*

Although the SDQ was not intended to be used as a diagnostic tool[7], the SDQ cut-off scores were calculated by using the BDI score depression benchmarks. Using the same procedure illustrated in the original study, we calculated the cut-off scores of Italian version of SDQ for defining mild, moderate and severe depression. Results are showed in the Table VIII.

TABLE VIII. *Cut-off scores for SDQ in the original study and for the Italian adaptation.*

	SDQ (USA)	SDQ (ITA)
Mild depression	79-104	107-129
Moderate depression	105-132	130-159
Extreme depression	≥133	≥160

Discussion

In this study we made a cross-cultural adaption and explored the psychometrics properties of the Italian version of SDQ, which assesses depression in light of RDoC framework. The translation and cultural adaption of the SDQ to Italian was performed without noticeable difficulties, all the participants understood items included in the questionnaire and scored all of them without missing responses, indicating its acceptability and feasibility.

SDQ encloses five subscales, with the 1, 3, 4 and 5 assessing those psychological and physiological symptoms typically evaluated by the most used instruments for measuring depression severity, whereas the subscale 2 measures symptoms of anxiety, agitation, irritability and anger, that have been described as the most innovative feature of SDQ [7].

Of interest, Irritability and Anger are dimensions that have been considered as "bipolar spectrum features", and their inclusion in this new instrument deserves consideration.

However, in our opinion, the newness of such questionnaire is the presence of some items formulated in a positive way (e.g. items 2,5,7, 9) capturing some qualitative aspects usually not evaluated in a clinical context, and that provide new significance to the quantitative measure. In addition, they are even more important in a follow up evaluation, providing information on the clinical response from a qualitative point.

The level of investigation allowed by the SDQ is of great importance, since it is formed by the description of symptoms based on underlying biology and not on a simple inter-rater reliability. This is consistent with the

TABLE IX. *Items of SDQ subscales.*

SDQ-1	SDQ-2	SDQ-3	SDQ-4
2	4	1	13
3	6	9	14
5	8	10	15
7	21	11	
16	23	12	
17	24	44	
18	25		
19	26		
20	27		
22	32		
35	33		
36	34		
37	43		
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42			

RDoC primary aim of leading to a "precision psychiatry", and that is achievable by the development of tools allowing a more accurate diagnosis and able to capture aspects predicting response to treatment.
In this context, the development of an instrument such as the Symptoms of Depression Questionnaire (SDQ) represents an extremely valuable resource for clinicians to guide the treatment and promote its effectiveness.
The publication of DSM-5 has been accompanied to some criticism, principally due to fact it did not bring to that radical shift in diagnostic classification for which revision of such manual was felt as necessary. However, in spite of such failure, DSM-5 represented an important step in moving away from a rigid and categorical conceptualization of mental disorders, by approaching to the dimensional assessment and integration of basic science and neurobiology promoted by the National Institute of Mental Health's Research Domain Criteria (RDoC) project. This is particularly evident in the development of the cross-cutting symptom measures, that shed light on a number of symptoms cutting across diagnostic boundaries [13] and that demonstrated to be an indicator of illness severity and prognosis [14].
In the case of MDD, the importance of such co-existing features are expressed by the new use of specifiers: among them, the one "with anxious distress" was found associated with poorer psychosocial functioning and quality of life [15], and a poorer response to treatment with antidepressants [16]. Evidence showing some neurobiological differences between patients with MDD and anxiety and those with MDD only have also be reported [17], and such neurobiological diversity has been suggested as a possible explanation of the challenges of response to pharmacological treatment [16].
Also irritability showed to have an important impact on the depression severity level, being associated with greater severity of depressive symptoms, anxiety, disability and a higher risk of suicidality [18 19 9], whereas anger or suicidal ideation, if present in a patient with MDD, showed to be important factors leading to greater severity of depressive episode [20], different treatment response [21], and greater impairment in functioning [22].
In spite of all collected evidence showing the "multidimensionality" of MDD, the tools that are most frequently used by clinicians worldwide, such as the Hamilton Rating Scale for Depression (HRSD) [23] and the Beck Depression Inventory (BDI) [10], have the disadvantage to obscure such constellation of co-existing features by providing a single overall score, obtained by adding up a number of different symptoms with the same value for such depression sum-score [24].

Limitation

The data should be interpreted in the light of some limitations. As in the original study, the factor analysis has been conducted among young and healthy subjects, and with a limited age range. Since this has been designed as an exploratory study, we are addressing this flaw by recruiting more people to extend the age range considered. This will allow us to confirm our preliminary EFA results and to perform a confirmatory analysis. Moreover, we are also considering to administer such questionnaire to larger and different clinical populations in order to examine generalizability of results.
However, despite these limitations, our preliminary results indicate that Italian version of SDQ presents a satisfactory face and concurrent validity as well a good reliability.

Conclusions

The present study confirms the reliability and validity of the Italian version of the SDQ, which showed a good construct validity, a good internal consistency, and a good degree of reproducibility. SDQ allows to measure the depression level of severity by examining answers given to items related to specific dimensions, that are correlated to disruption in specific circuits, according to the RDoC framework. Our preliminary data suggest that SDQ can

be a reliable tool to assess the variety of symptoms belonging to the anxiety-depression spectrum. In view of the significance and implications of anxiety in patients affected by depression, with the associated increased suicidal risk and poor treatment response, the use of instruments as SDQ developed on growing scientific evidence is crucial to move forward to a more precision medicine approach, to ensure a correct and rapid clinical-diagnostic classification and timely as well adequate treatment.

Conflicts of interest

There are no conflicts of interest.

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References

1 Wittchen HU, Jacobi F, Rehm J, et al. *The size and burden of mental disorders and other disorders of the brain in Europe 2010*. Eur Neuropsychopharmacol 2011;21:655-79.

2 American Psychiatric Association. *Diagnostic and statistical manual of mental disorders (5thedn)*. Washington, DC 2015.

3 Kupfer DJ, First MB, Regier DA, eds. *A research agenda for DSM-V*. Arlington, VA: American Psychiatric Association 2002.

4 Regier DA, Kuhl EA, Kupfer DJ. *The DSM-5: classification and criteria changes*. World Psychiatry 2013;12:92-8.

5 Insel T, Cuthbert B, Garvey M, et al. *Research Domain Criteria (RDoC): toward a new classification framework for research on mental disorders*. Am J Psychiatry 2010;167:748-51.

6 Cuthbert BN. *The RDoC framework: facilitating transition from ICD/DSM to dimensional approaches that integrate neuroscience and psychopathology*. World Psychiatry 2014;13:28-35.

7 Pedrelli P, Blais MA, Alpert JE, et al. *Reliability and validity of the Symptoms of Depression Questionnaire (SDQ)*. CNS Spectr 2014;19:535-46.

8 Wiethoff K, Bauer M, Baghai TC, et al. *Prevalence and treatment outcome in anxious versus nonanxious depression: results from the German Algorithm Project*. J Clin Psychiatry 2010;71:1047-54.

9 Fava M, Hwang I, Rush AJ, et al. *The importance of irritability as a symptom of major depressive disorder: results from the National Comorbidity Survey Replication*. Mol Psychiatry 2010;15:856-67.

10 Beck AT, Ward CH, Mendelson M, et al. *An inventory for measuring depression*. Arch Gen Psychiatry 1961;4:561-71.

11 Beck AT, Epstein N, Brown G, et al. *An inventory for measuring clinical anxiety: psychometric properties*. J Consult Clin Psychol 1988;56:893-7.

12 Osman A, Bagge CL, Gutierrez PM, et al. *The Suicidal Behaviors Questionnaire-Revised (SBQ-R): validation with clinical and nonclinical samples.* Assessment. 2001;8:443-54.

13 Narrow WE, Clarke DE, Kuramoto SJ, et al. *DSM-5 field trials in the United States and Canada, Part III: development and reliability testing of a cross-cutting symptom assessment for DSM-5*. Am J Psychiatry 2013;170:71-82.

14 Clarke DE, Kuhl EA. *DSM-5 cross-cutting symptom measures: a step towards the future of psychiatric care?* World Psychiatry 2014;13:314-6.

15 Zimmerman M, Chelminski I, Young D, et al. *A clinically useful self-report measure of the DSM-5 anxious distress specifier for major depressive disorder*. J Clin Psychiatry 2014;75:601-7.

16 Fava M, Rush AJ, Alpert J, et al. *Difference in treatment outcome in outpatients with anxious versus nonanxious depression: a STAR* D report*. Am J Psychiat 2008;165:342-51.

17 Ionescu DF, Niciu MJ, et al. *Neurobiology of anxious depression: a review.* Depress Anxiety 2013;30:374-85.

18 Perlis RH, Fraguas R, Fava M, et al. *Prevalence and clinical correlates of irritability in major depressive disorder: a preliminary report from the Sequenced Treatment Alternatives to Relieve Depression study*. J Clin Psychiatry 2005;66:159-66.

19 Perlis RH, Fava M, Trivedi MH, et al. *Irritability is associated with anxiety and greater severity, but not bipolar spectrum features, in major depressive disorder*. Acta Psychiatr Scand 2009;119:282-9.

20 Fava M, Rush AJ, Alpert JE, et al. *What clinical and symptom features and comorbid disorders characterize outpatients with anxious major depressive disorder: a replication and extension*. Can J Psychiatry 2006;5:823-35.

21 Brown TM, DiBenedetti DB, Danchenko N, et al. *Symptoms of anxiety and irritability in patients with major depressive disorder*. J Depress Anxiety 2016;5:237.

22 Chan HN, Rush AJ, Nierenberg AA, et al. *Correlates and outcomes of depressed out-patients with greater and fewer anxious symptoms: a Co-Med report*. Int J Neuropsychopharmacol 2012;15:1387-99.

23 Hamilton M. *A rating scale for depression*. J Neurol Neurosurg Psychiatry 1960;23:56-62.

24 Fried EI, Nesse RM. *Depression sum-scores don't add up: why analyzing specific depression symptoms is essential*. BMC Med 2015;13:72.

QUESTIONARIO SUI SINTOMI DELLA DEPRESSIONE (SDQ)

La preghiamo di rispondere a tutte le domande cerchiando la risposta corretta o la risposta che le sembra maggiormente appropriata.
Istruzioni: La preghiamo di leggere ogni affermazione e di cerchiare il numero posto sopra l'affermazione che ritiene sia più adatta al suo caso (senso: a descriverla). Alcune domande utilizzano le parole "minimamente", "moderatamente", "notevolmente" ed "estremamente". Minimamente significa che questa affermazione le capita solo raramente o che, quando succede, si presenta in forma lieve. Moderatamente significa che questa affermazione la infastidisce qualche volta, ma non interferisce con la sua vita in nessun modo. Notevolmente significa che questa affermazione la infastidisce abbastanza e le causa alcuni problemi nella sua vita. In altre parole, esso interferisce con la sua capacità di fare determinate cose che sono importanti per lei quali ad esempio lavorare, prendersi cura della sua famiglia, o godere del tempo passato con gli amici. Estremamente significa che questo problema la infastidisce molto e che interferisce con la sua capacità di fare molte cose.

1) Com'è stato il suo umore nel corso dell'ultimo mese?				
1 Migliore rispetto al solito	2 Normale	3 Minimamente triste	4 Moderatamente triste	5 Notevolmente triste
2) Quanto è stato reattivo il suo umore nell'ultimo mese?				
1 Più del solito	2 Normale	3 Minimamente piatto	4 Moderatamente piatto	5 Notevolmente piatto
3) Com'è stato il suo stato d'animo (o com'è apparso al mondo esterno) nel corso dell'ultimo mese?				
1 Migliore rispetto al solito	2 Normale	3 Minimamente triste	4 Moderatamente triste	5 Notevolmente triste
4) Quanto è stato propenso a piangere nell'ultimo mese?				
1 Meno del solito	2 Normale	3 Minimamente	4 Moderatamente	5 Notevolmente
5) Quanto è stato sensibile alle cose/eventi positivi nel corso dell'ultimo mese?				
1 Più del solito	2 Normale	3 Minimamente meno sensibile	4 Moderatamente meno sensibile	5 Notevolmente meno sensibile
6) Quanto è stato sensibile alle cose\eventi negativi nel corso dell'ultimo mese?				
1 Meno del solito	2 Normale	3 Minimamente più sensibile	4 Moderatamente più sensibile	5 Notevolmente più sensibile
7) Come sono stati la sua motivazione/il suo interesse/il suo entusiasmo nell'ultimo mese?				
1 Migliori rispetto al solito	2 Normale	3 Minimamente ridotti	4 Moderatamente ridotti	5 Notevolmente ridotti
8) Quanto è stato sensibile (suscettibile) ai rifiuti/alle critiche nel corso dell'ultimo mese?				
1 Meno del solito	2 Normale	3 Minimamente più sensibile	4 Moderatamente più sensibile	5 Notevolmente più sensibile
9) Quanto è stato/a ottimista durante l'ultimo mese?				
1 Più ottimista del solito	2 Normale	3 Minimamente pessimista	4 Moderatamente pessimista	5 Notevolmente pessimista
10) Come è stato il suo atteggiamento nei confronti della vita nell'ultimo mese?				
1 Più positivo del solito	2 Normale; felice di essere vivo	3 Minimamente desideroso di essere morto	4 Moderatamente desideroso di essere morto	5 Notevolmente desideroso di essere morto

segue

11) Come è stato il suo atteggiamento nei confronti del suicidio nel corso dell'ultimo mese?				
1 Più contrario rispetto al solito	2 Generalmente non ci penso	3 Minimamente desideroso di uccidermi	4 Moderatamente desideroso di uccidermi	5 Notevolmente desideroso di uccidermi
12) Qual è stato il suo atteggiamento rispetto al farsi del male nel corso dell'ultimo mese?				
1 Più contrario del solito	2 Generalmente non ci penso	3 Minimamente desideroso di farmi male	4 Moderatamente desideroso di farmi male	5 Notevolmente desideroso di farmi male
13) Come è stata la sua capacità di prendere sonno nell'ultimo mese?				
1 Più facile del solito	2 Normale	3 Minimamente ridotta	4 Moderatamente ridotta	5 Notevolmente ridotta
14) Com'è stata la sua capacità di restare addormentato nel corso della notte durante l'ultimo mese?				
1 Più facile del solito	2 Normale	3 Minimamente ridotta	4 Moderatamente ridotta	5 Notevolmente ridotta
15) Com'è stata la sua capacità di restare addormentato fino al momento in cui doveva alzarsi nell'ultimo mese?				
1 Più facile del solito	2 Normale	3 Minimamente ridotta	4 Moderatamente ridotta	5 Notevolmente ridotta
16) Come è stato il livello di vigilanza/allerta durante l'ultimo mese?				
1 Maggiore del solito	2 Normale	3 Minimamente ridotto	4 Moderatamente ridotto	5 Notevolmente ridotto
17) Quanto si è sentito assonnato durante il giorno nel corso dell'ultimo mese?				
1 Meno del solito	2 Per niente	3 Minimamente assonnato	4 Moderatamente assonnato	5 Notevolmente assonnato
18) Quanto le è capitato di dormire troppo durante la notte nell'ultimo mese?				
1 Meno del solito	2 Per niente	3 Minimamente di più	4 Moderatamente di più	5 Marcatamente di più
19) Quanto le è capitato di dormire troppo durante il giorno nell'ultimo mese?				
1 Meno del solito	2 Per niente	3 Minimamente di più	4 Moderatamente di più	5 Notevolmente di più
20) Com'è stata la sua energia nel corso dell'ultimo mese?				
1 Migliore del solito	2 Normale	3 Minimamente diminuita	4 Moderatamente diminuita	5 Notevolmente diminuita
21) Quanta pesantezza ha sentito (nelle braccia o nelle gambe) nel corso dell'ultimo mese?				
1 Meno del solito	2 Nessuna	3 Minimamente pesanti	4 Moderatamente pesanti	5 Notevolmente pesanti
22) Quanto si è sentito rallentato nel corso dell'ultimo mese?				
1 Meno del solito	2 Per niente	3 Minimamente rallentato	4 Moderatamente rallentato	5 Notevolmente rallentato
23) Quanto si è sentito agitato nel corso dell'ultimo mese?				
1 Meno del solito	2 Per niente	3 Minimamente agitato	4 Moderatamente agitato	5 Notevolmente agitato
24) Quanto è stato irritabile nell'ultimo mese?				
1 Meno del solito	2 Per niente	3 Minimamente irritabile	4 Moderatamente irritabile	5 Notevolmente irritabile

segue

25) Ha avuto attacchi d'ira (oppure si è sentito particolarmente arrabbiato, come se stesse per esplodere di rabbia) nell'ultimo mese?				
1 Mai	2 Quasi mai	3 Raramente	4 Qualche volta	5 Frequentemente
26) Quanto si è sentito ansioso/preoccupato nell'ultimo mese?				
1 Meno del solito	2 Per niente	3 Minimamente ansioso	4 Moderatamente ansioso	5 Notevolmente ansioso
27) Ha avuto attacchi di panico nell'ultimo mese?				
1 Mi sono sentito più calmo del solito	2 Per niente	3 Raramente	4 Qualche volta	5 Frequentemente
28) Come è stato il suo appetito nel corso dell'ultimo mese?				
1 Migliore del solito	2 Normale	3 Minimamente diminuito	4 Moderatamente diminuito	5 Notevolmente diminuito
29) Ha perso peso nell'ultimo mese?				
1 Ho preso un po' di peso	2 Per niente	3 Minimamente	4 Un poco	5 Moderatamente
30) Il suo appetito è stato eccessivo nell'ultimo mese?				
1 No, è diminuito	2 Per niente	3 Raramente	4 Qualche volta	5 Di frequente
31) Ha preso peso durante l'ultimo mese?				
1 Ho perso un po' di peso	2 Per niente	3 Minimamente	4 Un poco	5 Moderatamente
32) Ha avuto tachicardia/palpitazioni nell'ultimo mese?				
1 Il mio cuore batte più lentamente del solito	2 Per niente	3 Raramente	4 Qualche volta	5 Frequentemente
33) Ha avuto dolori o malesseri nell'ultimo mese?				
1 Meno del solito	2 Per niente	3 Raramente	4 Qualche volta	5 Frequentemente
34) Ha avuto sintomi gastrointestinali (stomaco o intestino) nell'ultimo mese?				
1 Meno sintomi del solito	2 Per niente	3 Raramente	4 Qualche volta	5 Frequentemente
35) Com'è stata la sua capacità di prestare/mantenere l'attenzione nel corso dell'ultimo mese?				
1 Migliore del solito	2 Normale	3 Minimamente ridotta	4 Moderatamente ridotta	5 Notevolmente ridotta

36) Com'è stata la sua capacità di ricordare/riportare alla mente le informazioni nell'ultimo mese?					
1 Migliore del solito	2 Normale	3 Minimamente ridotta	4 Moderatamente ridotta	5 Notevolmente ridotta	6 Totalmente assente
37) Com'è stata la sua capacità di trovare le parole (per esprimersi) nell'ultimo mese?					
1 Migliore del solito	2 Normale	3 Minimamente ridotta	4 Moderatamente ridotta	5 Notevolmente ridotta	6 Totalmente assente
38) Com'è stata la sua acuità/lucidità mentale nell'ultimo mese?					
1 Migliore del solito	2 Normale	3 Minimamente ridotta	4 Moderatamente ridotta	5 Notevolmente ridotta	6 Totalmente assente

segue

39) Come è stata la sua capacità di prendere decisioni nell'ultimo mese?					
1 Migliore del solito	2 Normale	3 Minimamente ridotta	4 Moderatamente ridotta	5 Notevolmente ridotta	6 Totalmente assente
40) Com'è stato il suo funzionamento sessuale nell'ultimo mese?					
1 Migliore del solito	2 Normale	3 Minimamente ridotto	4 Moderatamente ridotto	5 Notevolmente ridotto	6 Totalmente assente
41) Com'è stato il suo funzionamento sociale nell'ultimo mese?					
1 Migliore del solito	2 Normale	3 Minimamente ridotto	4 Moderatamente ridotto	5 Notevolmente ridotto	6 Totalmente assente
42) Com'è stata la sua capacità di studiare/lavorare/svolgere le attività domestiche nell'ultimo mese?					
1 Migliore del solito	2 Normale	3 Minimamente ridotta	4 Moderatamente ridotta	5 Notevolmente ridotta	6 Totalmente assente
43) Quanto si è sentito in colpa nell'ultimo mese?					
1 Meno del solito	2 Per niente	3 Minimamente in colpa	4 Moderatamente in colpa	5 Notevolmente in colpa	6 Estremamente in colpa
44) Quanto si è sentito inutile nell'ultimo mese?					
1 Meno del solito	2 Per niente	3 Minimamente inutile	4 Moderatamente inutile	5 Notevolmente inutile	6 Estremamente inutile

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Attitude toward prescription and clinical monitoring of lithium salts in a sample of Italian psychiatrists: preliminary data

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Summary

Results of international prescribing patterns show that lithium prescription and biochemical drug monitoring seem to differ from a country to another.

In spite of clear-cut supporting scientific evidence lithium monitoring is often disregarded, incorrectly used or underused.

In Italy the trend of lithium prescriptions and biochemical monitoring is far from what suggested in guidelines; even if there's an impressive paucity of data about lithium monitoring and related iatrogenic risks in our country.

In order to assess the current attitude in Italy toward lithium treatment in bipolar disorder we asked to a number of senior psychiatrists, working within the national territory, to fill a 34 items interview. Items were grouped in 8 domains, ranging from prescription pattern to therapeutic drug monitoring and other safety measures to prevent iatrogenic harm during lithium therapy.

A preliminary analysis of the very first data, collected mainly in Tuscany, suggested that overall knowledge about lithium prescription and biochemical monitoring were good and the few critical topics found in this preliminary study may be addressed with an improvement in information about lithium therapy.

Key words

Psychiatry • Psychopharmacology • Mood stabilizers • Lithium • Survey • Clinical practice

Introduction

Although international guidelines recommend lithium as a first-line treatment for bipolar disorder, lithium has fallen out of favour in the last few years, while other agents have grown in popularity [1 2]. Several alternative treatments, such as antiepileptic and second-generation antipsychotics have been introduced and extensively used in the treatment of bipolar disorders [3-5]. The introduction of these drugs changed the prescription pattern [1 6-8], and lithium started to be less prescribed compared to antiepileptic and/or second-generation antipsychotics [6 9-10]. The decrease in the use of lithium, especially for long-term prophylaxis, is not in line with the available evidence and the recommendations from international guidelines [10].

Results of international prescribing patterns show that lithium prescription may have significant regional differences [11] and seem to vary from one country to another [12]. The first observational study conducted on a large sample of bipolar I and II patients that compares therapeutic management between France and other European countries (WAVE-bd Study) shows that treatments differ depending on the country studied [12].

In Italy, the trend of lithium prescriptions seems to slightly differ from other European countries. A recent study in northern Italy showed a temporary change in the incidence of lithium prescriptions with an initial decline

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(2002-2006) and a subsequent rise (2006-2010). The authors stated that this pattern may be better explained by the fall and the rise of new drugs prescriptions [13].
Along with prescribing patterns, biochemical monitoring during lithium therapy also seems to differ from a country to another [14-18]; *with significant discrepancy from what's suggested in guidelines* [19-21 14]. The needed for biochemical monitoring during lithium therapy is widely recognised and according to 2016 European guidelines lithium concentrations in blood should be regularly monitored, even though how regularly is open to debate. A measurement every 3 months for the first year of treatment and every 6 months thereafter should be performed; however, authors specify that an annual evaluation of all relevant blood indices is probably adequate in stable, physically healthy patients [22].
Nevertheless, audits from around the world consistently find that such monitoring is far less than optimal, placing patients at risk of iatrogenic harm [19]. Available data clearly indicate that not only blood monitoring falls short of recognised standards and targets, but that all safety procedures related with lithium therapy (monitoring of renal, thyroid, and cardiovascular functioning) are frequently disattended [18], and a few studies confirm that, even though improved, gaps remained between the requested standard and current practice [17 14].
In Italy, therapeutic drug monitoring of psychotropic drugs has been investigated in a recent survey that included at least one mental health centre or university hospital from every region (41 participating mental health centres from the North to the South of the country).
In spite of clear-cut supporting scientific evidence, analysis of these data revealed that therapeutic drug monitoring is often disregarded, being incorrectly used or underused. As for specific lithium monitoring among 41 mental health services (university hospitals and mental health centres) 6 of them resulted to use no therapeutic drug monitoring of any kind [23]. The authors concluded that therapeutic drug monitoring needs to be improved.
Taken as a whole literature data about lithium therapy of mood disorders seem to conclude that there are substantial differences among guidelines indications and clinical practice as for prescription patterns, drug monitoring and toxicity prevention in Europe and USA.
The quality of lithium prescription and monitoring in Italy seems to be in line with other countries, being far less accurate than it is suggested in guidelines; but there's an impressive paucity of data about lithium monitoring and related iatrogenic risks in our country. Within this scenario, the aim of the present study is to assess the attitude toward prescription and clinical monitoring of lithium salts among Italian psychiatrists.

Methods

In order to assess the current attitude in Italy toward lithium treatment in bipolar disorder we asked to a number of senior psychiatrists, working within the national territory, to fill a 34 items self-report interview. The following data were collected among voluntary probands who agreed to share their knowledge about the safe and effective use of lithium in their clinical practice. Those psychiatrists who accepted to participate were randomly asked to complete this test independently from the part of Italy where they used to work. Data were collected from December 2012 to November 2015.
Our specific aim was to assess prescribing habits, drug monitoring, and iatrogenic preventing damage measures. The items in this interview were grouped in 8 domains including statements about:

- blood testing and other medical assessment;
- indications and contraindications;
- prescription pattern;
- lithium toxicity;
- toxicity management;
- efficacy or lack of efficacy;
- controversial association.

Psychiatrists who accepted to participate in this study were asked to express the level of agreement ranging from a score of 9, indicating total agreement, to 1 indicating total disagreement, with a given statement (example Table I). One of the statements out of 4 was the right answer.

Statistical analysis

The statistical analyses were conducted to calculate the percent of consensus on right answer and the percent of consensus on wrong answers for all the four steps described below.

Step 1

We began with assessing each item in the whole test in search of the higher concordance of the answers on "wrong" assumptions, suggesting the presence of inadequate notions about the use of lithium in clinical practice.

TABLE I. *Sample of statement from the test administered to the probands.*

After prescribing lithium, do you consider necessary to perform blood test about kidneys and thyroid functionality, electrolytes dosage and ECG?
One week after the beginning of lithium therapy
Two weeks after the beginning of lithium therapy
Before the beginning of lithium therapy
Four weeks after the beginning of lithium therapy

Step 2
We tested all of the items in search of the lower concordance of the answers on "right" assumptions, suggesting the presence of significantly different opinions about a statement being indicative of sparse notions about lithium use in clinical practice.

Step 3
In this part of analysis we assessed every domain separately in search of both lower concordance on right answers and/or higher concordance on wrong answers in order to identify the weakest notions in the fields covered by each of the domains.

Step 4
We processed all of the items in search of well-consolidated notions about lithium, assessed as higher concordance on "right" assumptions. (Table I).

Results

In this sample 82 psychiatrists, working over the Italian territory, answered to our questions about their clinical practice with lithium therapy. This data collection began at the University of Pisa; therefore, the majority of our preliminary data resulted to come from specialists working in Tuscany (Table II). We present our results by describing them schematically, in order to clarify the main issues provided through statistical analysis.

Most common mistakes

As for our search of most common mistakes (assessed as both disagreement with right answers or agreement with wrong answers), a significant agreement was found on 3 items in the whole sample.
In answer **17C** about half of the probands (47%) disagreed with a correct statement: "renal damage induced by lithium salts is produced both at glomerular and at tubular level". Some probands indicated as prevalent the damage at tubular level (55%) while others hypothesized a prevalent damage at glomerular level (52%).
In answer **14C** about half of the probands (46%) thought that it was not necessary to interrupt lithium therapy when there were early signs and symptoms of lithium intoxication. The alternatives (blood testing, reduction of lithium doses, etc) were also indicated as an option in a significant percentage of the cases (85-98%).
In answer **7F** a significant group of probands (30%) considered a mistake to prescribe lithium to patients with "cluster headaches" even though this disorder is included among correct indications. Most likely a selection bias is possible, given that "cluster headaches" are prevalently assessed in neurologic and not in psychiatric settings.

TABLE II. *Geographic distribution of probands that completed the self-reported interview.*

Working area City (province)	Number of subjects
Aosta (AO)	1
Bormio (SO)	1
Brescia (BS)	9
Cesena (FC)	1
Ferrara (FE)	1
La Spezia (SP)	1
Livorno (LI)	4
Lucca (LU)	15
Massa (MS)	3
Milano (MI)	2
Pistoia (PT)	1
Pisa (PI)	33
Genova (GE)	4
Reggio Emilia (RE)	1
Roma (RM)	1
Savigliano (CN)	1
Monza/Brianza (MB)	1

Non shared opinions

In our search for non-shared opinions, assessed as lower concordance on right answers, we found a concordance ranging from 36 to 38% in 3 items only.
On item **23** "in patients on lithium before being sure of the inefficacy of the treatment the therapy should be maintained for..." only 36 % of the probands agreed on answer B about a 6-month period.
On item **24** "in patients with mania lithium doses should be..." only 37 % of the probands agreed on answer A about the efficacy of high doses (if tolerated).
On item **20** "side effects that make the interruption of lithium therapy compulsory" only 38 % of the probands agreed on answer B and thought that diarrhea and vomiting made necessary an interruption of the therapy and not a dose reduction.

Lower levels of knowledge

In order to identify the lower levels of knowledge in every domain, each one of them was assessed separately as for the presence of both high concordance on wrong answers and/or low concordance on right answers). The results of this search are listed below together, with some of the related implications:

Domain n° 1 "blood testing and medical assessment"
In the majority of the cases clinicians were perfectly

aware of the importance of such tests in order to prevent iatrogenic harm as the average concordance of right answers ranged from 75% to 95%. On the other hand scores were sparse about the timing of such examinations, where the concordance on right answers fell to a 45%. In this domain, the statement "... In your practice with lithium prescription when you consider necessary to obtain blood testing and electrocardiogram?", had the lower concordance in this domain (45%) on a correct assumption. Thus, there was a high level of agreement about the necessity to prescribe blood testing and medical assessment, but a relatively low agreement about the timing of such prescriptions.

Domain n° 2 "indications and contraindications"

In this domain, Italian psychiatrists demonstrated to have a very good level of knowledge.

There was only one actual mistake in this domain as some psychiatrists considered inadequate a therapy with lithium salts in cluster headaches (see above).

The level of agreement on right answers was generally good (from 68 to 72%), with the exception of a relatively low agreement (49%) about lithium prescription to patients with cutaneous rash. Being this a controversial issue in literature the low level of agreement may be understood.

Domain n°3 "prescription pattern"

In this domain, the levels of knowledge were good, with a concordance of right answers among 66% and 83% in all of the items. The only weak answer was on item 13C, where there was a low concordance on a right answer. In this item only 50% of the psychiatrists agreed about a non-prescription of lithium therapy to a stent carrier patient who had myocardial infarction 3 months before the assessment. This is an item of paramount importance as for clinical practice and will be discussed separately (see discussion)

Domain n° 4 "lithium toxicity"

In this domain knowledge of physio-pathological mechanisms of iatrogenic damage was very good, with a concordance of right answers ranging from 50 to 85%.

When the questions came to lithium intoxication the level of agreement fall to about 45-50%, with a lower agreement on issues such as "reduction of doses versus interruption of the therapy in subjects with first symptoms of lithium intoxication" and "lithium prescription to patients disoriented and confused". It is worth noticing that in the majority of the cases the answers demonstrated a very good safety profile, with more than 85% of concordance on right answers about the necessity of reassessing the case, lowering doses and practicing specific exams in patients with suspected intoxication.

Domain n° 5 "toxicity management"

Here the concordance on right answers was lower than average (40%) because of the presence of over-conservative answers to safety-related items. On item 21 "In patients with a body temperature over 38°, how you consider the interruption of lithium therapy" only 30 % of the probands agreed that it was "possible (depending on the assessment of risk benefit ratio)", with a 70 % of agreement about the "absolute necessity" of such an interruption. As for signs and symptoms of lithium intoxication the attitude of the probands was the same, with a concordance of 38% about the symptoms that made the interruption compulsory and a high concordance (44%) about the necessity to stop lithium at early signs of intoxication.

Domain n° 6 "efficacy or lack of efficacy"

The weakest answers where related with the length of time necessary before considering lithium useless for a patient. Up to 37% of the sample considered useful to keep up with lithium for 6 months and another 38% considered keeping the patients on lithium for as long as one year before stopping it because of lack of efficacy. As for dose/efficacy ratio there also was a low concordance (37%) about the efficacy of high doses (if tolerated) in full blown mania.

Domain n° 7 "controversial association"

The level of knowledge about this topic was generally good, with a concordance from 60 to 90% on right answers. Within this domain the level of knowledge was significantly lower as for possible association with drugs used in internal medicine. More specifically we found the lower concordance on right answers when considering possible association of lithium with Non-Steroid Anti-Inflammatory Drug (29%) and association of lithium with angiotensin-converting-enzyme (ACE) inhibitor (39%) (Table III).

Well consolidated notions

Coming to the issues where the level of knowledge was well established, in the whole test 61 answers out of 140 had a concordance of 70% (or more) on right answers. That is about half of the total sample (43,6% of the answers) had a high concordance on right assumptions (Table IV).

Discussion

In this preliminary report, aimed at assessing the attitude toward clinical practice with lithium in Italian territory, our first results seem to converge about some points.

1. Actual mistakes seems to be rare. In 3 items only there was a significant concordance on wrong answers. The topics of these mistakes were: physiopathology of renal damage induced by lithium,

TABLE III. *Specific domains investigated using the interview, critical issues found and related comments.*

Domain	Critical issue	Comments
1) Blood testing	Timing of blood testing (45%)	Safe but useless
2) Indications	Unproper for patients with cluster headache (30%) Prescription to patients with cutaneous rash (49%)	Low knowledge Controversial issue
3) Prescription	No lithium to patients with myocardial infarction (50%)	Risk of iatrogenic damage
4) Toxicity	Reduction (45%) *vs* interruption (46%) lithium	Overconservative in safety
5) Toxicity management	Possible (30%) *vs* compulsory(70%) interruption	Overconservative in safety
6) Efficacy	Keep up for 6 (37%) *vs* 12 months (38%) Low doses useless in full blown mania (37%)	Safe but useless Low efficacy
7) Associations	Lithium and drugs used in internal medicine (29%)	Low knowledge

early interruption of therapy at early signs of intoxication and no prescription of lithium to patients with cluster headaches. No one of these mistakes may be related with iatrogenic risk or safety concern of any kind. Italian psychiatrists demonstrated to be well aware of potential problems related with lithium induced renal impairment and, even though made a mistake about the physiopathology of such problems, demonstrated adequate clinical skills as for prevention and management of these kind of possible side effects.

The trend suggesting an early interruption of lithium therapy when tolerability issues arise seems to indicate an over-conservative attitude for the management of the patients. This finding is in line with the diffuse exaggerated and erroneous perception of lithium toxicity in comparison with other drugs utilized for long-term treatment of bipolar disorder [24].

The unawareness of lithium efficacy in cluster headaches that lead to the third mistake may be partially understood given the fact that usually headaches tend to come to clinical observation in neurological and not in psychiatric settings. As a consequence, Italian psychiatrists tend to focus on problems related with lithium therapy of bipolar disorder rather than on the treatment of headaches.

2. There were a few sparse opinions about some specific issues. Italian psychiatrists participating in this study demonstrated to have significantly different opinions about some critical points: length of time before stopping lithium because of inefficacy, efficacy of high doses in manic phases of bipolar disorder, compulsory lithium stopping when patients begin to have diarrhoea and vomiting.

   The sparse opinion about keeping up for as long as 12 rather than 6 months before concluding about the inefficacy of lithium therapy has limited implications for the safety of the patients.

   The difference in opinions about the inefficacy of low lithium doses in cases of full-blown mania may imply useless treatment strategies in patients with acute manic phases of bipolar disorder. Better information about this peculiar topic are therefore necessary.

   Non concordant opinions about the opportunity of a dose reduction or lithium versus interrupting lithium when a patient has diarrhoea and vomiting may have significant implications for the safety of the patients; but it should be kept in mind that the answers to the other items of this domain were highly concordant in all other safety related items (necessity of blood testing, strict monitoring of the patient etc.).

   A concordance of about 50% of the sample on the right answer about the absolutely unacceptable risk benefit ratio of a prescription of lithium to a stent-carrier patient who had myocardial infarction about 3 months before the assessment, is one of the very few items with negative implications for the safety of the patients. The concordance about the safer option was much less than expected and, given the implication of increased risk of iatrogenic damage for the patient, this datum rises important questions about the quality of the information about lithium use in patients with cardiovascular disorders. The clinical implications of this topic suggest that it should receive as much attention as actual mistakes when considering the clinical practice with lithium salts.

3. There was a good overall level of concordance in the opinion of the psychiatrists. The presence of highly concordant solid notions about lithium use was found in items related with safety procedures of monitoring during lithium therapy, prevention, assessment and treatment of side effects, indications and contraindications, prescriptions patterns and possible combination of lithium salts with other drugs.

   A high level of concordance was indicative of a significant number of shared opinions about clinical practice with lithium salts. A good level of knowledge

TABLE IV. *Safety and good clinical practice in lithium administration: items, related domains and well consolidated notions.*

Item	Domain	Correct answer > 70%	Comments
C1	Blood testing	ECG and blood testing before beginning lithium therapy	Adequate safety
A2	Blood testing	Monthly blood testing	Adequate safety
A3, B3, D3, E3	Blood testing	Lithemia testing when: – fever/intense sweating – vomiting/diarrhoea – renal function impairment	Good clinical practice
B4	Blood testing	ECG when ipokaliemia	Good clinical practice
C5	Blood testing	Tyroid function test if tyroid nodules	Good clinical practice
A6, B6, D6, E6	Indications	No lithium administration if 1st trimester of pregnancy, acute coronaric syndrome, severe renal impairment	Adequate safety
B7, D7, E7	Indications	Useless lithium monotherapy in social anxiety, panic disorder, 1st unipolar depressive episode	Good clinical practice
A8, B8, C8, D8	Indications	Possible lithium therapy in tyroid dysfunction if adequate hormone replacement and accurate monitoring	Adequate safety
A9, B9, C9, E9	Indications	Lithium contraindicated with renal impairment or breastfeeding but not in glaucoma or prostatic problems	Good level of knowledge
A10, C10, D10, E10	Prescription	Lithium assumption at least twice daily (if not long release formulation)	Good level of knowledge
A11, B11, C11, D11	Prescription	Lithium should be prescribed independently from the current phase of bipolar disorder	Good level of knowledge
D12	Prescription	Lithium should be prescribed independently from the course of depressive/mania cycles	Good level of knowledge
A13	Prescription	Unacceptable risk benefit ratio of lithium prescription during 1st trimester of pregnancy in patients with recurrent depression without suicidal ideas or preceding suicide attempts	Adequate safety
A14, D14	Toxicity	Lithium blood testing at the very first signs/symptoms of increased lithium blood levels. Mandatory not to increase lithium doses	Adequate safety
A15	Toxicity	No litium prescription with confusion or disorientation	Adequate safety
A16	Toxicity	Lithium may be involved in physiopathology of diabetes insipidus, but not in altered glucosium tolerance, diabetes mellitus, night eating syndrome, hypertension	Good level of knowledge
A17	Toxicity	Lithium may be involved in renal impairment	Good level of knowledge
D19	Toxicity management	Careful with doses if tremor or polyuria during first days of lithium therapy	Adequate safety
A21, D21, E21	Toxicity management	Compulsory interruption of lithium therapy if body temperature over 38°C	Adequate safety
A22, D22	Toxicity management	Interruption of lithium therapy should not be abrupt	Good level of knowledge
A23	Efficacy	At least one month is necessary before drawing conclusions about lithium efficacy	Good level of knowledge
D24	Efficacy	Manic phases are not likely to respond to low doses of lithium	Good level of knowledge
A25, B25,	Efficacy	Atypical antipsychotics and valproic acid may be effective alternative strategies to lithium, while lamotrigine is not	Good level of knowledge
A26, B26, D26, E26	Efficacy	Lithium therapy do need titration (fast or slow depending on the cases) and it should not be administered once a day	Good level of knowledge
A27, B27, C27, D27	Associations	Lithium combination with risperidone, olanzapine, quetiapine and aripiprazole have been approved by FDA for the treatment of manic episodes	Good level of knowledge
A29 ,B29, C29, D29, E29	Associations	In patients on lithium-haloperidol combination may develop an encephalopaty characterised by fever, leucocytosis, tremor, extrapyramidal symptoms, confusion and lethargy.	Good level of knowledge

ECG: Electrocardiogram; FDA: Food and Drug Administration.

TABLE V. *Critical issues individuated from preliminary data and related clinical implications.*

Critical issue	Implications
Physiopathology of renal damage induced by lithium	Negligible risk, adequate safety procedures in clinical practice
Early interruption of lithium therapy at early signs of intoxication	Potential risk of relapse/recurrence when iatrogenic risk not yet defined
Unawareness of lithium efficacy in cluster headaches	Negligible risk, no lithium prescription even though demonstrated efficacy
Low concordance about unacceptable risk benefit ratio of lithium to a stent-carrier with myocardial infarction	High risk, potential exposition of the patients to iatrogenic harm

has very positive implications for the safety of the patients receiving lithium therapy in our country.

Limitations of this study

This preliminary data collection began at the University of Pisa, where lithium therapy is probably more commonly used than in other Italian areas; therefore, the small sample size and the geographic working area of the psychiatrists enrolled in this study may both represent possible selection biases. In this report, we also collected data using a self-report interview; but we did not directly register prescriptions of drug, blood testing and clinical monitoring. As a consequence we had the chance to assess the attitude of the psychiatrists toward lithium prescription, but not their behaviour. Most likely there may be differences among what was reported and actual clinical practice.

In conclusion the small number of critical issues that we found in this preliminary study have different implication as for their relevance for clinical practice. Some of these points imply minor problems, such as suboptimal prescription patterns and differences in the proper timing to assess the efficacy of a lithium therapy; while others, like lithium prescription to population of patients no eligible for such a therapy or stopping long-term treatment with lithium when is not necessary, expose the patient to significant iatrogenic harm and increase the risk of recurrences and complications such as suicide and treatment resistance.

In the opinion of the authors the few critical topics found in this preliminary study may be addressed with an improvement in information about lithium therapy; a campaign of information about lithium therapy comes to be of paramount importance in the Italian scenario. Training programs should be developed to improve the knowledge of mental health workers, particularly on therapeutic drug monitoring, with the aim of improving the quality of psycho-pharmacotherapy treatments.

Conflict of interest

None

References

1 Hirschowitz J, Kolevzon A, Garakani A. *The pharmacological treatment of bipolar disorder: the question of modern advances.* Harv Rev Psychiatry 2010;18:266-78.

2 Serra G, Demontis F, Serra F, et al. *Memantine: new prospective in bipolar disorder treatment.* World J Psychiatry 2014;4:80-90.

3 Weisler RH, Cutler AJ, Ballenger JC, et al. *The use of antiepileptic drugs in bipolar disorders: a review based on evidence from controlled trials.* CNS Spectr 2006;11:788-99.

4 Vazquez GH, Holtzman JN, Tondo L, et al. *Efficacy and tolerability of treatments for bipolar depression.* J Affect Disord 2015;183:258-62.

5 Scherk H, Pajonk FG, Leucht S. *Second-generation antipsychotic agents in the treatment of acute mania: a systematic review and meta-analysis of randomized controlled trials.* Arch Gen Psychiatry 2007;64:442-55.

6 Karanti A, Kardell M, Lundberg U, et al. *Changes in mood stabilizer prescription patterns in bipolar disorder.* J Affect Disord 2016;195:50-6.

7 Gitlin M. *Lithium side effects and toxicity: prevalence and management strategies.* Int J Bipolar Disord 2016;4:27.

8 Walpoth-Niederwanger M, Kemmler G, Grunze H, et al. *Treatment patterns in in-patients with bipolar disorder at a psychiatric university hospital over a 9-year period: focus on mood stabilizers.* Int Clin Psychopharmacol 2012;27:256-66.

9 Baldessarini RJ, Leahy L, Arcona S, et al. *Patterns of psychotropic drug prescription for U.S. patients with diagnoses of bipolar disorders.* Psychiatr Serv 2007;58:85-91.

10 Kessing LV, Vradi E, Andersen PK. *Nationwide and population-based prescription patterns in bipolar disorder.* Bipolar Disord 2016;18:174-82.

11 Mauer S, Alahmari R, Vöhringer PA, et al. *International prescribing patterns for mood illness: the International Mood Network (IMN).* J Affect Disord 2014;167:136-9.

12 Bellivier F, Delavest M, Coulomb S, et al. *Therapeutic management of bipolar disorder in France and Europe: a multinational longitudinal study (WAVE-bd).* Encephale 2014;40:392-400.

13 Parabiaghi A, Barbato A, Risso P, et al. *Lithium use from 2000 to 2010 in Italy: a population-based study.* Pharmacopsychiatry 2015;48:89-94.

14 Marcus SC, Olfson M, Pincus HA, et al. *Therapeutic drug monitoring of mood stabilizers in Medicaid patients with bipolar disorder.* Am J Psychiatry 1999;156:1014-8.

15 Gerrett D, Lamont T, Paton C, et al. *Prescribing and monitoring lithium therapy:*

summary of a safety report from the National Patient Safety Agency. BMJ 2010;341:c6258.

16 de Souza C, Vedana KG, Mercedes BP, et al. *Bipolar disorder and medication: adherence, patients' knowledge and serum monitoring of lithium carbonate.* Rev Lat Am Enfermagem 2013;21:624-31.

17 Collins N, Vedana KG, Mercedes BP, et al. *Standards of lithium monitoring in mental health Ttrusts in the UK.* BMC Psychiatry 2010;10:80.

18 Paton C, Adroer R, Barnes TR. *Monitoring lithium therapy: the impact of a quality improvement programme in the UK.* Bipolar Disord 2013;15:865-75.

19 McKnight RF, Adida M, Budge K, et al. *Lithium toxicity profile: a systematic review and meta-analysis.* Lancet 2012;379:721-8.

20 Kehoe RF, Mander AJ. *Lithium treatment: prescribing and monitoring habits in hospital and general practice.* BMJ 1992;304:552-4.

21 Fielding S, Kerr S, Godber C. *Lithium in the over-65s – a dedicated monitoring service leads to a better quality of treatment supervision.* Int J Geriatr Psychiatry 1999;14:985-7.

22 Goodwin GM, Haddad PM2, Ferrier IN, et al. *Evidence-based guidelines for treating bipolar disorder: revised third edition recommendations from the British Association for Psychopharmacology.* J Psychopharmacol 2016;30:495-553.

23 Conca A, Schmidt E, Pastore M, et al. *Therapeutic drug monitoring in Italian psychiatry.* Pharmacopsychiatry 2011;44:259-62.

24 Sani G, Perugi G, Tondo L. *treatment of bipolar disorder in a lifetime perspective: is lithium still the best choice?* Clin Drug Investig 2017;37:713-27.

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Interpreting discrepancies between the MMPI-2 and the Rorschach Inkblot test: a case report

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Summary

This article covers a prototypical discrepancy between MMPI-2 and Rorschach results by interpreting the tests administered to an inmate sentenced for domestic violence. The results of his MMPI-2 and his Rorschach tests were evaluated and integrated on the bases of Finn's (1996) theoretical model. Finn's model for the integration of self-report tests and performance-based tests allows the clinician to make sense of discrepancies between test results.

Key words

Case report • MMPI-2 • Rorschach • Personality Test

The Minnesota Multiphasic Personality Inventory (MMPI-2) [1] and the Rorschach Inkblot test [2 3] are two of the most frequently used personality assessment instruments. De Fidio and Grattagliano [4] reviewed the sources of convergence and divergence between MMPI-2 and Rorschach test results. However, they did not include the model of Finn [5], a practical approach to interpret self-report and performance-based tests results. Finn identified five patterns (Table I) based 1) on the clients' level of disturbance on the MMPI-2 and on the Rorschach, and 2) on the clients' level of engagement in the Rorschach Inkblot test. In the convergent cells, MMPI-2 and Rorschach results agree on the degree of the client's disturbance. In the discrepant cells, psychological tests results disagree on the degree of disturbance (see Table II for more detail). A common discrepancy is found in clients with relatively good MMPI-2 results and much more severe Rorschach results (Cell B), as illustrated in the case example.

Case report

Jack was a 40-year-old man sentenced to three years of jail for severe domestic violence. He met the psychologist as part of the compulsory treatment in prison. In the sessions, he appeared as a nice, sympathetic and well-adjusted man. He repeatedly claimed that the guilty sentence was a mistake. Prior to the treatment, the psychologist administered him the MMPI-2 and the Rorschach. The overall profile of Jack is of a well-adapted and slightly internalizing person. His MMPI-2 results suggested that Jack was sensitive to the social judgement (L = 66T), even if he was not consciously downplaying the impact of his problems (F = 55T, K = 44T). The non-K corrected profile shows a within normal limits profile, except for a low score on Scale 3, indicating that he saw himself as pragmatic and may tend to be seen by others as tactless. His higher score was at Scale 2 (61T), indicating a tendency for introspection and self-blaming, a lack of self-confidence, and a passivity in conflicts. Also, all his acting out scales (i.e., Scale 4, 8 and 9) were in a not problematic range, with scores below 45 T scores.

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TABLE I. *Patterns of MMPI-2 and Rorschach test Results (Finn, 1996, p. 545).*

	High degree of disturbance on MMPI-2	Low degree of disturbance on MMPI-2
High degree of disturbance on Rorschach	Cell A [a]	Cell B [a]
Low degree of disturbance on Rorschach	Cell C, Case 1 [a] Cell C, Case 2 [b]	Cell D [a]

*MMPI-2 profiles in all cases are considered to be consistent (i.e., **VRIN** and **TRIN** within normal limits), valid, and unguarded (i.e., no significant elevations on **L** and **K**).*

[a] *Rorschach protocols in these cells show adequate engagement on the part of the client (i.e., **R** is average or above and Lambda is < 1.0)*

[b] *These Rorschach protocols are constricted (with low **R**s and/or Lambdas greater than 1.0).*

TABLE II. *Relationship between MMPI-2 and Rorschach test results [5].*

	Patterns of MMPI-2 and Rorschach test results	Interpretations
Convergent cells	Cell A: high level of disturbance on both the MMPI-2 and the Rorschach test.	"In this cell fall clients whose psychological functioning is disrupted in both structured and unstructured situations [...]. Clients' problems in living are quite evident in their day-to-day functioning, they are aware of these problems, and are willing and able to report them on the MMPI-2" (Finn, 1996, p. 545-6).
	Cell D: minimal level of disturbance on both personality tests.	"In this cell fall clients who function well in both structured and unstructured situations" (Finn, 1996, p. 547).
Discrepant cells	Cell B: low level of disturbance on the MMPI-2 but high level of problem on the Rorschach.	"Clients with this pattern have underlying pathology that emerges in emotionally arousing, regressive, interpersonal, unstructured situations (such as the Rorschach administration). However, they function relatively well in familiar, structured situations when they can use intellectual resources to deal with anxiety (such as when taking the MMPI-2). Such clients are often unaware of the full nature of their difficulties and hence, are unable to report them on the MMPI-2" (Finn, 1996, p. 546).
	Cell C (Case 1 and Case 2): high disturbance on the MMPI-2 but minimal level of problem on the Rorschach.	Cell C, Case 1: "In this instance clients are adequately engaged in both the MMPI-2 and Rorschach, and the disagreement between the two sets of test findings reflects the greater control clients have over their self-presentations on the MMPI-2 as compared to the Rorschach [...]. The disturbance shown on the MMPI-2 represents a conscious attempt on the part of clients to endorse psychopathology, whereas the lack of disturbance on the Rorschach is inconsistent with this presentation and raises the possibility of malingering, exaggeration, or a "cry for help" (Finn, 1996, p. 546-7). Cell C, Case 2: "This pattern results from a defensive reaction of emotional withdrawal or constriction on the part of clients in response to the regressive pull of the Rorschach administration. These clients are able to reveal their problems in living on the MMPI-2 because it is impersonal, less arousing, and less overwhelming. However, during the Rorschach these clients "shut down" because they me overstimulated and confused by the interpersonal, emotionally arousing test situation" (Finn, 1996, p. 547).

His Rorschach protocol gave a different picture of his functioning. Despite being brief (R = 15), he had a high engagement in the task (L = 0.36). Among the indices of major psychopathology, the Perceptual Thinking Index (PTI) was 3, pointing to some arbitrary and disordered thinking (INC2 = 1; FAB2 = 1; X-% = .47), inability to produce socially expected behaviours (P = 2), representations of self and others based on projected rather than factual elements (Sum H = 3, all accompanied by FAB or INCOM2 codes), and the expectation of relationships as aggressive and potentially violent (AG = 3; COP = 0). All his responses at cards VIII, IX and X had poor form quality, indicating that Jack's contact with reality decreased in emotionally arousing contexts.

In a more structured situation, Jack was a man who appeared very competent, able to focus, and who could be trusted. However, in unstructured contexts, Jack

could lose his social skills, and struggled to manage his perceptual and ideational processes. In such circumstances, his behaviour could become violent. After the feedback session, Jack told the assessor he agreed with this interpretation, and ended up describing himself as a version of the famous romantic figure of Dr. Jekyll-Mr. Hyde. The integration of these two parts of his personality became the goal of the treatment.

Conclusions

In this article, self-report and performance-based tests results were integrated in a TA [5] framework. TA is a semi-structured intervention in which psychological tests are used in a collaborative and transformative process [6]. The differences between MMPI-2 and Rorschach helped the clinician to refine case formulations and tailor the subsequent treatment to the client's needs. Literature suggests that the same framework for test interpretation can be helpful with many types of clients such as adults [7 8], couples [9], and families [10].

Conflict of interest

None

References

1 Butcher JN, Dahlstrom WG, Graham JR, et al. *Minnesota Multiphasic Personality Inventory-2 (MMPI-2): manual for administration and scoring.* Minneapolis, MN: University of Minnesota Press 1989.

2 Exner JE. *The Rorschach: a comprehensive system. Basic foundations and principles of interpretation (4th Ed.)* New York: Wiley 2003.

3 Meyer GJ, Viglione DJ, Mihura JL, et al. *A manual for the Rorschach Performance assessment system.* Toledo, OH: R-PAS 2011.

4 De Fidio D, Grattagliano I. *Correlazione tra il MMPI-2 e il Rorschach: un'analisi possibile?* Giorn Ital Psicopat 2007;13:162-70.

5 Finn SE. *Assessment feedback integrating MMPI-2 and Rorschach findings*. J Pers Assess 1996;67:543-57.

6 Aschieri F, De Saeger H, Durosini I. *L'Évaluation Thérapeutique et collaborative: Preuves empiriques.* Pratiques Psychologiques 2015;21:307-17.

7 Aschieri F, Smith JD. *The effectiveness of therapeutic assessment with an adult client: a single-case study using a time-series design*. J Pers Assess 2012;94:1-11.

8 Durosini I, Tarocchi A, Aschieri F. *Therapeutic assessment with a client with persistent complex bereavement disorder: a single-case time-series design*. Clin Case Stud 2017;16:295-312.

9 Provenzi L, Menichetti J, Coin R, et al. *Psychological assessment as an intervention with couples: single case application of collaborative techniques in clinical practice.* Prof Psychol Res Pr 2017;48:90-7.

10 Aschieri F, Fantini F, Bertrando P. *Therapeutic assessment with children in family therapy.* Aust N Z J Fam Ther 2012;33:285-98.

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The "Pulsatile table". Proposal for a reactive cenesthetic diagnostic tool for outpatients

Living is a pulsatory event [1]. In the alternation between of high and low, inspiration and expiration, systole and diastole, life happens. This oscillation is an everyday living experience as well that, expressed through mood, when exceeded in euphoric or depressed phase and not balanced by means of its opposite, can become an alarm bell for psychotherapist [2]. Patient may be in trouble when requested to describe his actual mood [3], often reporting generic situational images, namely as "all fantastic" or "all black". This means that, when a patient is able to recognize promptly his emotions, these can be rapidly "classifiable" and better treatable in the light of a therapeutic approach. On the route of such considerations, the author of this brief description proposes a easy-to-use tool, simple and intuitive for the patient, capable to represent the numerous and often difficult-to-describe cenesthesiopathy facets. It is conceived as a "reactive picture" proposal, representing a Hertz sinusoid (the universal pulsation symbol), made of a "uphill" and a "downhill" wave/phase with a straight line in the middle. In this picture, patient mood is twofold symbolized, namely as a tall, clumsy figure and as a short, zippy one. Both the phases/waves can have not univocal interpretations. Infact, the "rising" one could call in mind difficulty of living (the tall, clumsy figure) as much as challenge and desire to overcome a difficulty in order to achieve a goal

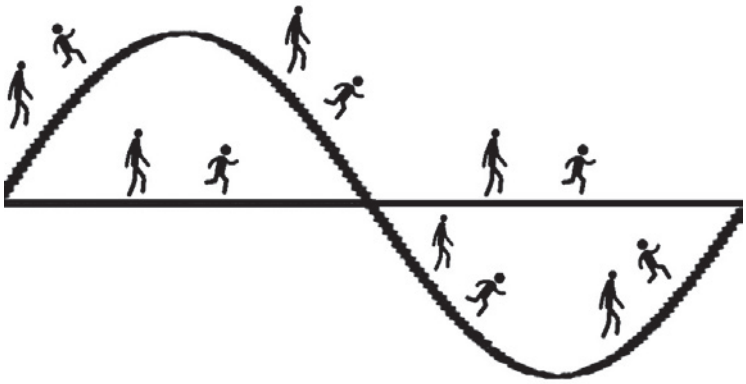

FIGURE 1. *The reactive table proposal. Two figures are shown to symbolize situational mood: the one tall and clumsy represents a low mood patient, whereas the one short and zippy represents a high mood patient. Therefore different cenesthesiopaties are illustrated: the blues (tall and clumsy going up the hill due to fatigue, or down the hill because of rumination and depressive symptoms), the happiness (short and zippy going up the hill to achieve a goal or down the hill in a liberatory phase of struggles overcome), and the stasis (tall and clumsy weak-willed, hoping to die, short and zippy weak-willed as well, hoping to have a good opportunity). In a blink of the eye, patient identifies his situation, learning that change (namely changing the road, in the picture) for the better is possible, since life is a pulsatory event, therefore it is not supposed to be raining forever, but through observation, it is possible to learn from personal events to evolve and improve actual situation.*

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(the short, zippy figure). Similarly, the "downhill" phase could symbolize a simple and problems-free life (the short, zippy figure), or the desire to leave everything, to retire, or, worse, to take proper life (the tall, clumsy figure). In the middle of these two deflection waves there is a horizontal, flat pedestrian line *(electrocardiogram shows it in absence of a current strong enough to generate either a positive or negative deflection, hence the lack of current is identifiable as a stasis)*, representing again a double meaning situation, namely an "apparent" philosophical calmness of who is passing through a transition period, hoping for a leap forward for better times (the short, zippy figure), or of who has lost any reason to react, to fight, to live life to the fullest (the tall, clumsy figure), and is slightly passing to the downward wave, hoping to die. Figuring out personal cenesthetis, reactive table would stimulate patient to add useful mood hints, helpful to permit psychotherapist to unveil hidden (and therefore unconscious) behavioural mechanisms leading to sufferings. What is more, since patient realizes visually (and therefore mentally) the double, alternative meaning of each pathway on the table (going uphill, downhill, or on the plains) he/she would become aware to have the chance to change what initially could be perceived as insurmountable, an opportunity to modify his point of view on the obstacles between him and his personal fulfilment, therefore reaching complete psychological healing.

Conflict of interest

None

References

1 Keleman S. *Emotional anatomy: the structure of experience*. Center Press 1985.

2 Dixon LB, Adler DA, Berlant JL, et al. *Psychiatrists and primary caring: what are our boundaries of responsibility?* Psychiatr Serv 2007;58:600-2.

3 Levine D, Marziali E, Hood J. *Emotion processing in borderline personality disorders*. J Nerv Ment Dis 1997;185:240-6.

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Specific instructions for the various categories of papers:

1. Editorials: only upon invitation by the Editor-in-chief or the Editorial Board are brief discussions on general and practical aspects of topics of current interest. The text must not exceed 10 typewritten pages (2000 typewritten characters).

2. Original articles (which may also include invited articles). The text should be subdivided into the following sections: Introduction, Materials and methods, Results, and Discussion and Conclusions. The manuscript should not exceed 40.000 typewritten characters, including the summary, tables, figures and references (max 35). Summary should be no more than 3000/3500 typewritten characters (please strictly follow the above-mentioned instructions). In the Objective(s) section, the aim (or the aims) of the work must be clearly summarised (i.e., the hypothesis the Authors aim to verify); in the Method(s) section, the Authors must report the context of the study (i.e., general paediatrics, Hospital, Specialist Centre …), the number and the kind of subjects under analysis, the kind of treatment and of statistical analysis used. The Results section should refer to the results of the study and of the statistical analysis. In the Conclusion(s) section should report the significance of the results as related to clinical implications.

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