



Official Journal of the Italian Society of Psychopathology
Organo Ufficiale della Società Italiana di Psicopatologia

JOURNAL OF PSYCHOPATHOLOGY

GIORNALE DI PSICOPATOLOGIA

Editor-in-chief: Alessandro Rossi

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Founders: Giovanni B. Cassano, Paolo Pancheri

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Neuro-functional alterations due to PTSD after environmental disasters: fMRI evidence and clinical suggestions

L. Piccardi^{1,2}, M. Boccia^{2,3}, S. Colangeli⁴, F. Bianchini^{2,3}, A. Marano¹, A.M. Giannini³, M. Palmiero^{1,2}, S. D'Amico⁵

¹ Department of Life, Health and Environmental Sciences, L'Aquila University, L'Aquila, Italy; ² Neuropsychology Unit, IRCCS Fondazione Santa Lucia, Rome, Italy; ³ Department of Psychology, Sapienza University of Rome, Rome, Italy; ⁴ Department of Physiology and Pharmacology, Sapienza University of Rome, Rome, Italy; ⁵ Department of Biotechnological and Applied Clinical Sciences, L'Aquila University, L'Aquila, Italy

Summary

Introduction

The post-traumatic stress disorder is an important clinical challenge. The present work was aimed at assessing the specific neural network showing functional changes in people suffering from post-traumatic stress disorders (PTSD) as a consequence of a natural disaster.

Methods

To pursue this aim we will perform a meta-analysis of fMRI studies of PTSD after natural disasters using Activation likelihood estimation (ALE).

Using ALE's inclusion criteria, we selected 22 individual experiments investigating the PTSD due to natural disasters.

Results

ALE analysis showed activation foci in superior and inferior frontal gyrus, insula and lingual gyrus in the right hemisphere. The

PTSD due to natural disasters modifies a cerebral network involved in learning spatial sequences in the environmental space. This neuro-functional alteration suggests the presence of selective cognitive deficits in visuo-spatial and navigational memory that could reduce the individual's capability to cope the emergency situation.

Discussion and conclusions

The PTSD due to natural disasters differs from that caused by other traumatic events altering in selective way the lingual gyrus, an important structure involved in topographical memory. This trauma-specific effect suggests the importance to develop specific treatment aimed at the PTSD's resolution.

Key words

PTSD • Post-traumatic stress disorders • Psychological therapies focused on trauma • Emergency Psychology • Natural disaster • Earthquake • Topographical memory • Topographical orientation

Introduction

A traumatic event, where there was a severe injury or a threat (or a perceived threat) to the physical integrity of individual involved, may produce a common behavioural, psychological, biological and social pattern of responses called "post-traumatic stress disorder" (PTSD) ². The PTSD is characterized by the following symptoms: i) re-experiencing the trauma through intrusive distressing recollections of the event, flashbacks, and nightmares; ii) Avoidance of places, people, and activities that are reminders of the trauma; iii) negative alterations in cognitions and mood, such as persistent and exaggerated negative beliefs or expectations about oneself, others, or the world (i.e., persistent guilt or shame; emotional numbness; diminished interest or participation in significant activities; inability to remember an important aspect of the traumatic events); iv) Increased arousal such as sleeping and concentrating difficulty, reckless or self-destructive behaviour hypervigilance, and being easily irritated and angered ³.

To receive a diagnosis of PTSD, the individuals have to show these symptoms for more than a month after the event and to become chronic they have to persist for at least three months ⁴. Even though PTSD may occur and may be considered a common disorder after being exposed to a life-threatening situation (i.e., physical attack, domestic violence, sexual abuse, car accident, the experience of unexpected or sudden death of a friend or relative, natural disaster, terroristic attack), not all survivors will show PTSD. Indeed, many of them will exhibit resilient responses or brief subclinical symptoms or consequences that fall outside of diagnostic criteria. Large scale disasters can have a multitude of effects upon a community: from economic to social, from physical to psychological. The impacts on health of direct or indirect exposure to a traumatic event could be exhibited in the middle and long term as a consequence of the entire disruption of the health infrastructure of the city, the loss of social support and of a normal life.

Correspondence

Laura Piccardi, Dipartimento di Medicina Interna, Sanità Pubblica, Scienze della Vita e dell'Ambiente (MESVA), Università di L'Aquila, Italy • E-mail: laura.piccardi@cc.univaq.it

For such a reason, a crucial aspect of disaster mental health response during the early post-impact phase is the identification of individuals at risk for long-term problems². Victims may be classified into at least four groups according to the type of their involvement and their functions: i) primary victims who have been directly exposed to the disaster; ii) secondary victims, who have not been directly affected, but who mourn a close relative who is part of the primary victims or who witnessed the traumatizing events; iii) third-level victims, such as rescuers (i.e., health personnel, fireworkers, policemen) who intervene on the scene and have witnessed traumatizing experiences; iv) fourth-level victims, the general public or community members, who were not physically present at the scene but suffered by proxy when exposed to the media information⁵.

In the last few years, the number of natural disasters has increased significantly, a recent review by Ripoll Gallardo et al.⁶ reported that, only in the 2014, 324 natural disasters have been occurred, which 10% constituted by earthquakes.

The L'Aquila population exposed to the earthquake of 6th April 2009 appears to be one of the most studied from multiple perspectives. In particular, it was observed to investigate the trauma effects on health to short and medium-term⁷. There are some previous trauma conditions that may predispose individuals to the persistence of stress symptoms, but also the type of exposure, as well as the following experience may contribute to be at risk of subsequent PTSD (e.g., survivors to mass-destruction phenomena; complicated mourning; loss of the family and of the community; survivors already exposed to previous traumatic experience; loss of the employment; financial loss etc.)⁷⁻¹¹. Also individual factors may contribute to the development of subsequent chronic psychological disorders (i.e., female gender, personality, genetic factors, low-educational level; epigenetics vulnerability; previous psychiatric disorders; whether the trauma took place during childhood or adulthood; degree of exposure; close proximity with the epicentre of the earthquake; physical injuries and trapped experience; the loss of home and relocation after the disaster^{7 12-22}. Concerning the age, for instance, people over 50 show a greater sensitivity to the stressful event exhibiting a greater maladaptive response²¹. Women show a greater sensitivity to the trauma²³, adopting more negative coping strategies²⁴. Furthermore, the incidence of complete PTSD is higher in women with respect to men^{7 25}.

A first aid is strongly suggested for helping people in managing initial and transitory symptoms of post-traumatic stress and for preventing long-standing clinical signs⁴. Several psychological therapies have been proposed in the PTSD treatment: cognitive therapy^{26 27},

therapies with a psychodynamic approach²⁸ and EMDR (Eye Movement Desensitization and Reprocessing)²⁹. The trauma focused therapies are considered the most effective in the trauma reprocessing and among elective therapies for PTSD there are cognitive-behavioural therapy and EMDR^{4 30-35}.

A recent meta-analysis on neuro-functional correlates of different types of PTSD showed as a distinction should be made in accordance to the type of traumatic event. Boccia et al.³⁶ reported that PTSD caused by physical assaults is associated with neural alteration of cerebral area known to be involved in the processing of skeletomotor orientation to the noxious stimuli (i.e., middle cingulate cortex), while the combat-related trauma is associated to a cerebral network involved in memory, emotional processing and monitoring internal body states (i.e., hippocampus, anterior and posterior cingulate cortex and bilateral insula) and the PTSD following natural disasters modify cerebral areas involved in spatial and environmental representation (i.e., parahippocampal cortex). The evidence that different traumatic event may modify different neuro-functional brain areas suggest a specific trauma dimension that may provide useful cues to the PTSD treatment. On the other hand, this finding is in line with behavioural findings showing that stress traumatic reactions may differ due to the type of traumatic event. Indeed, Schuster et al.³⁷ reported that in cases of technological or natural disasters or major terrorist attacks, the tendency is to increase mutual contacts and look for reassurance in others.

In the present study investigated the presence of a neuro-functional alteration correlates to the post-traumatic stress disorder following natural disaster (PTSD-ND). To pursue this aim, we performed an Activation likelihood estimation (ALE) analysis, which allows for coordinate-based meta-analyses of neuroimaging data¹.

Methods

Studies/samples

Studies selection was performed using BrainMap Functional database and PubMed. Inclusion criteria for papers were: 1) use of functional magnetic resonance imaging (fMRI) or positron emission tomography (PET); 2) inclusion of coordinates of activation foci, either in Montreal Neurological Institute (MNI) or Talairach reference space; 3) inclusion of peak activations derived from comparisons between patients diagnosed with PTSD and healthy age- and educational-matched controls; 4) the traumatic event was a natural or an environmental disaster.

Thus, we selected 22 studies described in 14 papers³⁸⁻⁵¹ (see Table I for details about number of participants and

on the type of experiment performed) which investigated the neural correlates of PTSD after a natural disaster, with a total of 163 foci of activation.

Activation likelihood estimation (ALE) analysis

Activation likelihood estimation (ALE) was performed on activation-location coordinates from selected studies⁵². ALE models the uncertainty in localization of activation foci using Gaussian distribution⁴⁵ and analyses the probability that a voxel will contain at least one of the activation foci; it is calculated at each voxel and results in a thresholded ALE map. In other words, ALE assesses the overlap between foci by modeling the probability distributions centered at the coordinates of each one¹.

In the present study, we performed an ALE analysis to determine whether a consistent neural substrate of PTSD due to natural disasters exists.

The ALE meta-analysis was performed using GingerALE 2.3.6 (brainmap.org) with MNI coordinates (Talairach coordinates were automatically converted into MNI coordinates by GingerALE.). According to Eickhoff et al.'s¹ modified procedure, the ALE values of each voxel in the brain were computed and a test was performed to determine the null distribution of the ALE statistic of each voxel. The FWHM value was automatically computed because this parameter is empirically determined¹.

The thresholded ALE map was computed using p values from the previous step and a False Discovery Rate (FDR) at the 0.05 level of significance (Tom Nichols' FDR algorithm). Moreover, a minimum cluster size of 200 mm³ was chosen.

A cluster analysis was performed on the thresholded map. The ALE results were registered on an MNI-normalized template using Mricron (<http://www.mccauslandcenter.sc.edu/mricron/index.html>).

Results

The ALE meta-analysis showed clusters of consistent activations in the insula (cluster 1), in the lingual gyrus (cluster 3), in the inferior frontal gyrus (cluster 4) and in the superior frontal gyrus (cluster 2) of the right hemisphere (Figure 1, Table I).

Discussion

The aim of the present study was to investigate the neuro-functional alterations in individuals affected by PTSD following a natural disaster (PTSD ND), for verifying the existence of specific brain functional areas related to the type of traumatic event.

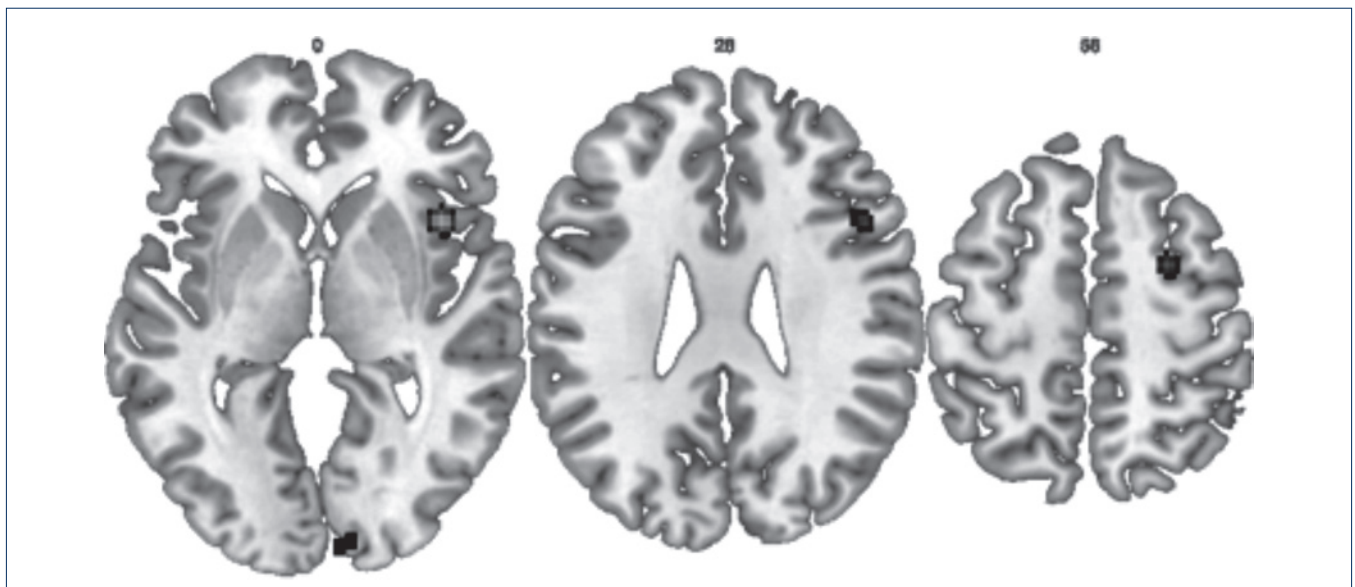
PTSD is the only major mental disorder with a known cause, that is, an event that threatens one's physical in-

tegrity or that of others and induces a response of intense fear, helplessness or horror⁵³. Although different studies have showed common neural mechanisms underpinning PTSD symptomatology, including intrusive memories of the traumatic event, avoidance of reminders of it, emotional numbing and hyperarousal⁵³, no previous study (except for a first exploration by Boccia et al.³⁶) has assessed the effect of different traumatic events on the brain mechanisms underlying PTSD. Clinical evidence suggests that different traumatic events interact with individual factors (i.e., personality, gender and genetic factors) leading to different physical and behavioural outcomes as well as a different prevalence of PTSD⁵⁴⁻⁵⁷.

To this purpose we have performed an ALE meta-analysis on the selected studies for showing the cerebral areas involved in PTSD-ND. We found that a specific networks of areas, including insula, lingual gyrus, right inferior and superior frontal gyri are associated to the PTSD-ND. These set of areas have been recently found related to different spatial abilities: specifically, lingual gyrus and insula are involved with learning sequences in the navigational space, with specific and complementary contributions⁵⁸. Indeed, inferior frontal gyrus is involved in the mental rotation of 3-D objects and letters of the alphabet⁵⁹ and the superior frontal gyrus is involved in working memory and more specifically in the maintaining of spatial orientation⁶⁰.

This result highlights as a natural/environmental disaster that produces significant changes in the familiar places may also modify the brain areas devoted to the learning of sequences in the navigational space. In particular, the lingual gyrus that is associated with learning of sequences in the environment. In this directions, through an fMRI paradigm, Nemmi et al.⁵⁸ have showed the activation of the lingual gyrus during the learning of a new path in a navigational (extrapersonal) space, but not when the same individual learns a path in a peripersonal space. Furthermore, the lingual gyrus has been recently associated with the learning of new environments, being more activated when individuals are asked to perform a navigational task in a recently learned environment⁶¹. This neuro-functional alteration is typical of PTSD ND and it was not observed in PTSD due to physical assaults or to combat-related trauma exposures^{35 62}. Moreover, the insula within other regions (such as dorsolateral prefrontal cortex) is thought to be involved with the processing of self-generated locomotor movements⁶³.

All traumatic events shared a behavioural pattern of responses called PTSD, as well as the feeling to an exposure to an extreme life-threatening event. However, an important distinction should be made with respect to the type of traumatic event. The natural disaster exposes an entire group of people that lived in a community and in a specific place to a disaster that is often unpredictable and

**FIGURE 1.**

Region showing neuro-functional alteration in patients who developed PTSD after natural disasters, as it results from the ALE analysis on fMRI studies.

TABLE I.

Meta-analysis studies selected.

Paper	N ^a	N. of participants with PTSD/TE	Studies ^c	fMRI Paradigm	Cluster ^b
Chen et al., 2009	24	12	1	Encoding and retrieval memory tasks	
Mazza et al., 2012	20	10	1	Affective priming task	
Hou et al., 2007	17	10/7*	7	Symptom provocation paradigm/TR-STM	
Mazza et al., 2015	17	7/10*	1	Emotional and cognitive empathy task	
Du et al., 2015	42	21	1	Graph theory analysis of resting-state fMRI	1, 2, 4
Du et al., 2016	30	16*	1	Subliminal priming with earthquake-related images on attentional control during a Stroop task	
Gong et al., 2014	121	65/56*	1	Resting-State fMRI	
Shang et al., 2014	38	18/20*	1	free Resting-State fMRI Task	3, 4
Wei et al., 2013	30	15*	2	charitable donation task	
Yin et al., 2012	126	54/72*	1	Resting-State fMRI	
Yin et al., 2011	126	54/72*	2	Resting-State fMRI	3
Mazza et al., 2013	20	10	1	Negative and neutral emotional stimuli observation during Resting-State fMRI	2
Lui et al., 2009	76	44*	1	Resting-State fMRI	1
Vidotto et al., 2014	35	10	1	Disgusting and scramble images observation task	
	PTSD N = 271				
	TE N = 312				
	C = 139				

^a N. of participants; ^b Cluster contribution (if applicable); ^c Number of experiments in each paper; * Number of participants exposed to traumatic event who did not developed PTSD.

PTSD: Post Traumatic Stress Disorder; TE: Trauma Exposure; C: Healthy controls.

difficult to contrast. The natural disaster leads to the destruction of a familiar place, to the loss of the own roots and identity due to the homelessness situation. Survivors are exposed to a long period in which they have to address all cognitive resources towards the survival itself and a new start requiring the re-learning of new environmental paths as a consequence of the destruction of the familiar places. Differently, traumatic events following motor-vehicle accidents or sexual assaults are individual disasters that expose primary and secondary victims to face an event that affects the own body perception as well as the place mental representation not any more perceived as a safe place. These traumatic experiences share with natural disasters the unpredictability element but they do not have the state of social emergency and experience typical of environmental disasters.

In the war experience, comrades in arms share the exposure to traumatic scenes, however (except for the Civil wars) they do not experience the destruction of a familiar place. Specifically, in the physical assaults and in the combat-related PTSD, there is not a neuro-functional alteration of the brain areas involved in the mental environmental representation. Until now the studies investigating cognitive and psychological disorders following PTSD are never distinguished between different traumatic events. However, from a clinical point of view, this distinction could provide useful directions.

For example, a study by Roncone et al.⁶⁴ showed the presence of memory disorders (i.e., episodic memory and verbal working memory) characterizing the acute traumatic stress disorder. Authors suggest that the presence of these deficits may reduce the capability to cope in the post-traumatic phase, preventing the recovery and increasing the possibility to develop a chronic PTSD.

Taking into account for the evidence coming from the present meta-analysis of an involvement of the lingual gyrus it is possible to hypothesize that other memory deficits involving visuo-spatial and navigational information may affect survivors. Considering that trauma focused psychological therapies use visual mental imagery for reducing intrusive thoughts, the presence of these deficits may affect the effectiveness of treatments.

These aspects should be systematically investigated in individuals with acute and chronic PTSD to promote the use of individual coping strategies and with a further purpose to implement specific psychological treatments for PTSD-ND.

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Identification of young people at “Ultra-High Risk” (UHR) of developing psychosis: validation of the “Checklist per la valutazione dell’esordio psicotico” for use in primary care setting

L. Pelizza¹, A. Raballo^{1,2}, E. Semrov¹, S. Azzali¹, I. Scazza¹, S. Garlassi¹, F. Paterlini¹, F. Fontana¹, R. Favazzo¹, L. Pensieri¹, M. Fabiani¹, L.R. Chiri³, L. Cioncolini¹

¹ Department of Mental Health and Addiction, Reggio Emilia Public Health Centre, Reggio Emilia, Italy; ² Department of Psychiatric Research, Diakonhjemmet Hospital, Oslo, Norway; NORMENT and Jebsen Centre for Psychosis Research, University of Oslo, Norway;

³ Department of Mental Health and Addiction, Bologna Public Health Centre, Italy

Summary

Objective

The study aims to establish the concordant validity of the “Checklist per la valutazione dell’Esordio Psicotico” (CVEP) in an Italian help-seeking population. The CVEP is the Italian adaptation of the early detection Primary Care Checklist (PCCL), a 20 item tool specifically designed to assist primary care practitioners in identifying young people in the early stages of psychosis.

Materials and Methods

The checklist was completed by the referring practitioners of 102 young people referred to the “Reggio Emilia At Risk Mental States” Project (ReARMS) in the Reggio Emilia Department of Mental Health and Addiction. The concordant validity of the CVEP was established by comparing screen results with the outcome of the Comprehensive Assessment of At Risk Mental States (CAARMS), a gold standard assessment for identifying young people who may be at risk of developing psychosis.

Results

The simple checklist as originally conceived had excellent sensitivity (97.9%), but lower specificity (55.6%). Using only a CVEP total score of 20 or above as cut-off, the tool showed a substantial improvement in specificity (87%). Simple cross-tabulations of the individual CVEP item scores against CAARMS outcome to identify the more discriminant items in terms of sensitivity and specificity were carried out.

Conclusions

In comparison to other much longer screening tools, the CVEP performed well to identify young people in the early stages of psychosis. Therefore, the CVEP is well suited to optimize appropriate referrals to specialist services, building on the skill and knowledge already available in primary care settings.

Key words

Psychosis • Early Detection • Primary Care • Assessment

Introduction

The early detection of young people considered at risk of developing psychosis has been a research focus, particularly the last 20 years. Today, it is possible to reliably identify these young people ¹ and also to provide interventions that can prevent or delay the onset of a first episode of psychosis ², as well as minimise the distress associated with emerging symptoms ³. However, translating the early detection research framework into clinical care pathways relies, in part, on the recognition of these young people at the earliest point in their help-seeking trajectory ⁴.

General practitioners are obviously central in this respect since they are often the first point of contact for these young people ⁵ and are generally involved before emergency services typically facilitated care ⁶. Therefore, despite primary care has clearly an essential role

in identifying potential clinically high risk subjects, relatively few screening instruments have been designed to be implemented in this setting. Indeed, gold standard assessment tools for identifying young people at risk of developing psychosis (e.g. the Comprehensive Assessment of At Risk Mental States) (CAARMS) ⁷, require high levels of specialist training and lengthy administration time, making them impracticable for use by busy primary care practitioners ⁴.

Although some shorter screening instruments have been developed, only the early detection Primary Care Checklist (PCCL) ⁸ has been specifically designed for use by primary care practitioners. Alternative screening tools, such as the self-report Prodromal Questionnaire (PQ) ⁹, have been shown to have good sensitivity and specificity in samples of young people referred to early detection clinics. However, the PQ is estimated to take

Correspondence

Lorenzo Pelizza, c/o CSM Petrella, Reggio Emilia, Italy • Tel. +39 0522 339501 • Fax +39 0522 339523 • E-mail: anolino@yahoo.it

around 20 minutes to be completed, making its feasibility for use in primary care settings questionable⁴. The Basel Screening Instrument for Psychosis (BSIP)¹⁰ has a similar completion time and is designed for administration by specialist mental health rather than primary care practitioners. Other, much shorter, self-report screens, such as the Prime-Screen Revised (PS-R)¹¹, have been validated in samples comprising of psychiatric outpatients, arguably a different population than those targeted in the very early detection of young people at risk of developing psychosis⁴.

The PCCL has been developed as a quick and easy to use tool administered by the primary care practitioners to help identifying young people who may be in the early stages of psychosis and to make quick, appropriate referrals to specialist services⁸. A problematic issue associated with screening for this population is that low level psychotic-like phenomena are allegedly reported in the general population as well¹². What seems to distinguish these common experiences with experiences that imply individuals at risk of developing psychosis is the frequency of the experiences and the level of subjective distress associated with them⁹. With this issue in mind, the PCCL has been specifically designed for help-seeking populations (such as those contacting primary care because they are distressed by their experiences) and not as a population wide screen⁴. The “Checklist per la Valutazione dell’Esordio Psicotico” (CVEP)¹³ is the Italian adaptation of the PCCL for experimental use (Table I).

Aim of the current study is to assess the concordant validity of the CVEP by comparing its outcomes to the outcomes of a standardised assessment for “at risk mental states”, the CAARMS⁷, in a sample of Italian young help-seekers referred to the Reggio Emilia Department of Mental Health and Addiction.

Materials and Methods

Participants

The concordant validity of the CVEP was tested in a sample of 102 individuals, aged between 13 and 35 (mean = 18.88 years; standard deviation = 6.09), who were referred to the “Reggio Emilia At Risk Mental States” Project (ReARMS), an early detection infrastructure developed under the aegis of the “Regional Project on Early detection in Psychosis” in the Reggio Emilia Department of Mental Health and Addiction¹⁴. The inclusion criteria were age 13-35, DUP (Duration of Untreated Psychosis) < 4 years, and CAARMS criteria for at ultra-high risk status (i.e. Attenuated Psychotic Symptoms [APS], Brief Limited and Intermittent Psychotic Symptoms [BLIPS], and/or State-Trait Risk). Exclusion

criteria were those subjects suffering from mental retardation or organic mental disorder. The ReARMS team is specialised in identifying young people who may be at ultra-high risk (UHR) of developing psychosis as measured by the CAARMS.

All help-seekers entering the ReARMS protocol agreed to participate to the study and gave their written informed consent to the psychopathological assessment, composed – among others (see Raballo et al., 2014)¹⁴ – by the CAARMS (approved Italian translation by Raballo et al., 2007)¹⁵ and the CVEP. Relevant ethical and local NHS research and development approvals were sought for the study.

Over the course of the study, out of 102 subjects assessed by ReARMS team, 48 met CAARMS criteria for UHR status (Table II). The remaining 54 participants were below the threshold for being considered at risk of developing psychosis.

The CAARMS

The CAARMS is a semi-structured interview schedule designed to identify people who were at UHR of developing psychosis. It takes approximately 1-1.5 hours to complete and requires specialist training for its administration. It has been shown to have good-to-excellent concurrent, discriminate and predictive validity and excellent inter-rater reliability⁷. The CAARMS defines the following three sub-criteria and one or more need to be fulfilled to be considered at UHR of developing psychosis: 1) Vulnerability Group: family history of psychosis in a first-degree relative combined with 30% drop in functioning or chronic low functioning, as measured by the Social and Occupational Functioning Assessment Scale (SOFAS)⁷; 2) Attenuated Psychosis Group: sub-threshold psychotic experiences within the past 12 month; 3) Brief Limited and Intermittent Psychotic Symptoms (BLIPS) Group: criteria for psychosis met for less than 7 day at a time and ceasing spontaneously, i.e. without the use of anti-psychotic medication.

The ReARMS team routinely uses the CAARMS in the initial assessment to determine whether a subject meets UHR criteria. These assessments are conducted by specialised personnel including clinical psychologists and psychiatrists, who underwent collective supervision by the main author of the approved Italian adaptation (RA)¹⁵, who was trained at Orygen YRC in Melbourne. Regular CAARMS supervision sessions and scoring workshops ensure the inter-rater reliability of these assessments.

The CVEP

The CVEP (Table I) is the Italian adaptation of the PCCL⁸, that was originally translated by Feo and Raballo (2007)¹³ as a part of overarching educational program

TABLE I.The CVEP: "Checklist per la Valutazione dell'Esordio Psicotico" (from Feo and Raballo, 2007, modified) ¹³.

Item	Punteggio	Domande esplorative suggerite
1 punto ciascuno		Pensi di essere diventato più solitario e introverso o meno espansivo e loquace?
Trascorre più tempo per conto proprio	—	Preferisci passare il tempo per conto tuo? Hai iniziato a ridurre i contatti col tuo gruppo di amici?
Litiga con gli amici o i familiari	—	Eviti di fare le cose in compagnia?
La famiglia è preoccupata	—	Qualcuno ha mai detto di essere stato preoccupato per te?
Consumo eccessivo di alcol	—	Sei insolitamente irritabile o arrabbiato o finisci per trovarti più spesso a litigare con parenti e amici?
Consumo di sostanze stupefacenti (cannabis inclusa)	—	Recentemente, ti è capitato di esagerare nel bere? Hai fatto uso di droghe recentemente? Se sì, ricordi il tipo di droga e quando l'hai assunta l'ultima volta?
2 punti ciascuno		Come hai dormito recentemente?
Difficoltà nel sonno	—	Com'è stato l'appetito?
Perdita di appetito	—	Hai avuto meno voglia di mangiare del solito? Per quanto tempo?
Umore depresso	—	Ti sei sentito giù o abbattuto?
Ridotta concentrazione	—	Ti sei sentito in ansia o in preda al panico? Per quanto tempo?
Irrequietezza/agitazione	—	Ti succede che diversi pensieri si mescolino nella tua mente, fai fatica a mettere ordine e organizzare i pensieri?
Tensione o nervosismo	—	Ti senti teso, agitato o inquieto?
Ridotto piacere, interesse o coinvolgimento nelle cose	—	Ti senti irrequieto e reattivo o così sembri agli altri che te lo hanno fatto notare? Ti sei sentito meno interessato e coinvolto nel lavoro, nello studio, nelle attività quotidiane, nello stare con gli altri?
3 punti ciascuno		Hai la sensazione che la gente ti osservi o stia provando ad approfittarsi di te?
Sensazione di essere osservato o guardato dagli altri*	—	A volte riesci a vedere, udire, avvertire cose che gli altri non possono percepire? Ti è capitato di sentire rumori o voci mentre eri da solo per conto tuo?
Sentire o udire cose che gli altri non possono sentire*	—	
5 punti ciascuno		Ti è mai capitato di pensare che eventi o azioni di altre persone hanno un significato speciale, in qualche modo destinato a te?
Idee di riferimento*	—	Hai mai la sensazione che gli altri ridano o parlino di te? O cogli messaggi che ti riguardano trasmessi dalla TV, giornali, radio, computer? (idee di riferimento)
Credenze bizzarre*	—	Hai qualche opinione o credenza che gli altri trovano inconsueta, peculiare o strana? (credenze bizzarre)
Stranezza nel pensiero o nell'eloquio	—	Ti è mai capitato di avvertire che le persone o le cose intorno a te sembravano essere cambiate all'improvviso?
Affettività inappropriata o incongrua	—	Qualcuno, recentemente, ti ha fatto notare che hai detto cose inconsuete o confuse?
Stranezza nel comportamento o nell'aspetto	—	Qualcuno nella tua famiglia ha mai avuto problemi psicologici o di salute mentale?
Storia familiare di psicosi (parenti di primo grado) e aumentato carico di sollecitazioni o deterioramento nel funzionamento*	—	
Totale		
Se il punteggio globale > 20, valutare l'invio per un approfondimento in ambito specialistico. Se sono soddisfatti gli item contrassegnati con l'asterisco *, prendere in considerazione l'invio anche se il punteggio globale è < 20.		

for general practitioners in the Reggio Emilia Mental Health Department, and later incorporated in the local early detection protocol (ReARMS) ¹⁴. The PCCL is a 20-item checklist designed to facilitate the identification of young people who may be at an UHR of developing psychosis by the primary care clinicians. The checklist, which should take no longer than 5 minutes to be completed, includes items relating to general, psychological, and social functioning (e.g. “arguing with friends and family”, “spending more time alone”, “sleep difficulties” and “depressive mood”), as well as items relating to psychotic-like experiences such as hallucinations, delusions (e.g. paranoia and ideas of reference) and disorganized speech and thinking. Each checklist item has an allocated numerical value, ranging from 1 to 5, depending on its perceived relevance to overall psychosis risk. By summing the scores of each endorsed checklist item, a total score (ranging from 0 to 55) can be calculated for each individual. According to the CVEP/PCCL scoring rules, positive screen outcome for further assessment of psychosis risk can be reached in two ways: (a) a global score of 20 or above, or (b) endorsement of one or more of five specific key-items (13-16 and 20), conceived as indicative of psychosis risk even if observed in isolation (i.e. independently of the final CVEP/PCCL score ≥ 20). Those five key-items are designed to capture attenuated positive psychotic-like experiences (such as hallucinations, delusions and ideas of reference: e.g. “hearing things that other cannot” and “feeling that events or other people’s actions have a special meaning

for you”) or state/trait vulnerability features (i.e. “first-degree family history of psychosis plus increased stress or deterioration in functioning”). Upon making a referral to ReARMS, referrers were asked to complete the CVEP before completing other scales.

Statistical analysis

Since we were interested in testing the screening features of the CVEP against CAARMS risk threshold, the sample was dichotomized as follows: UHR (+) (i.e. those who are above CAARMS threshold) and UHR (-) (those who are below such threshold). The two samples were compared on demographic, clinical, and psychopathological parameters. Categorical data were compared by chi-squared (χ^2) test with Yates’ correction, while quantitative variables were compared using the Student’s unpaired t-test. The concordant validity of the CVEP was tested using the CAARMS outcome as a gold standard. Finally, simple cross-tabulations of the individual CVEP item scores against CAARMS outcome to identify the more discriminant CVEP items were carried out. Prior to these analyses, all 20 items were coded in terms of a binary response of whether they were endorsed or not.

Results

Table II shows the demographic characteristics and screening outcomes of the sample as a whole and for

TABLE II.
Demographic data, CAARMS (UHR criteria) and screen outcomes.

	Total sample (n = 102)	UHR (-) group (n = 54)	UHR (+) group (n = 48)	χ^2/t
Gender (males)	48 (47.1%)	28 (51.9%)	20 (41.7%)	.41
Ethnic group (Caucasian)	89 (87.3%)	47 (87.0%)	42 (87.5%)	1.00
First language (Italian)	96 (94.1%)	52 (96.3%)	44 (91.7%)	.57
Age	18.88 (6.09)	18.94 (6.62)	18.69 (5.01)	.28
Years of education	11.25 (2.42)	11.19 (2.51)	11.33 (2.35)	-.29
Duration of untreated illness (DUI in weeks)	73.20 (5.74)	70.72 (6.24)	75.68 (5.47)	-.24
CVEP Screen positive outcome	71 (69.6%)	24 (44.4%)	47 (97.9%)	31.86*
CVEP Screen negative outcome	31 (30.4%)	30 (55.6%)	1 (2.1%)	
Only CVEP tot. ≥ 20				
Screen positive outcome	46 (45.1%)	9 (18.8%)	39 (81.3%)	45.14*
Screen negative outcome	56 (54.9%)	47 (87.0%)	9 (18.7%)	

* $p < 0.001$. Frequencies and percentages, mean (standard deviation), chi-squared (χ^2) test (with Yates’ correction), and Student’s t test values are reported.

the two subgroups (i.e. those meeting UHR threshold [UHR (+); $n = 48$] and those below the UHR threshold [UHR (-); $n = 54$]). No significant differences were found between groups in terms of gender, ethnic group, first language, age, years of education, and Duration of Untreated Illness (DUI), meant as the interval between the onset of a psychiatric disorder and the administration of the first pharmacological treatment.

Of the 48 UHR (+), 47 also had a CVEP concordant positive screen outcome (Table II). This means that in this sample the screening tool has an excellent sensitivity value of 0.979 (47/48). Table II also shows that of the 54 UHR (-), 30 had a concordant CVEP screen negative result, meaning that the CVEP has a 0.556 (30/54) specificity value.

Given the high sensitivity level and lower specificity of

TABLE III.

Cross tabulations for individual checklist (CVEP) item and corresponding CAARMS outcomes.

Checklist item/outcome		CAARMS outcome		χ^2	Sensitivity	Specificity
		UHR (-)	UHR (+)			
1. Spending more time alone	no	25 (46.3%)	3 (6.3%)	18.50*	.938	.463
	yes	29 (53.7%)	45 (93.8%)			
2. Arguing with friends and family	no	28 (51.9%)	26 (54.2%)	.01		
	yes	26 (48.1%)	22 (45.8%)			
3. The family is concerned	no	17 (31.5%)	4 (8.3%)	6.97 ⁺	.917	.315
	yes	37 (68.5%)	44 (91.7%)			
4. Excess use of alcohol	no	45 (83.3%)	46 (95.8%)	2.93		
	yes	9 (16.7%)	2 (4.2%)			
5. Use of street drugs (including cannabis)	no	45 (83.3%)	43 (89.6%)	.39		
	yes	9 (16.7%)	5 (10.4%)			
6. Sleep difficulties	no	26 (48.1%)	19 (39.6%)	.48		
	yes	28 (51.9%)	29 (60.4%)			
7. Poor appetite	no	39 (72.2%)	37 (77.1%)	.11		
	yes	15 (27.8%)	11 (22.9%)			
8. Depressive mood	no	12 (22.2%)	4 (8.3%)	2.73		
	yes	42 (77.8%)	44 (91.7%)			
9. Poor concentration	no	16 (29.6%)	7 (14.6%)	2.49		
	yes	38 (70.4%)	41 (85.4%)			
10. Restlessness	no	18 (33.3%)	17 (35.4%)	.00		
	yes	36 (66.7%)	31 (64.6%)			
11. Tension and nervousness	no	11 (20.4%)	14 (29.2%)	.64		
	yes	43 (79.6%)	34 (70.8%)			
12. Less pleasure from things	no	22 (40.7%)	8 (16.7%)	5.98 ⁺	.833	.407
	yes	32 (59.3%)	40 (83.3%)			
13. Feeling people are watching you	no	39 (72.2%)	15 (31.3%)	15.52*	.688	.722
	yes	15 (27.8%)	33 (68.8%)			
14. Hearing things that others cannot	no	46 (85.2%)	35 (72.9%)	1.65		
	yes	8 (14.8%)	13 (27.1%)			
15. Ideas of reference	no	49 (90.7%)	25 (52.1%)	17.18*	.479	.907
	yes	5 (9.3%)	23 (47.9%)			
16. Odd Beliefs	no	48 (88.9%)	27 (56.3%)	12.28*	.438	.899
	yes	6 (11.1%)	21 (43.8%)			
17. Odd manner of thinking or speech	no	49 (90.7%)	34 (70.8%)	5.39 ⁺	.292	.907
	yes	5 (9.3%)	14 (29.2%)			
18. Inappropriate affect	no	50 (92.6%)	35 (72.9%)	5.74 ⁺	.271	.926
	yes	4 (7.4%)	13 (27.1%)			
19. Odd behavior or appearance	no	47 (87.0%)	27 (56.3%)	10.59*	.438	.870
	yes	7 (13.0%)	21 (43.8%)			
20. First-degree family history of psychosis plus increased stress or deterioration of functioning	no	51 (94.4%)	40 (83.3%)	2.21		
	yes	3 (5.6%)	8 (16.7%)			

* $p < 0.001$; ⁺ $p < 0.05$. Frequencies, percentages, chi-squared (χ^2) test with Yates' correction, sensitivity and specificity values are reported.

the CVEP, further analysis of the collected data was taken to improve the sensitivity/specificity trade-off. When only a CVEP total score of 20 or above as CVEP cut-off was used (Table II), 39 subjects of 48 UHR (+) participants had a concordant positive screen outcome. This means that in this sample, the screening tool has a sensitivity value of 0.813 (39/48). Of the 54 UHR (-) participants, 47 had a concordant CVEP screen negative result, meaning that in this sample the screening tool achieves an excellent specificity values of 0.870 (47/54).

Simple cross-tabulations of the individual CVEP item scores against CAARMS outcome indicated the more discriminant items in terms of sensitivity and specificity (Table III). In comparison with UHR (-) participants, UHR (+) subjects showed significantly higher percentages of endorsement of the following nine CVEP item: “Spending more time alone”, “The family is concerned”, “Less pleasure from things”, “Feeling people are watching you”, “Ideas of reference”, “Odd beliefs”, “Odd manner of thinking or speech”, “Inappropriate affect”, and “Odd behaviour or appearance”. The sensitivity and the specificity of each significant CVEP item are shown in Table III. However, although there was a relationship between any CVEP item score and outcome, the association was not always in the direction originally hypothesised. “Arguing with friends and family”, “Excess use of alcohol”, “Use of street drugs (including cannabis)”, “Poor appetite”, “Restlessness”, and “Tension or nervousness”, for example, are associated with lower risk of being CAARMS positive outcome.

Discussion

The aim of the present study was to assess the concordant validity of the CVEP, the Italian adaptation of the PCCL⁸, comparing its outcomes to the outcomes of a standardised assessment for “at risk mental states” (the CAARMS)^{7,15} in a sample of Italian help-seekers referred to the ReARMS project.

In the original version, the PCCL authors hypothesized that a total checklist score of 20 points or more, and/or the endorsement of any of the five “key indicator” items would indicate a screen positive result and therefore the need for a specialist assessment⁴. Adopting this approach in our sample, the CVEP was found to have excellent sensitivity of 0.979, indicating that it correctly identified approximately 98% of people who met UHR criteria according to the CAARMS and missed only 2% of these UHR participants. However, the CVEP showed a lower specificity value of 0.556, meaning that it incorrectly identified approximately 44% of individuals who did not meet UHR criteria as

being in need of a specialist assessment. Such lower specificity has implications both in terms of rational resources allocation (i.e. avoiding unnecessary and lengthy assessment) and of clients comfort (i.e. avoiding distress and delays in adequate pathways to care for non relevant assessments)⁴.

These values are in line with those of other screening tools for this population, including the Prodromal Questionnaire⁹ that revealed a sensitivity of 0.9 and a specificity of 0.49 in a sample of 113 young people referred to a specialist early detection clinic. Unlike the 92-item self-report Prodromal Questionnaire, the CVEP can be quickly administered by general practitioners, making it ideal for use in primary care settings. Moreover, our results are substantially in line with those showed in the PCCL original validation study⁴, although CVEP sensitivity and specificity values are overall slightly higher.

However, given the lower specificity/high sensitivity trade-off of the CVEP (similar to the one reported in the PCCL validation) and the considerable sensitivity/specificity feature of some of the items (see Table III), a psychometric strategy to optimize the screening potential of the CVEP is to consider two subcomponents: (a) items with excellent sensitivity (between 0.833 and 0.938), such as “Spending more time alone”, “The family is concerned”, and “Less pleasure from things”; and (b) items with good to excellent specificity (between 0.722 and 0.926), such as “Feeling people are watching you”, “Ideas of reference”, “Odd beliefs”, “Odd manner of thinking or speech”, “Inappropriate affect”, and “Odd behaviour or appearance”. The three “sensitivity” items might be more useful in identifying young subjects with a positive CAARMS outcome (who met UHR criteria), whereas the six “specificity” items might be more important in identifying individuals with a negative CAARMS outcome (who did not meet UHR criteria).

Contrary to the initial hypothesis that the endorsement of a checklist item would be associated with a positive CAARMS outcome, some of the CVEP items, i.e. “Arguing with friends and family”, “Excess use of alcohol”, “Use of street drugs (including cannabis)”, “Poor appetite”, “Restlessness”, and “Tension or nervousness”, were more frequent in participants who did not meet UHR criteria and were more likely to be predictive of a CAARMS negative outcome rather than a CAARMS positive outcome. Furthermore, it is interesting to note that two of the five “key indicator” items (i.e. “Hearing things that others cannot” and “First-degree family history of psychosis plus increased stress or deterioration in functioning”) were not discriminating for a CAARMS positive outcome.

Limitations

The current study has not included a follow-up methodology or a longitudinal design, and as such it is not possible to establish the predictive validity of the tool, i.e. how well the checklist identifies a subgroup of people who, although meet UHR criteria according to the CAARMS, are more or less likely to experience psychosis than previously researched samples.

The sample used in the present study was made up of young people referred to specialist early detection team and probably contained a much higher incidence of UHR cases than would be expected in the general population. Therefore, to confirm good to excellent sensitivity and specificity values here described, the continued evaluation of the tool performance directly in primary care setting would be the next logical step for future research in this area.

The checklist was completed by those people making referrals to the early detection centre and not by participants themselves, as is reflective of the checklist intended use. However, these referrers were Mental Health Professionals with specialist knowledge of psychosis. This fact may introduce possible bias in results. Therefore, a validation of the CVEP in a way that is representative of a primary care setting or other non-specialist organizations must be done. It will contribute to verify the current potential feasibility of utilisation in a number of non-specialist settings. In particular, the checklist seems to be easy and quick to administer as screening tool for use in primary care setting and by the wide range of organisations that may have contact with young people who are at risk of psychosis.

Finally, no multivariate analysis to evaluate items able to significantly discriminate between CAARMS positive cases vs negative ones was carried out.

Conflicts of interest

None.

Conclusions

The CVEP appears to be a useful screen for young people who may be at risk of experiencing psychosis, with an excellent sensitivity value of 0.979 and a lower specificity value of 0.556. Using only a CVEP total score of 20 or above as cut-off, the screening tool achieves a good to excellent specificity level of 0.870.

Simple cross-tabulations of the individual item scores against CAARMS outcome indicated that a subset of items might be promising to further improve the CVEP specificity value. The derivation of optimal methods of combining item scores in order to discriminate between CAARMS positives and negatives could be carried out

applying a statistical exploratory analysis through the use of logistic regression models.

However, it is important to highlight that the CVEP is not a diagnostic instrument⁴. A screen positive result indicates only the need for a further specialist assessment and should not equated to a diagnostic evaluation or a marker for the initiation of any treatment. Also, the checklist is not intended to be used as population wide screen. It has been designed to build on the skills, strengths and experience that non-specialist practitioners already have, with the specific aim to help them deciding whether a referral is warranted and to bridge primary care with secondary care and specialist services. Future research should focus on the continued evaluation of this checklist performance in primary care settings, particularly thinking about service configuration and ease of access to early intervention teams⁴. It would also be of interest to assess the predictive validity by analysing transition to psychosis in relation to checklist outcome.

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The role of quetiapine in the treatment of dissociative episodes in the acute phase

A.M. Pagano, P. Citro, A. Noia, C. Rufo, A. Santorelli, M. Ugolino

SOPG and STIC, ASL Salerno

Summary

Dissociative phenomena are characterised by alterations in the functions of conscienceness, memory, identity and perception. These are placed along a continuum ranging from normal daily experiences to real mental disorders that interfere with the performance of usual activities.

Dissociation may represent the foundation for specific disorders, Dissociative Disorders, as well as the prospect of symptoms of psychopathological conditions of various kinds.

This study has evaluated the clinical efficiency of quetiapine during dissociative episodes in the acute phase in patients referred in the last year to the Mental Health Centre (NHS Salerno). Participants in the study were subjected to the administration of a series of tests at the onset of symptoms (T0); after two

weeks (T1); and after four weeks (T2). The assessment tools used were: the Dissociative Experience Scale (DES); the Brief Psychiatric Rating Scale (BPRS); the Clinical Global Impressions (CGI); the Global Assessment of Functioning (GAF). All observed patients showed an improvement in symptoms, no patients discontinued pharmacological therapy and side effects did not emerge which would have required the discontinuation of therapy. The analysis of the results showed that quetiapine monotherapy next to a good efficacy and tolerability may be a viable therapeutic option for the pharmacological treatment of dissociative episodes in the acute phase.

Key words

Dissociative episodes • Quetiapine • Treatment • Effectiveness

Introduction

The term “dissociation” refers to a separation of the different mental functions, which are no longer operating in parallel and in synchronisation¹.

Janet, introduced this concept for the first time at the end of the 1800s, which was defined as “a failure to integrate experiences normally associated with one another in the stream of consciousness”².

Apart from theories formulated by Janet many studies have dealt with the “phenomenon of dissociation”, which has taken on different meanings over time, referring to set-ups sometimes antithetical.

Currently, the term lacks a coherent concept, as demonstrated by the different definitions and classifications of conversion and dissociative disorders present in the ‘ICD-10 and DSM-IV.

According to the latter, the disconnection of functions, which are usually integrated, such as conscious, memory, identity and perception, represent the essential feature of dissociation. The ICD-10 defines it instead as a “partial or total loss of the normal integration between the memory, awareness of their own identity, sensations, and control of body movements”. Both classification systems agree that the dissociation

is of interest for the system, memory, conscious and personal identity.

However, the ICD-10 recognizes that it may also involve the sensory and motor systems, giving rise to so-called conversion symptoms; while the DSM-IV restricts the dissociation functions and systems of purely psychic nature^{3,4}.

On the other hand, it would be simplistic to refer to the dissociation only in pathological terms. Empirical evidence has shown that this is not an all or nothing phenomenon but rather how it should be placed along a continuum, which from transitional forms, of its own sub-clinic population, leads to episodes of greater qualitative and quantitative importance, so it can theorize the existence of a “dissociative spectrum”.

Dissociative experiences from a descriptive and phenomenological point of view may arise as transitory and modest phenomena altering the sense of reality and itself, present in the non-clinical population. The phenomenon of *absorption* falls into this category, which refers to the tendency to engage their minds in situations of altered and highly focused attention, so as not to be aware of what is happening around.

Dissociation can also be seen as a fundamental and per-

Correspondence

Antonio Maria Pagano, SOPG and STIC, ASL Salerno, Italy • E-mail: antoniomariapagano@libero.it

vative symptom of specific diagnostic categories, such as *dissociative disorders*. In addition, many psychopathological conditions present dissociation as an associated symptom, including Schizophrenia, Post Traumatic Stress Disorder, Obsessive Compulsive Disorder, Eating Disorders, Borderline personality disorder¹⁵⁶.

Drug treatment and quetiapine

Quetiapine is a derivative dibenzotiazepinico multirecettore antagonist of serotonergic 5-HT_{2A}, dopamine D₁ and D₂, istamimergici H₁, α ₁ and α ₂ adrenergic receptors and partial agonist of the serotonin 5-HT₁ receptors, and has a weak anticholinergic action, which is of limited clinical relevance⁷.

Considering the 5-HT_{2A} and D₂ receptors, there is a higher affinity towards the former than the latter. This particular receptor activity profile gives uniqueness to the pharmacodynamic properties of the drug. It acts on mesocortical and mesolimbic dopaminergic structures, responsible for antipsychotic activity, and has a minimal effect on the nigrostriatal dopaminergic system, responsible for extrapyramidal side effects, and infundibular tuber, whose activation causes hyperprolactinemia⁸⁹.

The clinical pharmacokinetic studies have demonstrated that quetiapine is absorbed well and extensively metabolized in the liver, with a high "first pass effect" that results in a low bioavailability¹⁰.

Quetiapine also has the ability to stabilize mood, reduce anxiety symptoms and, more generally, to have a positive impact on some psychopathological dimensions such as irritability, impulsivity, aggression, hostility and somatization¹¹.

Materials and Methods

There were 16 patients included in this study (6 males and 10 females) between the ages of 16 and 59 years (average age 43 years), all from the province of Salerno, referred last year to the Centre for Mental Health in the Local Health Authority of Salerno, during an episode of dissociative behaviour.

The sample recruited, belonging to the general population, it has not been subjected to any kind of sampling.

All participants in the study, at the time of that displayed no organic disease or mental, as well as detected by interview prior medical history, and that otherwise would have resulted in the exclusion from the research, nor traumatic elements have emerged noteworthy

It has also taken steps to inform about the aims of the study, treatment modalities, inviting participants to sign the informed consent, consistent with the standards of care in place¹²¹³.

The patients were tested with the following assessment scales, administered at the onset of symptoms (T₀); after two weeks (T₁); after four weeks (T₂):

- the Dissociative Experience Scale (DES);
- the Brief Psychiatric Rating Scale (BPRS);
- the Clinical Global Impressions (CGI);
- the Global Assessment of Functioning (GAF).

The DES is a self-assessment scale designed to measure the level and type of dissociative experience present without going into the merits of the diagnosis. The 28 questions of the scale, describe a series of dissociative experiences, some of which fall within normal experiences, for which the patient has to indicate the frequency with which they occurred. The psychometric properties of the DES have been extensively studied and have proved to be excellent¹⁴⁻¹⁶.

The BPRS is a hetero-assessment scale suitable for the evaluation of the clinical course and is an almost constant reference parameter in psychopharmacological clinical research. The scale consists of 18 items that explore many symptoms, characterized, each by a description. The total score of the scale can be taken as an expression of the severity of the disease.

Also were isolated 5 factors: I. Anxiety-Depression (ANDP), II. Anergy (NARES), III. Thought disorder (THOT), IV. Activities (ACTV), V. Hostility-Suspiciousness (HOST)¹⁷⁻²¹.

The CGI is a global psychopathological rating scale that evaluates the effectiveness of treatment for psychiatric patients compared to the following three areas: severity of the disease; overall improvement; therapeutic/side effects effect. Each item is priced separately. There is a total score.

The scale being suitable for the evaluation of the clinical course is expected that the severity of the disease should be evaluated at the pre-treatment and at least once a post-treatment, in contrast to the improvement and the Global Effectiveness Index, for which no evaluation to the pre-treatment but only started treatment. Are possible (and advisable) mid-term evaluations at the discretion of the clinician¹⁸.

The GAF allows a comprehensive assessment of the psychosocial and working functioning of the patient, placing him/her in a hypothetical continuum ranging from mental health to serious mental disorder.

It is a "universal" scale that can be used for all categories of patients and gives a single item rated on a scale from 1 to 100¹².

The scale is suitable for the evaluation of the clinical course; the first evaluation (relative to the current condition) is performed at the time of taking charge of the patient and at least another assessment must be made at discharge¹⁴²²⁻²⁷.

The entire sample was treated with quetiapine IR at doses ranging between 200 and 900 mg; patients during the study did not undergo any other psychological or pharmacological therapies, with the exception of low doses of benzodiazepines.

The use of a pharmacological therapy, indicated in the literature as a possible therapeutic strategy, albeit secondary to an intervention of psychological and psychotherapeutic type, it was necessary after a careful assessment of the active symptoms, mainly characterized by dysregulation and emotional instability, disorganization thinking, irritability^{28 29}.

Quetiapine was found to be between molecules at lower risk of side effects, leading to higher long-term clinical compliance, going to act, specifically, on the psychopathological dimensions described above, favoring a reduction in quantity and quality.

Results

Statistical analysis was performed using the t-test for paired samples. As regards the assessment of specific symptoms, evaluated by the DES, significant differences

emerged between the mean scores, onset, after two and four weeks, which over time tend to decrease, indicating a remission of dissociative symptomatology.

When visited at T0 and T1, all patients scored higher than 30, while when visited at T2, 6 patients (37.5%) had scores between 20 and 30, indicating a greater therapeutic effect of the drug after four weeks of intake (Table I).

With regard to the evaluation of changes in clinical and therapeutic effects, significant differences between the mean scores at T0 and T2 for the five factors investigated by the BPRS emerged (Table II).

This significant difference appears to be present also in the three areas of CGI and specifically:

- seriousness of the disease shows significantly lower scores between T0 and T2 ($F(2,36) = 80.75, p < .005$) (Table III);
- global improvement significantly in the first 4 weeks;
- effect therapeutic/side effects: no patient discontinued therapy and the side effects (dry mouth, drowsiness, restlessness) were not sufficiently serious to require interruption of the therapy (Table IV).

TABLE I.
Paired tests for DES.

		Mean	SD	t	df	p (2-code)
Pair 1	DES T0 - DES T1	10.8700	3.59071	12.109	15	.000
Pair 2	DES T0 - DES T2	27.0081	5.70916	18.923	15	.000

TABLE II.
Paired tests for BPRS.

		Mean	SD	t	df	p (2-code)
Pair 1	BPRS T0 BPRS T1	21,75000	4,20317	20,699	15	.000
Pair 2	BPRS T0 BPRS T2	45,56250	5,79619	31,443	15	.000

TABLE III.
Paired tests for CGI (Severity).

		Mean	SD	t	df	p (2-code)
Pair 1	Severity T0-T1	.50000	.51640	3.873	15	.002
Pair 2	Severity T0-T2	1.50000	.51640	11.619	15	.000

TABLE IV.
Paired tests for CGI (Improvement/Efficacy).

		Mean	SD	t	df	p (2-code)
Pair 1	Improvement T1-T2	.37500	.50000	3.000	15	.009
Pair 2	Efficacy T1-T2	1.56250	2.09662	2.981	15	.009

TABLE V.
Paired test for GAF.

		Mean	SD	t	df	p (2-code)
Pair 1	GAF T0-T2	-38.25000	4.80971	-31.811	15	.000

Finally, as regards the scores obtained from GAF, these had significantly increased after four weeks (Table V). While at the first visit, all patients had a value less than 70, indicator of a pathology, at the next administration only seven patients (43.8%) achieved a score of less than 70, six (37.5%) between 71 and 80 (marginal presence of psychopathology) and three above 80 (absence of psychopathology).

Conclusions

Currently it seems to be accepted that there is a continuum in the dissociative experience which incorporate within it qualitative or quantitative symptoms different from dissociative phenomena present in the general population.

Although recent studies have shown high rates of prevalence of pathological dissociation in psychiatric patients, data appear to be still lacking as regards the types of treatment which are most appropriate for the dissociative symptoms.

The great handling and tolerability of quetiapine, as widely documented in the literature and confirmed by our clinical practice, suggests the possibility of its use also in psychopathological conditions other than schizophrenia.

Although the limitations of the study resulting from the small sample size and the sampling mode, which make little generalizable results, the data resulting from our studies, suggest that quetiapine can be efficient and well-tolerated in the treatment of the dissociative episodes in the acute phase, showing an improvement in the psychopathological picture in terms of dissociative and social symptoms.

Conflicts of interest

None.

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Non-suicidal self-injury among Northern Italian High School students: emotional, interpersonal and psychopathological correlates

M. Gatta¹, A. Rago¹, F. Dal Santo¹, A. Spoto², P.A. Battistella¹

¹ Woman and Child Health Department, University of Padova; ² General Psychology Department, University of Padova

Summary

Non-suicidal self-injury (NSSI) is a common phenomenon in teenage society. Besides clinical literature shows significant correlations between NSSI and different psychopathologies, it is less known about non clinical population in the face of the important necessity to individuate at-risk population in order to plan efficacious preventive interventions.

Objectives

This study aims to better understand NSSI by taking a further investigation into Italian non-clinical population, recruiting 277 subjects (aged 13-19) of 4 different schools in Northern Italy.

Methods

The participants were given a question about NSSI frequency and a 6-self-report-battery composed by: Youth Self-Report 11-18, Child Behaviour Check List, Barratt Impulsiveness Scale, Toronto Alexithymia Scale, Children's Depression Inventory and Symptom Checklist-90-R.

Results

12.6% of our subjects declared to have admittedly harm themselves at least once and just 11.4% of them told about this episode to an expert. The inferential analysis shows connection between alexithymia, internalizing/externalizing problems and NSSI. No association was found with impulsiveness.

Conclusions

These results have many interesting clinical and preventing implications: first of all, they help specialists to better understand the NSSI pathology and its precursors secondly they show NSSI-people inside world and way of thinking about others.

Key words

Non-suicidal self-injury (NSSI) • Impulsiveness • Alexithymia • Prevention • Teenagers

Background

Non Suicidal Self Injury (NSSI) is defined as “the deliberate, self-inflicted destruction of body tissue resulting in immediate damage, without suicidal intent and for purposes not culturally sanctioned”¹.

NSSI is an interesting phenomenon, particularly common in adolescence, which is reaching not only the medical but also public attention. This tendency which is linked to its characteristic to stay hidden from parents, other significant and professionals particularly^{3,4}, moves the consequent fear in adults not to be able to properly know NSSI motivations and to act primary and secondary prevention. The international frequency of the phenomenon is very heterogeneous and sets between the 5.5% and the 30.7%; two recent reviews by Muehlenkamp, Claes, Havertape, et al. (2012) and Swannell, Martin, Page, et al. (2014) tried to minimize methodological factors (as tests used for assessment, anonymity, positive reinforcement) and found the controlled prevalence of respectively 18% and 17.2%^{5,6}. Nowadays we can find an enormous number of articles

about this topic with a specific regard to its prevalence and psychopathological correlates. In fact, NSSI was found to be associated with either internalizing (depression and anxiety)^{7,8}, and externalizing (conduct or oppositional defiant disorder) disorders^{7,8}. Moreover, the international works enlarged this perspective by studying some behavioural tendencies which could play an important role in the onset and maintenance of the disorder, such as poor ability to regulate emotion, reduced self-awareness or absence of important relationships to others⁹. Within this prospective, alexithymia and impulsiveness were taken into account too; alexithymia was found to be frequently associated with self-injurious behaviours in most of the works worldwide¹⁰⁻¹⁶ while the association between impulsiveness and NSSI was much more difficult to claim with certainty. As a matter of fact some works show the presence of this link^{10,17,18} some others show no connection^{19,20} also depending on clinical rather than healthy populations.

As a product of such great number of findings on NSSI psychopathological correlates, it was recently recognised

Correspondence

Michela Gatta, Childhood Adolescence Family Service, ULSS 16 Padova, via Colli 4, 35143 Padova, Italy • Tel. +39 049 8217690 • Fax +39 049 8217708 • E-mail: michela.gatta@unipd.it

as a disorder per se by all the medical community and as a matter of fact it was added in the third section of DSM-5 as a disorder which needs further investigations. Before the DSM-5 choice to include NSSI in its section, it was considered a symptom of Borderline Personality Disorder (BPD) and it was studied as its manifestation.

Despite the great quantity of works, the general overview is still fragmented because of the chosen provenience of the samples and/or studies' methodology. International literature is mostly focused on American subjects, lacking in non-American populations that still need further investigations. Since NSSI was seldom studied in Italian clinical^{9 10} or non clinical sample^{21 22} although referral because this issue is arising²³, we tried to deepen and add knowledge about this popular topic. Then, the purposes of this study are firstly to analyse NSSI prevalence in an Italian non-clinical sample of secondary school adolescents and, secondly, to investigate any differences between NSSI and not NSSI students in terms of psychopathological (Internalizing and Externalizing Problems) or emotive-behavioural (alexithymic and impulsive tendencies) traits. This investigation aims to individuate at risk population to plan efficacy preventive intervention, particularly making light on specific psychological and emotional characteristics that predispose an adolescent to being vulnerable to self harming, in line with the general aim of self harming field's research which is to prevent its acting²⁴.

Methods

Participants and procedure

The subjects involved in this study were 277, aged 12-19 years ($M = 15.76$; $SD = 1.35$), 184 females (66.4%) and 93 males (33.6%). They were recruited in five high schools in Northern Italy, three in Lombardy and two in Veneto (North Italy). The project had been presented to seven school and accepted by five. Then 14 classes were randomly chosen and submitted with an informed consent by students' and their parents, after a first permission received by the deans of the schools. All the subjects were asked to complete a 6-questionnaires-battery evaluating psychopathological features and behavioral traits which were thought to be important in the self-harming event. Just before the submission of this battery, participants were asked a dichotomous Yes/No question about self-harming ("Have you ever admittedly self-harmed yourself?"), and some other questions about frequency and social support pursued after the NSSI event.

Measures

The 6-questionnaire-battery was composed by: Youth Self-Report 11-18 (YSR), the Child Behavior Check List 6-18

(CBCL) by Achenbach, the Children's Depression Inventory (CDI), the Symptom Checklist-90-revised (SCL-90-R), the Barratt's Impulsiveness Scale (BIS-11) and the Toronto Alexithymia Scale (TAS-20). Five of the questionnaires were filled in by the adolescents themselves and one of them (CBCL) was given to be completed by their parents. The Youth Self Report (YSR) and the Child Behavior CheckList (CBCL) questionnaires are both part of the assessment system by Achenbach called ASEBA (Achenbach System of Empirically Based Assessments)²⁵ and they are among the most commonly-used scales for rating juvenile behaviour, used internationally both in clinical and research settings^{26 27}. YSR is a self report completed by the adolescent himself, while CBCL is to be filled in by the child's parents. Both questionnaires can be split in two different parts: the first section assesses the competences; the second one is composed by 112 items for YSR and 113 items for CBCL, assessing last 6 months psycho behavioural tendencies, that could represent the manifestation of a psychopathology. From the score on these items (-1, 0, 1) behaviours can be assessed as "normal", "borderline" or "clinical" on 8 specific syndrome scales which are in turn grouped into: internalizing problems (anxiety, depression, withdrawal, somatization); externalizing problems (aggressive and rule-breaking behaviour); and other problems (social problems, thought-related problems, attention problems). This study assesses particularly Internalizing Problems, Externalizing Problems and Total Problems (internalizing, externalizing and other problems).

The revised version of the Symptom Check List (SCL-90 R)²⁸ is a self-report scale evaluating the patients' clinical symptoms in the last week. It is composed by 90 items, each one describing the symptoms of a particular disorder on a 5 linkert scoring that assess 9 symptom dimensions: Somatization, Obsessive-Compulsive, Interpersonal Sensitivity, Depression, Anxiety, Hostility, Phobic Anxiety, Paranoid Ideation, Psychoticism and a Global Score describing a general rate of clinical disfunctioning. We considered SCL 90 R Interpersonal Sensitivity and Paranoid Ideation scales, over the Global score, because we were particularly interested in evaluating the adolescent's perception of the others and of the context.

The Children's Depression Inventory (CDI)²⁹ consists of 27 items assessing feelings, behavior and thoughts associated with depression in childhood and adolescence. Respondents choose one of three sentences that best describe how they have felt in the previous two weeks. Each answer is graded from 1 to 3, and the sum of the scores is calculated to obtain the total score (19 is the cut off over which is determinable the presence of depressive traits). The Italian version of the CDI was used in this study^{30 31}. The Barratt's Impulsiveness Scale-11 (BIS-11)^{32 33}, meas-

uring impulsiveness, includes 30 items that are scored to yield three factors (attentional, motor, and non-planning impulsiveness) from which combined, a total score is obtained: the higher the score, the greater the level of impulsiveness identified. We used the Italian version of the BIS-11 for adolescents ³⁴.

The Toronto Alexithymia Scale (TAS 20) ³⁵ is a self-report questionnaire that measures the three factors defining alexithymia: "difficulty in identifying feelings", "difficulty in communicating feelings to others", and "externally-oriented thinking". Respondents were classified as non-alexithymic (scores < 51), borderline (scores 51-60), or alexithymic (scores > 61). We used the Italian validated version of the TAS-20 ³⁶.

Data analysis

The descriptive statistics were calculated especially by gender, age and self-harming variables with a special regard for means, standard deviations and general frequencies.

Due to the significant difference between the two groups divided by self-harming variable, the inferential analysis was drawn through a non parametric test (Independent-samples Mann-Whitney U Test), which was rated on Total Scores of SCL-90-R, CDI, BIS-11, TAS-20, YSR and CBCL; regarding ASEBA questionnaires the scales Internalizing and Externalizing were taken into account too. We also specifically compared the two groups by two scales of SCL-90-R: Interpersonal Sensitivity and Paranoid Ideation.

The p value was set significant if less than .05 and it was always calculated two sides.

Descriptive and inferential analysis were drawn by the software SPSS (Statistical Package for Social Science, IBM® SPSS® Statistic 22.0 for Windows; International Business Machines Corp., Armonk, New York, USA).

Results

As far as descriptive analysis is concerned, 87.4% (n = 242) of the sample declared never having self-harmed, while 12.6% (n = 35) admitted self-harming at least once. In the self-injuring sample there are 27 females (77.14%) and 8 males (22.86%); only the 11.4% (n = 4) of those told about this event to someone else (familiar or health operator such as medical doctor or psychologist). 11.4% (n = 4) of the sample declared a self-injurious behaviour at least 5 days in the last year meeting the criterion A of the newly proposed DSM-5 category "Non-Suicidal Self-Injury". The majority of self-harming adolescents was aged ≤ 16 years (n = 27, 77.14%).

As far as the inferential analysis is concerned the results clearly show significant differences in scores distribution between self-harmers and no-self-harmers, regarding all

the variables taken into account except from CBCL Externalizing Problems, and BIS-11 Total score (U-stand = .155, p = .877 and U-stand = 1.666, p = .096). YSR internalizing problems, YSR externalizing problems and YSR Total Problems scored respectively U-stand = 5.366, p < .05; U-stand = 3.421, p < .05 and = 5.119, p < .05; CBCL internalizing problems and CBCL Total problems scored U-stand = 3.844, p < .05 and U-stand = 3.284, p < .05; SCL 90 R Global Score scored U-stand = 6.133, p < .05; TAS-20 Total score scored U-stand = 3.461, p < .05; CDI Total Score scored U-stand = 5.072 p < .05; SCL-90-R Interpersonal Sensitivity and SCL-90-R Paranoid Ideation scored U-stand = 4.491 p < .05 e U-stand = 6.282, p < .05 (Table I).

Discussion

Our study is one of the first studies in Italy about NSSI, which was very poorly studied, especially in a normative population sample.

The prevalence found in our sample (12.6%) is slightly under the mean proposed in the recent reviews (18%, Muehlenkamp, et al., 2012; 17.2% Swannell, et al., 2014). This underrated result might be connected to the use a dichotomous Yes/No question about self harming, which could promote an underestimation of the prevalence ^{5 6} Only 11.4% of our sample try to solve their self-injurious problems by referring to a medic or psychologist, confirming previous works ³ This data opens a reflection about the possibility the physicians could have in enhancing the care provided to self-injures via the as-

TABLE I.

Results of inferential analysis (YSR, CBCL, SCL 90R, 20 TAS, CDI, BIS 11).

	U-stand	p value
YSR Internalizing problems	5.366	< .05
YSR Externalizing problems	3.421	< .05
YSR Total problems	5.119	< .05
CBCL Internalizing problems	3.844	< .05
CBCL Externalizing problems	.155	.88
CBCL Total problems	3.284	< .05
SCL 90 R Global score	6.133	< .05
TAS-20 Total score	3.461	< .05
CDI Total score	5.072	< .05
BIS-11 Total Score	1.666	.10
SCL-90-R Interpersonal Sensitivity	4.491	<.05
SCL-90-R Paranoid Ideation	6.282	<.05

assessment of risk, the understanding of the functions of the behavior, assisting the patient in identifying motivations for treatment and treatment options, and provision of long-term behavioral and risk monitoring^{4 5 37 38}; awareness towards both medical doctor to detach the problem and to youths and familiars to seek medical counseling, should be then sustained. These are first steps to build a solid therapeutic relationships needed to work both with parents and children affected by psychological disease.

As far as the inferential analysis is concerned NSSI population seems to be clinically different from the group of non-self-injurers. As a matter of fact self-injurers show higher scores than controls in almost all the variables considered, except from CBCL Externalizing Problems and BIS 11 Total Score. Aside from being significantly different from the control sample, NSSI population's scores are often near or far beyond the clinical cut-offs. For example, mean score of NSSI population on TAS-20 questionnaire (60.11), places in the borderline range (52-60); self-injurers' mean CDI Total score was 19.68 (cut off ≥ 19); \geq mean results in some YSR and CBCL variables place in the borderline range or close to it (≥ 61 points): YSR Internalizing Problems = 68.34, YSR Total Problems = 63.86, YSR Externalizing Problems = 55.74, CBCL Internalizing Problems = 59.53, CBCL Total Problems = 54.67.

These tendencies highlight that the NSSI population often suffer from other psychopathologies either internalizing (depression and anxiety) or externalizing (conduct and oppositional-defiant disorders), with a specific regard for depression (CDI), confirming the literature^{7 9} and supporting DSM 5 choice to consider NSSI a disorder per se³⁹⁻⁴¹. In addition self-injurers show significant difficulties in expressing and recognising their and others' emotions: our data suggest alexithymia playing a fundamental role in adolescent onset of NSSI, according to international literature¹²⁻¹⁵.

It worth here to mention some studies about alexithymia in different pathologic conditions such as headache⁴², and the association between the latter and an increased risk of deliberate self-harm⁴³.

On the contrary, our results about impulsiveness place with works finding no association between this variable and the NSSI episodes^{19 20}.

An interesting outcome of our work is about the two SCL-90-R scales (Interpersonal Sensitivity and Paranoid Ideation) which we decided to pay particular attention to. Paranoid ideation typically means to have a biased perception of the world often exhibiting more hostile beliefs; while interpersonal sensitivity can refer to both how well one "reads" other people and how appropriately one responds. Both of these variables were significantly different between groups, showing a particular way of interacting with others: it seems self-injurers are

over-sensitive to the outside world and also perceive it as aggressive and dangerous, suggesting that reasons for self-harm could deal with both interpersonal distress, and need for self-validation and achievement of a personal sense of mastery⁴⁴. This result could be very useful for clinical purposes, justifying on one hand how hard could be to deal with self-injurers' attitude not to share their problems with others and to search for help^{4 45}, and on the other hand how important it is to pay attention, since the beginning, to promote a good working alliance with them, in line with that authors who suggest that seeking for help cannot be considered an a priori motivation for the clinical intervention but the first result of it, and to be reached considering specific techniques according to psychopathology⁴⁶⁻⁴⁹.

Our study shows some limitations: firstly, the sample we enrolled was recruited in scientific and linguistic high schools, not considering vocational ones, and automatically excluding analysis on different cultural backgrounds. Secondly, the use of self reports can easily lead to answering bias; thirdly, our choice to use a direct Yes/No question to divide the groups in self-injurers and non-self-injurers could have lead to an underrating of the prevalence of the phenomenon⁶.

Conclusions

It is possible to conclude with some reflections, involving research, prevention, diagnosis and therapy dimensions:

- in general, our results suggest that educational programs of primary and secondary prevention should be planned in every school to make NSSI early recognised and dealt. Moreover, being the family GP the person who could firstly become aware of the symptoms of NSSI, refresher courses aimed at medical doctors should be planned too;
- in particular, this study highlights a self-injurers' typical representation of others and outside world suggesting two clinical implications: it explains firstly the repulsiveness to share their problems with others and, secondly, their difficulty to build a solid diagnostic and therapeutic alliance;
- finally, our results stress the alexithymic trait as characteristic of self-injuring teenagers and suggest that, as far as a clinical and therapeutic point of view is concerned, it could be very useful for this population to work on emotional awareness, feelings expression and mentalization process' development.

Conflicts of interest

None.

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Breast cancer and psychological resilience among young women

D. Di Giacomo¹, K. Cannita², J. Ranieri¹, V. Cocciolone², D. Passafiume¹, C. Ficarella^{2,3}

¹ Department of Life, Health and Environmental Sciences, University of L'Aquila, Italy; ² San Salvatore Hospital, Medical Oncology Division, L'Aquila, Italy; ³ Department of Biotechnological and Applied Clinical Study, University of L'Aquila, Italy

Summary

Objectives

Aim of the study was to examine the psychological resilience among young women afterwards breast cancer diagnosis, as they could be considered a risk group for psychological distress for that clinical event.

Materials and Methods

A sample of n. 82 women in range age 31-51 years old was recruited and distributed in 2 groups: a) Breast Cancer group: n. 42 women were diagnosed and b) Normal Control group: n. 40 healthy women. The psychological battery was composed of self-report tests: PDI, STAXI, STAY and BDI-II.

Results

Our results evidenced significant impact only in depression scale: the patients presented higher scores than control group. The experience, expression and control of the anger and the ex-

pression of the anxiety scores highlighted resilient performance in breast cancer patients. Moreover, interesting to notice that the MANOVA analysis comparing the psychological tests in different time of the treatment (T0 = post survey; T1 = post chemotherapy and T2 = ongoing hormone therapy) hasn't showed significant differences between emotional condition of patients and health subjects.

Conclusions

Our results highlighted the psychological resilience in young women that have to deal with the breast cancer diagnosis and treatment. Our finding showed that young patients seem more emotional resilient: experiencing negative emotions and transforming that in personal growth; young patients can be considered a target to support with specific treatment to improve their wellness and quality of life after overcoming physical weakness.

Key words

Resilience • Psychological distress • Breast cancer • Young women

Introduction

The breast cancer diagnosis and related clinical treatment have a strong impact on the women emotional system and quality of life. Several studies have detected the negative effect of cancer diagnosis on affective relations, life expectation, long time planning, productivity, sociality; psychological signs of mental weakness could be depression, anxiety, anger, low mood, social retraction, isolation, aggressivity. Primary impact is on woman patient; secondary effect is simultaneously on her family, such as in social and working environment.

Linley¹ sustained that the 60% the patients refers stressful condition and psychological weakness. According to several researches, the cancer experience is distressing and disruptive, but the clinical practice suggested that the outcomes could assume also positive aspects in terms of personal resources, enhanced sense of purpose^{2,3}. Bellizzi⁴ reported growing personal experiences dealing with illness in terms of improved social relationship, changing in life priority.

Lu⁵ examined an interesting construct about the link

between 'Ambivalence over Emotional Expression' (AEE = conflict between waiting to express yet fearing the consequences of such expression) and depression symptoms in breast cancer survivors. Women showed higher depressive symptoms risk if having also high AEE factor, and that might be joined cognitive mechanisms as intrusive thought (= repetitive and unwanted thoughts about stressful events⁶).

A protective factor for stressing in clinical setting might be the psychological resilience, or better the positive adjustment outcomes to the exposure of adversity⁷.

Recently, clinical practice showed the cancer patients have a good level of resilience to the disease impact and that is linked much more to a major compliance level in the treatment protocol. Some researchers showed that the processes of resilience and experience of growth are associated with better adaptation psycho-physiological post-event and lower levels of psychological distress in the medium and long term^{8,9}.

Studies highlighted the importance could have the resilience for the compliance of patients with breast cancer

Correspondence

Dina Di Giacomo, Department of Life, Health and Environmental Sciences, University of L'Aquila, Italy • E-mail: dina.digiaco@cc.univaq.it

diagnosis¹⁰⁻¹³. Anyway in cancer literature, few findings occur benefit or positive outcome in minority women but with not clear evidences. In add, several studies were conducted so far on sample in range age 50-70 year olds. Overall aim of the study was to investigate the emotional condition restricted to targeted breast cancer patients. Our interest was focused on range age younger to investigate the emotional features activated in young women with breast cancer diagnosis, and the relationship with psychological distress. We examined the emotional condition of women during their pharmacological treatments in order to verify risk and protective factors analyzing the behavioral characteristics and the presence/absence of psychological resilience in breast cancer women.

Materials and Methods

Subjects

The sample was composed of n. 82 women in range age 31-51 years old (mean age 42.2, sd \pm 4.1) distributed in two groups: a) Breast Cancer (BC) group: the BC group was composed of 42 women (mean age 42.6, sd \pm 3.6) and b) Normal Control (NC) group: the NC group was composed of n. 40 healthy women (mean age 41.7, sd \pm 4.6). The BC group was recruited in San Salvatore Hospital – Medical Oncology Division (Director: Prof. Ficorella, L'Aquila, Italy), while the NC group was composed of healthy volunteers without clinical signs and/or psychological symptoms. Informed written consensus was obtained for each participant.

In Table I are reported demographical data about sample.

Measures

Data on sociodemographic, medical and psychological variables were collected to investigate the relationships between psychological conditions and dealing with breast cancer treatment.

Sociodemographic variables: sociodemographic variables have been: age, marital status, maternity, level of education, employment status.

Medical variables: medical variables were abstracted from patient's charts: cancer stage, type of surgery, chemotherapy status, hormone therapy status.

Psychological variables: the measured psychological variables have been: depression, anger, anxiety, psychological distress.

Psychological Tests

The sample was submitted to the psychological battery composed of psychological questionnaire, listed below:

- *Psychological Distress Inventory (PDI)*¹¹. It is a self-administrated questionnaire consenting to measure the impact of the disease and therapies in terms of psychological distress. It is composed of 13 questions and the answers on Likert scale (5 points). The standard score consents to estimate the presence/absence of psychological distress for measuring of global distress. This test was submitted only patient group;
- the internal reliability was good ($\alpha = 0.86$);
- *State-Trait Anger Expression Inventory-2 (STAXI-2)*¹². It is a self-administrated questionnaire that consents to measure the emotional states and personality traits; in particular, the evaluated traits are experience, expression and control of anger. The scoring consents to release different trait of personality in anger risk. The internal reliability was $\alpha = 0.83$ for Patient group and $\alpha = 0.61$ for Control group;
- *State-Trait Anxiety Inventory-Form Y (STAY)*¹³. It is self-report test to measure the state and trait anxiety. It is composed of 40 items. The scoring is on the basis of standard procedure. The internal reliability was $\alpha = 0.62$ for Patient group and $\alpha = 0.73$ for Control group;
- *Beck Depression Inventory-II (BDI-II)*¹⁴. It is a self-administrated test. The BDI-II consists of 21 items to assess the intensity of depression in clinical and normal patients. Each item is a list of four statements arranged in increasing severity about a particular symptom of depression. The scoring consents to release the presence/absence of depression and related degree (from minimal to severe depression sign). The internal reliability was good for both patient ($\alpha = 0.81$) and control ($\alpha = 0.76$) groups.

TABLE I.
Demographic data of sample.

Variables	BC group		NC group		p	F
	X	sd	X	sd		
Age	43.4	\pm 4.0	42.4	\pm 3.7	0.24	1.35
Education	13.2	\pm 3.1	16.5	\pm 0.8	0.00	40.64
Children	1.3	\pm 0.8	1.2	\pm 0.8	0.56	0.34
Married						

Procedure

The psychological evaluation of BC group was conducted in quite room allowed in Medical Oncology Division of San Salvatore Hospital in L'Aquila (IT). The NC was examined in Psychological Laboratory of University of L'Aquila (IT). Trained psychologists have applied the evaluation protocol. All tests have been administered to BC group, while only STAXI, BDI and STAI to NC group. Every evaluation session lasted 1 hour and has been distinguished in two steps: clinical interview and testing. During the interview time has been conducted the clinical evaluation and during the testing time tests have been administered. Blended judges have codified the psychological tests.

Ethic Committee

Positive Opinion was obtained by Ethic Committee form University of L'Aquila (IT).

Statistical Analysis

Descriptive statistics for baseline characteristics and the outcome measures at each timepoint were calculated. ANOVA and Post-hoc analysis have been used to detect the statistical significance of the overall differences in the mentioned variables across the psychological variables. The data was performed by SPSS program with fixed value $\alpha = < 0.05$.

Results

In Table II are reported the raw scores of the sample in the different emotional tests.

Firstly, we compared the emotional condition of BC group and NC group to verify the presence of emotional weak conditions measured in anxiety, anger and depression labes. An One way ANOVA 2x3 showed no significantly difference between examined groups in anger and anxiety factors; in the depression variable, the BC group evidenced scoring significantly different than NC group ($F(1,79) = 6.63$; $p < 0.01$) (Post-hoc $p < 0.01$) showing a more weakness of BC group than NC group (see Figure 1). Anyway, we have to highlight that even thought the BC group is resulted having higher scoring then NC group, the BC patients hadn't been diagnosed 'depressed' because their performance was under pathological value (cut-off = 13).

Then, the BC group was divided in 2 subgroups (Young and Adult) by the medians value of range years old. The median was 44 years old. An One way ANOVA was conducted to compare the data performance of Young and Adult subgroups in psychological tests. No significative difference has been evidenced.

Then, we examined the emotional features of whole

TABLE II.

Raw score of the sample performance.

Variables	BC group		NC group		F	p
	X	sd	X	sd		
STAXI						
State Anger	14.9	±5.9	10.9	±1.6	11.4	0.001
Trait Anger	18.4	±4.5	19.7	±4.0	1.72	0.192
Ax/out	18.3	±4.0	19.8	±3.3	3.27	0.074
Ax/Con	22.3	±4.0	22.3	±5.0	3.36	0.071
Ax/Ex	27.7	±7.4	27.7	±6.4	0.13	0.718
Total Score	127.4	±21.5	130.3	±9.7	0.60	0.43
STAI						
Total score	89.7	±5.8	89.0	±7.4	0.233	0.631
BDI						
Total score	9.6	±7.2	6.5	±4.8	5.13	0.026
PDI						
Total score	29.9	±8.4				

BC group; we compared the psychological status (evaluated by STAXI, STAI and BDI) and the PDI diagnosis (presence/absence distress sign); the distribution of BC group into no distress sign/distress sign subgroup has been performed by the cut-off > 25 : by the range value 13-25 was included subject with no sign of distress; by the range value 26-65 was performed the inclusion of subjects with sign of distress. The One way ANOVA 2x3 showed significantly difference ($F(3,38) = 6.509$; $p > 0.001$), and Post-hoc analysis evidenced the patients with distress sign have higher depression and anger factors ($p < 0.001$); in opposite, the anxiety didn't result a related factor (see Figure 2).

Besides, we wanted to check the influence of social

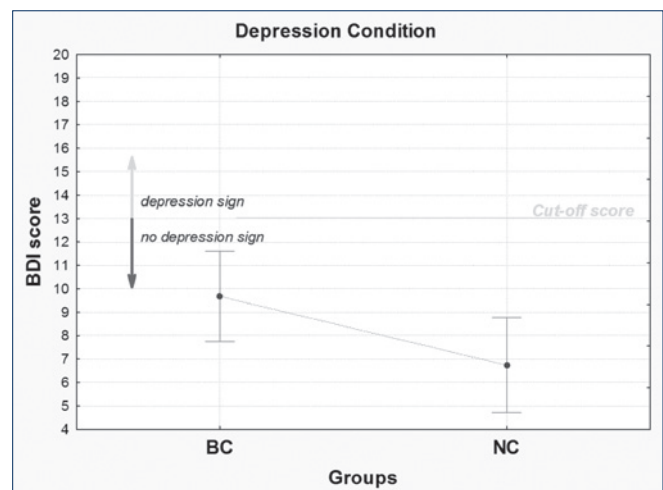


FIGURE 1.

Depression representation of both BC and NC groups.

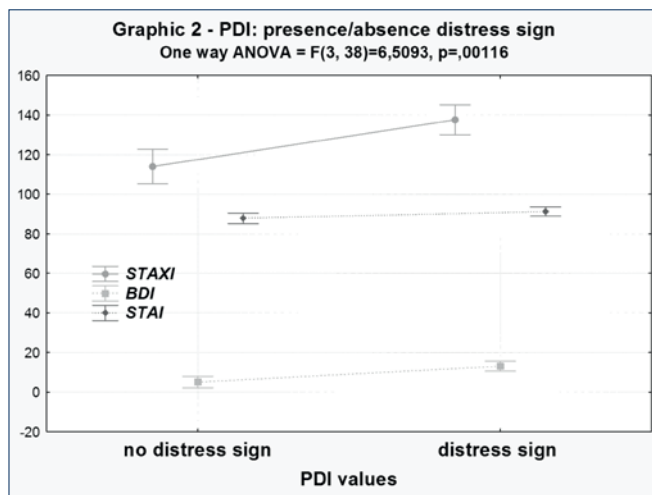


FIGURE 2.
Comparison between timing and emotional features in PDI diagnosis.

factors (as marital, maternity, education, occupation) on emotional condition and/or psychological distress. We applied a MANOVA 2 (groups: BC/NC) \times 2 (marital status: married/no married) \times 4 (tasks: PDI, BECK-II, STAXI, STAI): results showed no significant influence; the same finding we get by the maternity factor (mother/no mother), employment status (worked/no worker); a MANOVA 2 \times 3 (education: lower secondary school; high school, master degree) \times 4 to evaluate the educational factor: no significant difference between BC and NC groups in the emotional performance.

Finally, we wanted to verify if the emotional condition could be influenced by pharmacological timing, pushing emotional changing on going of the treatments. We have distributed the BC group by treatment timing: T0 = post survey and 20 days from diagnosis; T1 = post chemotherapy and after 6 months from diagnosis; T2 = ongoing hormone therapy and 12 months from the diagnosis. The MANOVA 2 (group: distress/no distress sign) \times 3 (timing: T0, T1, T2) \times 3 (emotional tasks: STAXI, STAI, BECK-II) evidenced no significant interaction by examined variables.

Discussion and Conclusions

The present study is aimed to analyze the emotional distress of breast cancer sample in terms of depression, anger, anxiety and psychological distress. In particular, our study has been focused on the younger sample (range age 35-50 years old) with diagnosis of breast cancer in early time. Our findings appeared interesting. The young women with breast cancer seemed resilient and

motivated dealing with the illness, and focused on the good compliance and getting the fast positive outcome. In fact, our sample showed no signs of mood disorders or psychopathological conditions. The cancer diagnosis has harsh impact making patients weaker, but anyway their psychological resilience consents to them to be stronger and having a stronger feedback with their real clinical condition.

Our results evidenced significant difference only in depression variable but not in pathological range: the patients have presented higher and significant scores than healthy women; anyway the scores have been under cut-off of depression diagnosis. No one of sample (both pathological and healthy groups) has showed signs of depression. Those data highlighted the positive personal perspective of the young patients dealing with the cancer illness. The setting of psychological support has to be modeled on that proposing therapeutical strategies oriented to improve mostly their later mental wellness.

The experience, expression and control of anger scores and the expression of the anxiety scores have highlighted resilient performance in breast cancer patients not associated a specific social variables. Moreover, the multivariate analysis on the psychological tests on timing pharmacological treatments didn't show difference between patients and health subjects. Our findings evidenced the role of psychological resilience of the women dealing with the breast cancer in the adjustment to the pathological condition: internal factors seem to play a central role in the psychological resilience, as the external (social) factors didn't relieved like main variables influencing the emotional system of the patients. In fact, our finding evidenced the absence of sociodemographic influence. We suggest the predictive variable for better adjustment to the clinical condition is the internal variable (personality). The personality traits are strengthness to deal with the disease impact in different timing of pharmacological treatment.

Our finding confirmed the clinical relevance of psychological resilience in the complex clinical treatments of patients (surgery and/or pharmacological intervention)^{15 16}, highlighting the positive impact confronting the emotional distress and coming back to normal life.

Urcuyo¹⁷ analyzed the breast cancer diagnosis also can have an overall positive impact women life promoting benefit outcome. In fact, the tremendous progress in medical path has favored early interventions, joined to major survival and induced positive life expectations. Patients can experience positive as well as negative emotional conditions from breast cancer illness; benefit finding are supported by resilience impact on patients in the direction of a better internal psychological change an increased acceptance of the imperfections in life, renewed appreciation of own social and affective context.

Afterwards breast cancer diagnosis, benefit finding seem to reflect a positive, accommodative, and appreciate orientation to life. Our finding sustains the need to guide the women in the clinical path not only to deal with in the early time the diagnosis, but also and much more to reduce the stressful and favor the efficient winning life back. Major compliance, faster coming back to the normality, controlled impact of the disease: these 3 mentioned indexes seem efficacy in the lighting of clinical burden of the patients and a better complex and integrated clinical intervention in breast cancer illness.

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Validity and reliability of the WORRY-SR: a dimensional approach to the assessment of GAD spectrum

M. Mauri¹, A. Oppo², S. Banti¹, M. Miniati¹, C. Cargioli¹, O. Bacci¹, A. Fagiolini³, J.D. Maser⁴, M.K. Shear⁵

¹ Department of Clinical and Experimental Medicine, University of Pisa, Italy; ² Sigmund Freud University, Milan, Italy;

³ Department of Neuroscience, Section of Psychiatry, University of Siena, Italy; ⁴ Department of Psychiatry, University of San Diego, USA;

⁵ Columbia University School of Social Work, USA.

Summary

Objectives

This study evaluates the validity and reliability of a new self-report instrument that assess GAD spectrum symptoms: the WORRY-SR.

Methods

Participants included 120 patients with mood and anxiety disorders recruited at the Department of Psychiatry of the University of Pisa and two comparison groups included 47 participants recruited at the Department of Occupational Medicine and 45 outpatients with gastrointestinal disorders. Participants completed the WORRY-SR, the Penn State Worry Questionnaire (PSWQ), the State Trait Anxiety Inventory (STAI), the Work and Social Adjustment Scale (WSAS), the Panic-Agoraphobia Spectrum (PAS-SR) and the WHO Quality of Life Assessment (WHOQOL-BREF).

Introduction

Generalized Anxiety Disorder (GAD) is defined as excessive, uncontrollable worry about a variety of topics that occurs more days than not for a period of at least six months. The worry must be associated with at least three of the following features: restlessness or feeling keyed up or on edge, being easily fatigued, difficulty concentrating or having one's mind go blank, irritability, muscle tension, and sleep disturbance with significant difficulty in controlling the anxiety and worry. The symptoms cause "clinically significant distress" or problems functioning in daily life and are not part of another mental disorder¹.

GAD was first introduced in the third edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-III; American Psychiatric Association)² but was most often used, in the DSM III, as a residual diagnosis for individuals who did not meet diagnostic criteria for a different anxiety disorder³. From the DSM III to the DSM III-R, the definition of GAD changed substantially: the time frame

Results

Internal consistency of the total WORRY-SR score ($KR = 0.96$) and for the domains (Childhood Worry, Beliefs about Worry, Somatic and Emotional Symptoms, Cognitive Tendencies, and Behavioral and Interpersonal Tendencies) was excellent. Furthermore, the WORRY-SR showed good concurrent validity with the PSWQ ($p = 0.71$). Finally, the WORRY-SR discriminates participants with psychiatric disorders from controls and patients with severe functional impairment from those with mild/moderate functional impairment.

Conclusions

Our findings provide support for reliability and validity of the WORRY-SR questionnaire.

Key words

Worry • GAD • Dimensional approach • Self-report instrument • Functional impairment

(from 1 month to 6 months); the number of symptoms (at least 6 symptoms required in 3 different categories), the presence of symptoms must not occur during the course of a mood disorder, and the diagnosis was allowed during childhood. Because of these changes, investigators, not surprisingly, found poor inter-rater agreement between GAD in the DSM-III and GAD in the DSM-III-R⁴. Some issues still surround the DSM-IV GAD criteria, particularly regarding the required duration, the concept of excessive worry (in the DSM-IV the worry no longer needed to be "unrealistic") and the number of associated symptoms. Recently, revisions for GAD have been proposed by the DSM-5 Anxiety Disorders Work Group⁵ who evaluated in a recent paper⁶ the utility of the proposed DSM-5 GAD diagnostic criteria indicating that these new criteria may increase the prevalence of GAD but the clinical utility, reliability and validity remain to be established. First, the DSM-5 Work Group considered renaming Generalized Anxiety Disorder as Generalized Worry Disorder in order to emphasize the hallmark of GAD: the worry.

Correspondence

Mario Miniati, Department of Clinical and Experimental Medicine, University of Pisa, Italy • E-mail: mario.miniati@med.unipi.it

Worry is the cognitive component, as distinct from the physiological symptoms, of anxiety. There appears to be consensus that worry is an avoidant coping strategy that is negatively enforced by reductions in patients' worry⁶. Furthermore, the authors proposed the deletion of symptoms that are non-specific to the GAD and the introduction of avoidance criteria consistent with the avoidance criteria for other anxiety disorders and with cognitive models of GAD^{7,8}. Moreover, the authors proposed deleting DSM-IV criterion B because the literature underlined little effect of this criterion on identified cases. Finally, the DSM-5 Anxiety Disorders Work Group⁵ questioned whether GAD exists as a disorder such as conceptualized in the DSM or if it is a dimension of illness. However, GAD remained as a separate diagnostic entity in DSM-5⁹, and it is still described with the same criteria of DSM-IV-TR¹.

The National Comorbidity Survey (NCS) estimated the lifetime prevalence of GAD, assessed using DSM-IV criteria, at about the 5.7% in the United States¹⁰, and the ESEMED estimated the prevalence at 1.9% (95% CI 1.3-2.5) in Italy¹¹. GAD appears to be twice as common in women as in men^{6,12}, and, differently from other anxiety disorders, is a disorder of adult onset^{13,14}. Generalized Anxiety Disorder is not only highly prevalent, but is characterized by a chronic course, with significant impairment and risk of suicidality¹⁵.

Patients with GAD report difficulties attributable to both physical and emotional symptoms, and frequently experience comorbid psychiatric and physical symptoms that often have no identifiable physiologic etiology^{16,17}. The high level of comorbidity observed between GAD and other Axis I disorders (58-92%) lead some authors to wonder if GAD might be better conceptualized as a prodromal, a residual, or a severity marker of a comorbid disorder rather than an independent diagnostic category^{4,18}.

A recent review underlined that GAD was associated with a substantial human and economic burden¹⁹. Although in the NCS the course of GAD and its related impairment were unrelated with comorbidity with major depression²⁰, the high rates of comorbidity between GAD and major depression raised the question of whether GAD was a residual category or a prodromal of other anxiety or mood disorders. Moreover, the clinical presentation of GAD can differ markedly, depending on whether patients emphasize mental or somatic anxiety symptoms²¹. Several instruments already assess worry, such as the Penn State Worry Questionnaire (PSWQ)²², or the Worry Domains Questionnaire (WDQ)²³. Others instruments, such as the State-Trait-Anxiety-Inventory (STAI)²⁴ are more focused on a general dimension of anxiety. None of these instruments assesses somatic symptoms of anxiety. However, although excessive worry is the hallmark of GAD, the warning of potential danger and the anticipation of

threat imply a persistent activation characterized by the presence of somatic symptoms that should be considered in any instrument assessing this psychopathological area. Consistently with our approach to other Axis I conditions (Spectrum Project, 1995-2016) and with the literature that argues that GAD signs and symptoms are lying along a dimensional *continuum*²⁵, we postulated the existence of a spectrum approach to GAD emphasizing soft signs and symptoms as well as a wide range of syndrome-level manifestations, that are surrounding the core features of the DSM-5 GAD diagnostic category. The proposed model point out the need for an enlargement of the psychopathological dimension of GAD, aiming at identifying those syndromes that are not fitting in the classic categorical description of DSM. The spectrum model was originally based upon the empirical observation that a wide range of psychopathologic signs and features not included in the DSM might run completely overlooked or considered not relevant from a clinical point of view. Conversely, a growing body of evidence indicates the clinical relevance of the sub-threshold and atypical presentations of a number of anxiety disorders, including GAD. This suggested the potential usefulness of a dimensional assessment of the psychopathological continuum encompassing all the manifestations of a disorder, including prodromal, atypical, residual manifestations or trait-like symptoms.

The aim of this study was to examine the reliability and validity of a new instrument to assess GAD spectrum symptoms, the WORRY-SR, in a sample of patients with mood and anxiety disorders and in two control groups without current psychiatric diagnoses.

Methods

Participants

A consecutive sample of outpatients (n = 120) presenting for treatment at the Department of Psychiatry in Pisa, Italy, from July 2008 to July 2009 were invited to participate in the study. Eligible patients included adults with mood and anxiety disorders. Exclusion criteria were severe medical illness, neurological diseases, or inability to participate because of the severity of psychiatric symptoms, the presence of current psychotic symptoms, and the presence of substance use disorders in the last 6 months, a diagnosis of hyperthyroidism, and poor knowledge of the Italian language. Control groups included 47 workers recruited during a routine visit at the Department of Occupational Medicine and 45 outpatients with gastrointestinal problems recruited at the Department of Gastroenterology in Pisa. The Ethics Committee of the Azienda Ospedaliero-Universitaria of Pisa approved all recruitment and assessment procedures. Participants provided written informed consent, after receiving a complete description of the study.

Instruments

The generalized anxiety disorder spectrum self-report: WORRY-SR

The WORRY-SR (see Appendix A) was developed by Italian and U.S. psychiatrists and clinical psychologists in the framework of the Spectrum Project. It includes 87 items exploring the “presence” or “absence” of lifetime symptoms conceptually organized into six domains: (1) Childhood, (2) Worry, (3) Beliefs about worry (4) Somatic and emotional symptoms, (5) Cognitive tendencies and (6) Behavioral and interpersonal tendencies. Item responses are coded dichotomously (yes/no) and total and domain scores are obtained by counting the number of positive answers.

The first domain, “Childhood”, encompasses items referring to worry during childhood or adolescence, both about interpersonal relationships and about “potentially dangerous” situations.

The second domain, “Worry,” is designed to capture the generality, excessiveness, and uncontrollability of the spectrum phenomenology of worry. This domain encompasses six subcategories: A) “General” focuses on worrying about the future; B) “Illness/health/injury” focuses on the state of a person’s health or the health of those the person loves C) “Family/home/interpersonal” focuses on concerns regarding other persons; D) “Financial” focuses on worrying about spending money unwisely or concerns about not being able to unexpected financial issues; E) “Work/school” focuses on the feeling that one cannot live up to the expectations of the teachers/boss F) “Travel” focuses on apprehension about getting lost, having an accident or not bringing everything needed.

The third domain “Beliefs about worry” explores the “meta-worry” that is a variable consisting of the negative appraisal of worry. A useful way to think of meta-worry is as worrying about worrying⁸. This domain includes item such as “Have you often thought that other people are overly optimistic and that you are more realistic?” and “Have you often thought that worrying is a way to avoid risks?”.

The fourth domain “Somatic and emotional symptoms” investigates somatic and emotional symptoms that are associated with hyper arousal.

The fifth domain “Cognitive tendencies” describes typical thoughts that an anxious person endorses, such as the thought the world is full of dangers or the thought that something terrible had happened if someone is late.

The last domain “Behavioral and interpersonal tendencies” describes all the behaviors related to experiential avoidance that plays a significant role in maintaining pathological behavioral and cognitive repertoires.

Mini International Neuropsychiatric Interview (M.I.N.I.)²⁶

The M.I.N.I. is a standardized diagnostic interview used in clinical as well as research settings that allows one to make a diagnosis according to DSM-IV²⁷ and ICD-10 criteria²⁸. It is organized in modules for Axis I diagnoses, suicide risk and antisocial personality disorder. The Italian version of the M.I.N.I. has been validated by Rossi et al.²⁹.

*Work and Social Adjustment Scale (WSAS)*³⁰

The WSAS consists of 5 items rated, with reference to the week preceding the index visit, on an 8-point ordinal scale to assess social or occupational impairment in work, home management, social leisure activities, private leisure activities and the ability to form and maintain close relationships with others with reference to the week preceding the index visit. The total score is obtained as the sum of the 5 items and ranges from 0 to 40. Mundt et al.³⁰ suggested the use of cut-off scores to define three severity classes: no impairment (0-9), mild impairment (10-19), moderate to severe impairment (20-40).

*State-Trait-Anxiety-Inventory (STAI)*²⁴

The STAI is a reliable and valid measure that has been used with both clinical and non-clinical populations. The measure comprises separate self-report scales for assessing state and trait anxiety. The state anxiety scale consists of 20 items that evaluate current feelings of tension, anxiety, and nervousness, while the 20-item trait scale assesses anxiety levels in general.

*Panic-Agoraphobic Spectrum Self-Report (PAS-SR)*³¹

The PAS-SR consists of 114 items coded as present or absent and assesses panic-agoraphobic spectrum symptoms occurring in the lifetime. This instrument consists of 114 items coded as present or absent items for one or more periods of at least 3 to 5 days in the lifetime. The factor analysis of the lifetime PAS-SR identified 10 factors: ‘panic symptoms’, ‘agoraphobia’, ‘claustrophobia’, ‘separation anxiety’, ‘fear of losing control’, ‘drug sensitivity and phobia’, ‘medical reassurance’, ‘rescue object’ (e.g. objects like water bottles, pills, umbrella, that are used to help the patient feel safer) ‘loss sensitivity’, and ‘reassurance from family members’³².

*Penn State Worry Questionnaire (PSWQ)*²²

The PSWQ consists of 16 items rated on a 5-point ordinal scale and is a commonly used and psychometrically sound measure of the symptoms of pathological worry. Individuals diagnosed with generalized anxiety disorder (GAD), a condition characterized by excessive and uncontrollable worry, score significantly higher on the PSWQ than do those who meet only some of the GAD criteria.

*WHOQoL-BREF*²⁸

The WHOQoL-BREF encompasses 26 items and allows a detailed assessment of 24 individual facets, related to quality of life. Facets are organized into four domains: physical health, psychological, social relationship and environment. Scores are expressed as percentages, where 0 denotes terrible and 100 excellent quality of life.

Statistical methods

Kuder-Richardson coefficient, a variant of the alpha coefficient³³, was used to test the internal consistency of domains and total score of the WORRY-SR. Test-retest reliability was examined using intra-class correlation coefficients^{34 35}. Landis and Koch³⁶ criteria were used to characterize reliability levels as follows: 0-0.4 poor, 0.41-0.74 fair to good, 0.75-1 excellent. Convergent and divergent validity was analyzed using Spearman's correlation.

The scores of the WORRY-SR domains were compared among groups using ANOVA. The significance level was adjusted for multiple comparisons.

To determine if the WORRY-SR was able to discriminate the presence of comorbidity (having only one Axis I disorder vs having at least two Axis I disorders) and the presence of functional impairment (WSAS total score lower than 20 vs a WSAS total score of 20 or more), two receivers operating characteristic (ROC) analyses were carried out. In

the ROC analysis, the sensitivity and specificity are plotted over the range of cut-off points³⁷. The interpretation of the AUC values is traditionally the following: an AUC < 0.7 suggests "low" diagnostic accuracy, from 0.7 to 0.9 "moderate" diagnostic accuracy, and AUC ≥ 0.9 "high" diagnostic accuracy³⁸. Analyses were carried out using SPSS version 20 for Windows (SPSS Inc. Chicago, IL, USA).

Results

Demographic and clinical characteristics of the study sample

Overall, 212 participants were recruited. Mean age was 40.8 ± 11.0 years, 68.4% were women and 31.6% men, 44.8% married, 13.7% separated or divorced, 40.1% never married, 45.3% had a high school diploma, 24.5% a university degree, 68.9% were employed. We compared the distribution of socio-demographic characteristics among psychiatric outpatients, outpatients with gastrointestinal disorders (GI), and participants recruited at the Department of Occupational Medicine (Table I). The study groups did not differ on gender, marital status and educational level. However, GI patients were younger than other two groups, and participants recruited at the Department of Occupational Medicine were more frequently employed than other two groups. Of the 212 par-

TABLE I.
Characteristics of the sample.

	Psychiatric outpatients (N = 120)	Gastrointestinal outpatients (N = 45)	Occupational medicine patients (N = 47)	F or chi-square	p
Age (mean ± SD)	42.4 ± 11.4	36.4 ± 10.4*	41.1 ± 9.5	F = 4.95	0.008
Sex, F(%)	87 (72.5)	31 (68.9)	27 (57.4)	Chi2 = 3.55	0.170
Educational level, N(%)				Chi2 = 12.14	0.059
Primary school	1 (0.8)	0	1 (2.1)		
Secondary school	39 (32.5)	16 (35.6)	7 (14.9)		
High school (completed)	57 (47.5)	19 (42.2)	20 (42.6)		
University degree	23 (19.2)	10 (22.2)	19 (40.4)		
Employment status N (%)				Chi2 = 24.49	0.002
Student	14 (11.7)	8 (17.8)	2 (4.3)		
Unemployed	11 (9.2)	5 (11.1)	1 (2.1)		
Housewife	12 (10.0)	1 (2.2)	0		
Employed	72 (60.0)	31 (68.9)	43 (91.5)		
Retired	11 (9.2)	0	1 (2.1)		
Marital status N (%)				Chi2 = 4.28	0.639
Single	44 (36.7)	22 (48.9)	19 (40.4)		
Married	57 (47.5)	17 (37.8)	21 (44.7)		
Divorced	16 (13.3)	6 (13.3)	7 (14.9)		
Widowed	3 (2.5)	0	0		

TABLE II.
Current DSM IV diagnoses in the clinical sample.

Diagnosis	N (%)
Bipolar II	14 (6.6)
Major Depressive episode	28 (13.2)
Panic Disorder	27 (12.7)
Panic Disorder (Agoraphobia)	18 (8.5)
Agoraphobia without Panic	1 (0.5)
Social Phobia	5 (2.4)
Obsessive-Compulsive Disorder	5 (2.4)
Generalized Anxiety Disorder	29 (13.7)
Anorexia nervosa	1 (0.5)
Bulimia nervosa	1 (0.5)

ticipants, 75.5% (N = 160) had a lifetime DSM IV diagnosis (psychiatric outpatients: 100%; GI outpatients: 46.7% (21/45); participants recruited at the Department of Occupational Medicine: 40.4% (19/47)). 60.8% (N = 129) had at least 1 current diagnosis at index assessment (psychiatric outpatients: 85.8% (103/120); GI outpatients: 35.6% (16/45); participants recruited at the Department of Occupational Medicine: 21.3% (10/47). Table II reports current DSM diagnoses in the clinical sample.

Reliability of the WORRY-SR

Internal consistency of the total WORRY-SR score (KR = 0.96) and for the domains (Childhood, Worry, Beliefs about Worry, Somatic and Emotional Symptoms, Cognitive Tendencies, and Behavioral and Interpersonal Tendencies) was excellent (Table III).

To determine whether all theoretical domains belonged to a WORRY spectrum, we examined the properties of the scale that might suggest whether a given domain

should be removed. Specifically, we calculated correlations of domain scores with the total WORRY-SR score and examined the effect of removal of each domain on the internal consistency of the scale (Kuder-Richardson's coefficient). All domains and sub-domains correlated with the WORRY-SR total score and the overall internal consistency decreased with the removal of each domain (Table III). Furthermore, correlations between domains were all positive and significant, with Spearman's ρ ranging between 0.443 and 0.779 ($p < 0.001$).

To evaluate test-retest reliability of the WORRY-SR, the questionnaire was re-administered after 7-14 days. The intra-class correlation of the total WORRY-SR score was $\rho = 0.97$ and that of the domains was $\rho = 0.93$ (Childhood), $\rho = 0.96$ (Worry), $\rho = 0.93$ (Beliefs about Worry), $\rho = 0.93$ (Somatic and Emotional Symptoms), $\rho = 0.92$ (Cognitive Tendencies), and $\rho = 0.96$ (Behavioral and Interpersonal Tendencies), suggesting excellent stability over a brief time span.

Convergent validity of the WORRY-SR

Spearman correlations with the WORRY-SR total score and PSWQ, STAI, PAS-SR total score and the "Panic symptoms" factor of the PAS-SR³² were examined to assess the convergent validity of the WORRY-SR. Results indicate good convergent validity of the instrument: strong positive correlations were found between WORRY-SR total score and PSWQ ($\rho = 0.71$), STAI trait anxiety ($\rho = 0.61$), PAS-SR total score ($\rho = 0.80$)

Relationship between quality of life and functional impairment and WORRY-SR Scores

Spearman correlations with the WORRY-SR total score and WSAS, and WHOQOL-BREF were examined to assess the association between WORRY-SR and, quality

TABLE III.
Internal consistency (Kuder-Richardson coefficient) of domains of the WORRY-SR.

Worry-SR Domains	Domain total correlation	KR coefficient	Overall KR if domain deleted
Childhood	0.655	0.796	0.955
Worry	0.900	0.905	0.942
General	0.501	0.664	
Illness/Healthy/Injury	0.623	0.646	
Family/Home/Interpersonal	0.442	0.560	
Financial	0.692	0.768	
Work/School	0.554	0.768	
Travel	0.620	0.673	
Beliefs about worry	0.742	0.732	0.957
Somatic and emotional symptoms	0.525	0.828	0.955
Cognitive tendencies	0.782	0.836	0.953
Behavioral and interpersonal tendencies	0.676	0.842	0.954

TABLE IV.Mean \pm SD of the Worry-SR (domains and total score) in psychiatric patients and controls.

	Psychiatric outpatients (N = 120)	Gastrointestinal outpatients (N = 45)	Occupational medicine patients (N = 47)	F	P
Childhood	7.2 (3.4)	5.1 (3.5)*	3.8 (3.1)*	19.39	< 0.001
Worry	13.0 (7.0)	8.5 (5.7)*	7.3 (6.0)*	16.30	< 0.001
General	2.0 (1.4)	1.2 (1.1)*	1.1 (1.1)*	10.69	< 0.001
Illness/Healthy/Injury	2.2 (1.3)	1.4 (1.2)*	1.1 (1.1)*	13.87	< 0.001
Family/Home/Interpersonal	2.2 (1.2)	1.5 (1.1)*	1.3 (1.3)*	12.94	< 0.001
Financial	2.9 (2.3)	1.9 (1.8)*	1.6 (2.0)*	6.60	0.002
Work/School	2.4 (1.7)	1.7 (0.2)*	1.5 (0.2)*	8.92	< 0.001
Travel	1.3 (1.2)	0.8 (1.0)*	0.8 (1.0)*	6.54	0.002
Beliefs about worry	3.1 (2.0)	2.2 (2.0)	1.7 (1.8)*	9.09	< 0.001
Somatic and emotional symptoms	4.2 (1.6)	3.0 (2.0)*	2.4 (1.7)*	20.51	< 0.001
Cognitive tendencies	9.3 (3.6)	6.4 (4.8)*	5.2 (4.0)*	21.31	< 0.001
Behavioral and interpersonal tendencies	7.3 (3.6)	5.2 (3.6)*	3.9 (3.3)*	17.50	< 0.001
Total score	44.1 (17.5)	30.4 (19.1)*	24.3 (16.9)*	24.90	< 0.001

p < 0.016 vs Psychiatric outpatients group

of life and functional impairment. The WORRY-SR total score had a positive correlation with functional impairment ($p = 0.46$, $p < 0.001$), and a negative correlation with quality of life ($p = -0.54$, $p < 0.001$).

Discriminant validity of the WORRY SR

Participants recruited at the Department of Psychiatry showed significantly higher WORRY-SR total scores and domains scores as compared to control subjects.

Table IV reports mean total and domain scores on the WORRY-SR among the three study populations and suggest good discriminant validity. In order to further assess the ability of the WORRY-SR to discriminate patients with different levels of severity and impairment, we performed two ROC analyses. In the first model, we compared the WORRY-SR total score between patients with only one Axis I disorder (any diagnosis) and patients with at least two Axis I diagnoses. The AUC was 0.709 (95% CI 0.611-0.807), and at a cut-off score of 43 the sensitivity and the specificity were 0.77 and 0.59 respectively (Fig. 2). In Figure 1, we present the frequency distributions of the WORRY -SR total score in subjects with one Axis I diagnosis, two or more Axis I diagnoses and controls (panel A).

In the second model, we assessed whether the WORRY-SR discriminated between participants with severe functional impairment (WSAS total score of 20 or more) and participants with mild to moderate functional impairment (WSAS total score lower than 20). In Figure 1 (panel B), we report the distribution of WORRY-SR scores in these two groups of participants. The AUC was 0.680 (95% CI

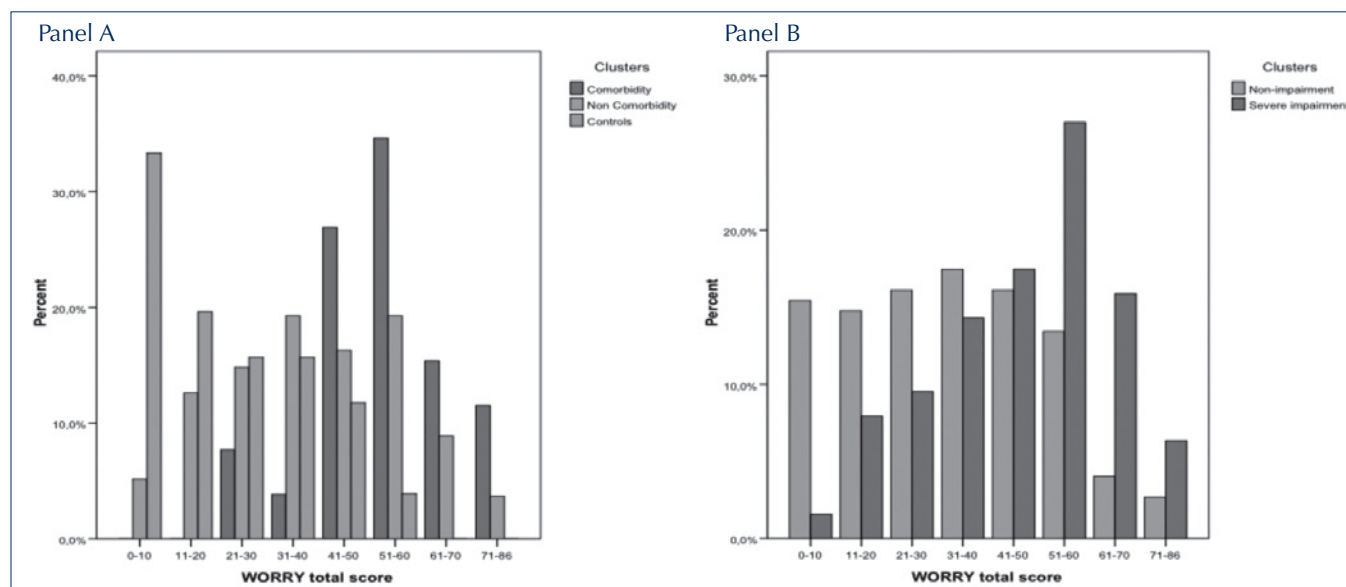
0.58-0.78), and at a cut-off score of 43 the sensitivity and the specificity were 0.67 and 0.71 respectively (Fig. 2).

Discussion

The WORRY-SR is designed to assess lifetime anxiety symptoms according to a dimensional spectrum model of psychopathology^{39 40}. This study provides evidence of the reliability and validity of the WORRY-SR. The instrument shows excellent internal consistency (0.96), with each domain correlating highly with the total score and the removal of any domain resulting in a lower overall KR coefficient. The convergent validity of the WORRY-SR vs the PSWQ, the STAI and the PAS-SR was good. The test-retest reliability of an instrument is a key psychometric property in clinical research.

The WORRY-SR showed, excellent stability of scores at 7-14 days, with an intra-class correlation of the total WORRY-SR score of $p = 0.88$ and correlations ranging between 0.92 and 0.96 for the individual domains. This finding was largely expected considering that the instrument assessed lifetime experiences and symptoms.

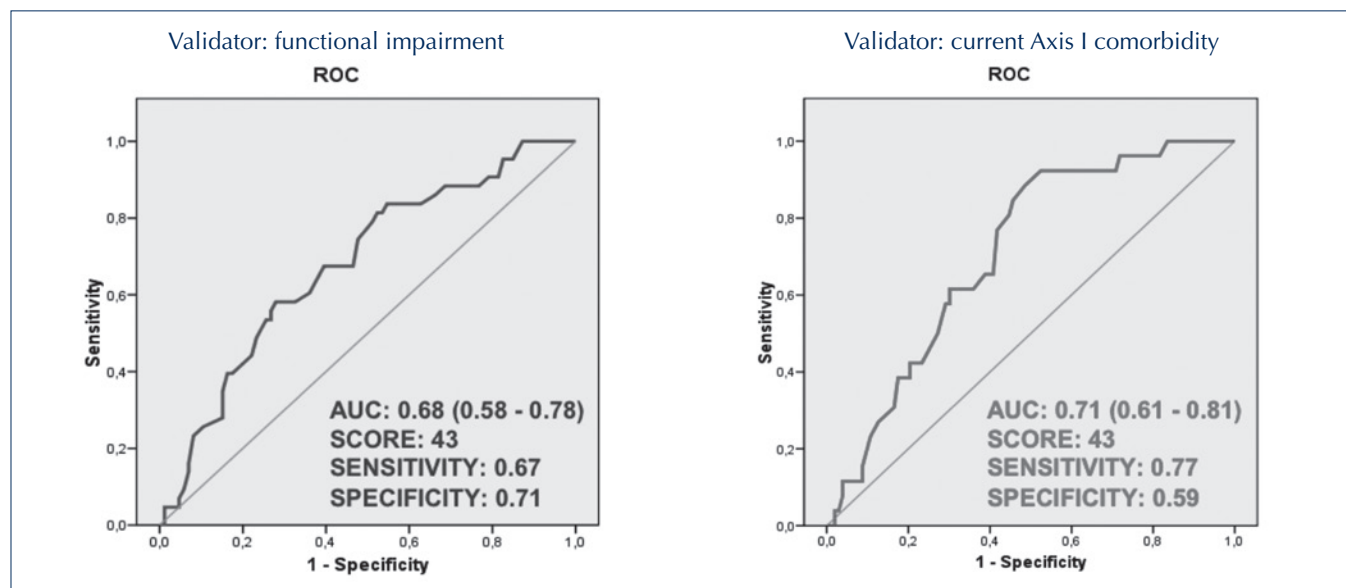
The comparison amongst psychiatric outpatients, gastrointestinal outpatients, and participants recruited at the Department of Occupational Medicine, showed that psychiatric outpatients scored significantly higher on both WORRY-SR total score and all WORRY-SR domains than each of the control groups. To further investigate the discriminant validity of the WORRY we conducted ROC analyses using two external validators as the "gold standard:" the presence of current Axis I comorbidity and the

**FIGURE 1.**

Frequency distributions of the total Worry-SR score in subject with one Axis I diagnosis, two or more Axis I diagnoses and controls (A) and in subjects with mild to moderate vs severe functional impairment (B).

presence of severe functional impairment assessed with the WSAS³⁰. We found that a cut-off score of 43 or more on the total WORRY-SR score provides a useful threshold both for the presence of current comorbidity and for the presence of severe functional impairment. Taken together, these findings provide support for the coherence, validity and clinical utility of the WORRY-SR.

This study has several limitations. First, consistently with the NCS-R finding that the lifetime comorbidity of GAD with another Axis I diagnosis is 92.1%¹⁰, we found a low prevalence of GAD as a single diagnosis. Therefore, we could not determine whether the WORRY-SR discriminates GAD patients from patients with other anxiety diagnoses. However, the literature underlines that the prevalence of

**FIGURE 2.**

Receiver operating characteristics.

GAD without any comorbid diagnosis was 0.4% in the NCS-R10, and 3.8% in primary care setting⁴¹. It is possible that the GAD spectrum explores a trans-nosographic dimension of both anxiety and mood disorders and not a specific feature of specific anxiety disorder¹⁶. It has been suggested that GAD could be considered the core anxiety disorder because worry, as its defining feature, reflects a basic process of anxiety^{42,43}. For instance, Ruscio⁴⁴ reported that patients with GAD are not the only group that experiences high worry. A substantial proportion of non-GAD worriers experience the severity of worry that is associated with a GAD sample, but do not qualify for a GAD diagnosis because they do not endorse all DSM criteria⁶. Second, it is unclear whether the WORRY-SR comprises a single dimension or has a multi-dimensional structure. Given the number of items comprising the WORRY-SR, the present study did not have a sufficient sample size to conduct a factor analysis and address this important issue. However, it has been hypothesized that the cognitive and somatic features represented in the WORRY-SR could be different manifestations of worry spectrum. The introduction of somatic symptoms in a worry spectrum is an important issue. Although the PSWQ²² is the measure most frequently used to assess pathological worry in both clinical and non-clinical populations, with sound psychometric properties⁴⁵ and useful in discriminating Social Anxiety from GAD⁴⁶, it focuses predominantly on cognitive features of GAD and does not include somatic features. Further research on this topic is needed to establish the prognostic and treatment implications of high WORRY-SR scores in different clinical samples.

Conflicts of interest

Mauro Mauri, Annalisa Oppo, Susanna Banti, Claudio Cargioli, Olivia Bacci and Jack D. Maser do not report potential conflicts of interest over the past 3 years.

Andrea Fagiolini is /has been a consultant and/or a speaker and/or has received research grants from: Allergan, Angelini, Astra Zeneca, Boehringer Ingelheim, Pfizer, Eli Lilly, Ferrer, Janssen, Lundbeck, Novartis, Otsuka, Roche

M.K. Shear reports the following potential conflict of interest over the past 3 years: a contract with Guilford Press to write a book on grief.

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Appendix

Worry-SR

Domain I: childhood

1. When you were a child, did you often feel insecure or uncomfortable in your relationship with your parents?
2. Did you worry about breaking rules set by your parents, or doing something that your parents told you not to, or that you would do something that would upset your parents?
3. Did you often worry that other people, like your friends and teachers, would disapprove of you or something you did?
4. As a child, did you worry a lot or did other people tell you that you did?
5. Did you have a lot of stomachaches or headaches?
6. Did you often have nightmares or bad dreams?
7. Did you ever become very anxious during a game because you thought you might win?
8. Did you always want someone else to go first because you wanted to be sure it was safe?
9. Did you often warn your friends not to do dangerous or risky things?
10. Did you worry more than other children you knew that you wouldn't learn or do well on an exam?
11. Did you worry a lot about family finances, or that there would be trouble in the family like illness or divorce?
12. Did you worry a lot about world disasters, crime, or war?
13. Did you worry a lot about getting sick?
14. Did you worry a lot about traveling, or when someone else had to travel, for example, on a train or on a plane?
15. Did you worry a lot in anticipation of a pleasant activity such as going on vacation, going to a party, or meeting friends?

Domain II: worry

A: general

Have you ever worried a lot...

16. that bad things could happen even if you knew they were unlikely?
17. that bad things could happen very far into the future?
18. about the well-being or happiness of others?
19. over minor matters?

B: illness/health/injury

Have you ever...

20. worried a lot about the state of your health or the health of those you love?
21. been called a hypochondriac?
22. worried that you or a loved one will get the wrong diagnosis, the wrong medicine or the wrong treatment?
23. worried that you or a loved one will die from a complication of a minor illness like the flu or a cold?
24. worried a lot that you or a loved one could easily get hurt or injured?

C: family/home/interpersonal

Have you ever worried a lot...

25. that you are not taking good enough care of your children, or that something bad will happen to your children?
___ *I don't have any children*
26. after you said or did something that offended someone?
27. that your friends or partner have stopped liking you?
28. have you ever tried to prevent your loved ones from doing things because you worried something bad might happen to them?

D: financial

Have you often worried...

29. that whatever you buy, you can't really afford it?
30. that whatever you buy, it will have something wrong with it or it won't work?
31. that something might break in your home or car and that it couldn't be easily fixed?
32. that you spent your money unwisely?
33. that you won't have enough money to pay your bills?
34. that you will not be able to provide for your family or support yourself?
35. that you won't have enough money in your old age?
36. do you save more money than most people with your income because you never know what the future will hold?

E: work/school

Have you often worried...

37. when you were in school, that you would fail even though you were doing fine in the class, or that you

would be fired from your job even though you had been told you were doing well?

- 38. that you would not live up to the expectations of your teachers or boss?
- 39. that you inadvertently broke the rules?
- 40. about minor things at school or work?
- 41. that you will not understand instructions or you will make a mistake when given a task to do?

F: travel

When you or your relatives travel, have you often worried...

- 42. that you will get lost or have an accident?
- 43. that you didn't bring everything you will need?
- 44. that things will go wrong, such as your reservations will be mixed up or lost, that the place you will stay will be terrible, that you will misplace your itinerary or maps, that the weather will be bad, that you will miss your connections, or that your luggage will get lost?

Domain III: beliefs about worry

Have you often thought that...

- 45. worrying helps motivate you to get things done?
- 46. worrying is a way to avoid risks?
- 47. other people are overly optimistic and that you are more realistic?
- 48. worrying about something is the only way you can gain control over it?
- 49. worrying about something is a way to prepare yourself for the worst?

Have you often...

- 50. worried that you have done something wrong in the past and you will eventually be punished?
- 51. criticized yourself for worrying?

Domain IV: somatic and emotional symptoms

Have you ever had periods when you felt...

- 52. nervous, tense, restless, keyed up or on edge?
- 53. muscle aches, twitching or shaky?
- 54. your stomach churning or that you had an upset stomach or diarrhea?
- 55. physical symptoms like you were out of breath, your heart was beating too fast, your hands were cold or sweaty, your mouth was dry?

- 56. tired or exhausted?
- 57. irritable?

Have you ever had periods when you felt that you...

- 58. talked too much, too fast, or too loud when you were worried?
- 59. had difficulty concentrating or found that your mind went blank?
- 60. couldn't fall asleep because your mind was racing?
- 61. had trouble staying asleep?
- 62. couldn't control your worrying?
- 63. wanted to stop yourself from worrying?
- 64. Have you often felt a sense of impending doom or nameless dread?

Have you ever...

- 65. used food to distract yourself from worrying?
- 66. used drugs or alcohol to distract yourself from worrying?

Domain V: cognitive tendencies

Have you ever had a period when you...

- 67. thought the worst when the slightest thing went wrong?
- 68. thought that something terrible had happened if someone was late?
- 69. felt that you were unable to cope whenever anything went wrong?
- 70. felt overwhelmed by everyday hassles?
- 71. thought that you couldn't be too careful?
- 72. worried that you would forget something important?
- 73. thought the world was full of dangers?

Have you often...

- 74. thought when you heard an ambulance or saw an accident, that it might be someone in your family who was ill or injured?
- 75. had a sudden thought about something bad that might happen?

Domain VI: behavioral and interpersonal tendencies

Are you the kind of person who....

- 76. avoids taking risks, even when the payoff might be high?
- 77. is constantly on guard and cannot relax?

- 78. is very uncomfortable when things are uncertain?
- 79. is very uncomfortable when you have to wait, for example, for a train, in line at a shop, at the doctor's office, for the results of a test, for someone to call or come home or wake up?
- 80. can't tolerate being late?
- 81. needs to check on things that you are worried about, like why someone didn't call or didn't arrive on time?

Do you think...

- 82. it is your nature to worry and there is no way to worry less?
- 83. you worry too much and your worries are not that realistic?
- 84. about worrying or talk a lot about your worries to your friends?
- 85. you are a pessimist?
- 86. Do other people tell you that you worry too much?

Abnormal Bodily Phenomena questionnaire - Italian version

G. Stanghellini^{1,2}, M. Ballerini³, M. Chieffi⁴, P. Bucci⁴, P. Punzo⁴, G. Ferrante⁴, E. Merlotti⁴, A. Mucci⁴, S. Galderisi⁴

¹“G. d’Annunzio” University, Chieti, Italy; ²“D. Portales” University, Santiago, Chile; ³ Department of Mental Health, Florence, Italy;

⁴ Department of Psychiatry, University of Naples SUN, Italy

Summary

The Abnormal Bodily Phenomena questionnaire (ABPq) is a semi-structured interview created to evaluate the subjective, experiential anomalies in feelings, sensations, perceptions and cognitions arising in the domain of the lived body.

The ABPq originated from analyses of the clinical files of 550 consecutive outpatients affected by schizophrenic and affective disorders.

The Italian version of the ABPq is herewith presented. A brief description of the instrument is reported. The procedures followed for translation and adaptations of the interview, as well as the training of researchers and the results on its reproducibility are illustrated.

Key words

Coenaesthesia • Body experience • Psychopathology • Phenomenology • Schizophrenia • Subjective experience

Introduction

Abnormal bodily experiences, ranging from subtle perception of somatic changes to clear and definite somatic delusions, are frequently present in patient with schizophrenia and, according to some authors, may represent a core aspect of the disorder ¹⁻⁴.

From a phenomenological point of view, the lived body (i.e., the immediate and implicit experience one has of one’s own body) is the most primitive form of self-awareness ⁴⁻⁶ and is assumed to be the background of differentiation between self and non-self. Its perturbations give rise to abnormal bodily phenomena (ABP) characterized by somatic complaints that could be considered as an aspect of the core features of schizophrenic vulnerability, i.e., the disruption in the basic sense of being an incarnated self ⁷⁻⁹. In the light of this interpretation, a detailed clinical characterization of ABP in patients with schizophrenia could help in understanding the experiential dimension of schizophrenia. In 2005, Parnas and co-workers ¹⁰ proposed the “Examination of Anomalous Self Experience” (EASE), a semi-structured interview aimed at investigating the experience of subjective disorders of minimal self-awareness. This instrument included most of the ABP reported by Huber in his description of the so-called ‘cenesthetic schizophrenia’ characterized by abnormal bodily sensations that he proposed as a nosological subtype of schizophrenia ².

More recently, Stanghellini et al. ⁹ contributed to a valid definition of the ABP construct. In 550 consecutive outpatients affected by schizophrenic or affective disorders,

they administered a semi-structured interview aimed at exploring the presence of subtle, strange and disturbing fringe experiences usually neglected in routine clinical examination. Relevant clusters of ABP were identified and compared between patients with schizophrenia and patients with major depression. Two categories resulted characteristics of ABP in patients with schizophrenia: Dynamization (e.g. ongoing bodily feelings of disintegration/violation) and Thingness/mechanization (e.g. one’s body experienced as a object-like mechanism).

The Abnormal Bodily Phenomena questionnaire (ABPq) ⁶ is a semi-structured interview originated from the above described work. It includes nine items, grouped in five categories: demarcation, vitality, coherence, identity and activity. All categories fulfill three formal criteria: reliability, discriminant validity (for patients with different psychopathological features) and sensitivity (ability to depict different intensities of a phenomenon).

The Italian version of the ABPq is herewith presented. A brief description of the instrument is reported. The procedures followed for translation and adaptations of the interview, as well as the training of researchers and the results on its reproducibility are illustrated.

Description of the Abnormal Bodily Phenomena questionnaire

The questionnaire is intended for patients with schizophrenia or schizophrenia spectrum disorders and investigates the presence of subjective abnormal bodily phenomena.

Correspondence

Giovanni Stanghellini, DiSPUTer, “G. d’Annunzio” University, via dei Vestini 31, 66110, Chieti Scalo, Italy • E-mail: giostan@libero.it

The interview explores the period covering the last three months. The phenomena are subtyped in three different groups on the basis of the quality of their description: physical properties (e.g., “a gas fills my head”), hypotheses on the causes (e.g., “something is making my head explode”) or use of neologisms (e.g., “a ‘*twutta*’ is in my head”). Severity has to be scored by taking into account frequency, intensity of subjective arousal or distress, level of impairment, capacity to cope. The interview takes from 30 to 60 minutes.

The questionnaire includes five categories: 1) demarcation (patients’ abnormal experiences of their bodily boundaries, including ongoing violation and externalization); 2) vitality (patients’ abnormal experiences of the aliveness and working of their body, including morbid objectivisation and devitalization); 3) coherence (patients’ experiences of decomposition of the internal structure of their body); 4) identity (patients’ experiences of change of their body, including experiencers of ongoing transformation and dysmorphic phenomena); 5) activity (patients’ experiences of unpleasant/painful feelings coming from their body, including dysesthetic paroxysms and pain-like phenomena). A detailed description of each category and item is provided in the interview. For each item a list of possible “related clinical manifestations” is also reported together with a list of examples consisting in sentences spoken by patients during the interviews.

Translation and adaptation

The ABPq was translated into Italian by two authors of the original version (GS e MB), both Italian native speakers. For this reason, the back-translation into English was not performed.

The adaptation of the Italian version is the result of some meetings between the two Italian authors of the original version (GS and MB) and a group of researchers from the Department of Psychiatry of the University of Naples SUN including two expert senior psychiatrists (SG and AM) and three evaluators: a young psychiatrist attending a PhD course (MC) and two trainees in psychiatry (PP and GF) all with extensive experience in the administration of clinical interviews and a solid background in psychopathology. In the first meeting, the authors illustrated the first draft of the Italian version to the three evaluators and trained them to the administration and scoring of interview. During a further meeting, devoted to the discussion of all observations arising from the administration of the questionnaire to 10 healthy controls and 6 patients with schizophrenia,

a few changes were made. In particular, the adapted Italian version, with respect to the original one, was enriched with the addition of some more “related clinical manifestations” and other examples of sentences collected from the interviews conducted with Italian subjects.

The Italian version of ABPq is attached in the Appendix.

Training of evaluators and assessment of inter-rater reliability

One of the authors (MB) illustrated the final adapted Italian version to the three evaluators. He conducted three interviews with patients affected by schizophrenia to be used as training material. Over the following days, the ABPq was administered by the trainees to 5 patients with a diagnosis of schizophrenia according to the DSM-IV. They rotated in the conduction of the interview, but all attributed an independent scoring.

The inter-rater reliability (IRR) was formally evaluated by calculating the Intraclass Correlation Coefficient (ICC). An excellent agreement was observed among raters (ICC ranging from 0.77 and 0.98) (Table I).

Given the excellent reproducibility among raters, a further step was planned consisting in the validation of the adapted Italian version of ABPq in a wider sample of patients with schizophrenia, that is still ongoing.

TABLE I.

Results of Inter-rater reliability on the items of the Abnormal Bodily Phenomena questionnaire – Italian version.

ABPq-The Abnormal Bodily Phenomena Questionnaire	ICC
<i>Demarcation</i>	
1.1 Experience of violation	0.977
1.2 Experience of externalisation	0.928
<i>Vitality</i>	
2.1 Morbid objectivisation	0.972
2.2 Devitalisation	0.909
<i>Coherence</i>	
3.1 Experience of internal dynamisation	0.943
<i>Identity</i>	
4.1 Experience of transformation	0.769
4.2 Dysmorphic experiences	0.843
<i>Activity</i>	
5.1 Dysaesthetic paroxysm	0.933
5.2 Recurrent pain-like experience	0.831

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Appendix

Questionario dei Fenomeni Corporei Abnormi Versione italiana dell'*Abnormal Bodily Phenomena questionnaire*

Chi: Pazienti con diagnosi di schizofrenia, con sospetto di schizofrenia o di altri disturbi dello spettro schizofrenico. Questa scala di valutazione può essere utile nel distinguere pazienti con schizofrenia da pazienti affetti da altre forme psicotiche, come pure pazienti con disturbi di personalità del cluster A da pazienti con altri disturbi di personalità. Questa scala può essere utile per mettere in evidenza caratteristiche cliniche di condizioni ad alto rischio di schizofrenia (Clinical High-Risk/Ultra High-Risk Syndromes).

Cosa: Esperienza soggettiva del corpo. La scala si focalizza sull'esperienza vissuta del corpo piuttosto che sull'immagine o sullo schema corporeo o sulle credenze inerenti al proprio corpo.

Quando: L'intervista indaga gli ultimi tre mesi.

Come: Indagando la qualità dei fenomeni ponendo domande sulle sensazioni di origine corporea.

Sotto-tipizzazione (qualitativa) dei fenomeni (quando necessario specificare cosa rientra nei sottotipi)

- Sottotipo 1: include esperienze soggettive descritte in termini di proprietà o caratteristiche fisiche; spesso i pazienti utilizzano metafore per spiegare le proprie sensazioni fisiche (ad esempio "La parte sinistra del mio cervello si accende come un monitor").
- Sottotipo 2: include vissuti descritti nei termini delle loro cause, come specifiche forze, energie, oggetti e/o entità in grado di violare i confini del corpo o di introdursi nel corpo (ad esempio "Un raggio laser che mi entra nel cervello").

- Sottotipo 3: include vissuti descritti con neologismi (ad es.: "Ho una trotta dentro").

Valutazione di gravità (quantitativa) dei fenomeni

Tale valutazione si ottiene ponendo domande su: a) frequenza; b) peso soggettivo; c) compromissione quotidiana del funzionamento interpersonale, sociale e situazionale; d) capacità di compenso.

Considerare il massimo punteggio raggiunto (vedi Tabella di Gravità).

Item e categorie dell'ABPq

A1. Demarcazione

Dinamizzazione dei confini corporei

Sviluppo progressivo di sensazioni innaturali di violazione dei limiti corporei o di esternalizzazione (fuoriuscita, proiezione all'esterno o esternalizzazione) di parti del corpo.

Il termine *dinamizzazione* sta a indicare un fenomeno che non è statico, ma che implica la presenza e la percezione di movimento.

L'esperienza è vissuta come *in fieri*, cioè in corso, in atto, in divenire.

L'esperienza è immediata (non si tratta di un'elaborazione cognitiva secondaria) e sconcertante.

Escludi se:

- l'esperienza si riferisce a preoccupazioni legate all'inquinamento ambientale, sofisticazione degli alimenti ecc., purché non siano superate le leggi della fisica, della biologia o convinzioni diffuse, ivi comprese quelle di gruppi micro-culturali;
- esperienze emotivamente intense, riconosciute come

tali e riferite attraverso l'uso consapevole di metafore socialmente condivise o condivisibili come: *Ho perduto la testa, il cuore, l'anima; Mi vanno via le forze, la salute, ecc.*;

- l'esperienza non implica il movimento ma si riferisce alla presenza nel corpo di oggetti estranei, sostituzione di organi o parti di essi con macchinari o congegni, oppure si riferisce a uno smembramento del corpo con dissociazione dei suoi componenti (cfr. oggettivazione morbosa ed esperienza di meccanizzazione);
- l'esperienza implica il movimento, ma questo è confinato all'interno del corpo come nel caso di strani, anomali, innaturali movimenti, forze o energie che agiscono all'interno del corpo (cfr. dinamizzazione interna).

A1.1 Esperienza di violazione

Penetrano, s'introducono, s'inglobano nel corpo, violandone dall'esterno la superficie e i confini:

- forze;
- energie;
- movimenti strani, innaturali e anomali;
- oggetti esterni;
- entità esterne.

Almeno 1 dei precedenti

Manifestazioni associate

Le entità esterne che operano la violazione possono essere effettivamente presenti nel mondo reale, ma il loro comportamento supera le leggi della fisica, della biologia o le possibilità percettive del nostro corpo.

Il paziente può avvertire e riferire le conseguenze dell'esperienza di violazione come illuminazione, acquisizione di poteri particolari, condizionamento, contaminazione, beneficio ecc.

Distinguere da preoccupazioni di natura ossessiva.

Esempi

- Sento le radiazioni solari che mi entrano dentro.
- Le vibrazioni del cuore delle altre persone mi scuotono nell'interno.
- I movimenti della gente mi entrano negli occhi.
- Sento aree del corpo in cui entrano le forze.
- Crini di cavallo mi sono entrati in corpo.
- Il gas ha completamente riempito il mio corpo.
- Sento la pelle sfregiata dall'acido.
- Sento un fantasma che entra nel corpo dal fondo della schiena.

Domande

- Le capita mai di sentirsi rimescolato, fuso con l'ambiente esterno, o che questo tenda a soggiogarla o a

invaderla?

- Le capita di sentire strane forze, energie che entrano dentro il suo corpo?
- Le sembra di sentire che nel suo corpo si è inserito o sta entrando dall'esterno qualcosa come oggetti, strani dispositivi o strane entità?

A1.2 Esperienza di esternalizzazione

Sono proiettati all'esterno, oltre i propri confini somatici:

- parti del corpo;
- organi e/o loro sub-componenti;
- movimenti corporei;
- energie vitali;
- attività biologiche.

Almeno 1 dei precedenti

Manifestazioni associate

I pazienti riferiscono generalmente con perplessità e sconcerto l'esperienza in atto, in alcuni casi possono riferire pseudo-esplorazioni, in altri non danno spiegazioni della violazione delle leggi della fisica o della biologia; in altri ancora riferiscono direttamente le conseguenze soggettive dell'esperienza in questione (mutazione, condizionamento, contaminazione, beneficio ecc.).

Esempi

- La mia faccia si fonde con quella del dottore.
- Ho la sensazione di stare in braccio al medico.
- Le mie braccia si disgiungono dal corpo e arrivano là fuori.
- La mia vagina è fuoriuscita a metà.
- Sento che le mie braccia e gambe sono cadute.

Domande

- Le sembra che qualche parte del suo corpo o qualche organo sia sul punto di uscire o si sia spostato all'esterno?
- Le capita di sentire che il normale funzionamento dei suoi organi, come il battito del cuore o i suoi pensieri siano finiti all'esterno (diventino simili a "cose" concrete)?

A2. Vitalità

Oggettivazione morbosa e meccanizzazione

Esperienza di un crescente livello di *cosità* nel proprio corpo, cioè il corpo o sue parti sono esperite come "cose" inorganiche (*reificazione*).

I pazienti possono riferire che parti del corpo, ordinariamente funzionanti in modo implicito e inavvertibile, si rendono stranamente evidenti e percettibili, smembrate e separate dalla viva totalità del proprio corpo (*spazializzazione*).

In altri casi, parti del corpo, ordinariamente funzionanti in modo implicito e silente, sono sentite come mancanti. In altri casi ancora, il corpo, organi o loro sub-componenti esso sono sostituiti da qualche congegno, dispositivo, macchinario o materia inerte.

Escludi se:

- un processo morboso documentabile rende avvertibili parti del corpo altrimenti silenti. In questo caso la sensazione è generalmente dolorosa, oppure di disagio di ingombro ecc.;
- esperienze emotivamente intense riconosciute come tali e riferite attraverso l'uso consapevole di metafore socialmente condivise o condivisibili come: *Mi si è bloccato il cervello; Ho il cuore di ghiaccio*, ecc.;
- esperienze caratterizzate da sensazione di degenerazione, atrofia, putrescenza del corpo, di parti di esso, organi o loro sub-componenti; in questo caso è presente una *devitalizzazione* che non implica la sostituzione della materia vivente con materiale inorganico; implica piuttosto la degenerazione della materia vivente come in corso di depressione psicotica;
- l'esperienza si riferisce alla penetrazione nel corpo di entità o oggetti esterni (cfr. esperienza di violazione);
- l'esperienza si riferisce alla sensazione di modificazione/trasformazione del corpo o parti di esso (cfr. esperienza di trasformazione);
- l'esperienza si riferisce a sensazioni di difetto o bruttezza del corpo o delle sue fattezze (cfr. esperienze dismorfiche).

A2.1 Oggettivazione morbosa

Parti del corpo e/o organi o loro sub-componenti, che ordinariamente funzionano e sono presenti in modo implicito e inavvertibile:

- divengono *chiaramente percettibili*;
- sono sentiti come *separati* dalla viva totalità del proprio corpo (*spazializzazione*);
- sono sentiti chiaramente ma bloccati nel loro funzionamento.

Almeno 1 dei precedenti

Manifestazioni associate

L'esperienza può essere vissuta con perplessità e sconcerto, come qualcosa di inspiegabile, oppure come un dato ovvio e ineluttabile, oppure come una rivelazione.

Esempi

- Sento la parte cieca del cervello.
- Sento le vertebre premere sulla vena aorta.
- Sento una radicina qui nel cervello.
- Sento il *quaccù* – è una parte del cervello.
- Sento il mio sperma.

Domande

- Le sembra di sentire stranamente qualche organo in azione?
- Le sembra di sentire parti del corpo che prima non sentiva?
- Le sembra che le manchi qualche parte del corpo o che qualche organo sia sul punto di fermarsi o di non funzionare più?

A2.2 Esperienza di meccanizzazione

Il corpo nella sua globalità oppure parti di esso, organi o loro sub-componenti, che ordinariamente funzionano e sono presenti in modo implicito e inavvertibile, sono sentiti come mancanti e sostituite da:

- materiale inerte non biologico;
- materiale sentito come inerte anche se di origine biologica (ad es. legno);
- un qualche congegno meccanico;
- un qualche congegno elettronico, cibernetico o comunque tecnologico.

Almeno 1 dei precedenti

Manifestazioni associate

L'esperienza può essere vissuta con perplessità e sconcerto, come qualcosa di inspiegabile, oppure come un dato ovvio e ineluttabile, oppure come una rivelazione

Esempi

- Sento che mi mancano parti del mio cuore o della mia anima.
- È come se nella mia testa non ci fosse nulla a sinistra e qualcosa a destra.
- La mia mente è offuscata a sinistra, non funziona ... è come se potessi pensare solo da un lato.
- Io sono un robot.
- Sento dispositivi impiantati dietro la testa.
- Ho braccia bioniche.
- Sento pezzi di metallo nella gamba.
- Han fatto di me un cyborg.
- Nelle ossa ho la *plastichina*.

Domande

- Le è mai sembrato di sentirsi come un robot, un oggetto, qualcosa di artificiale piuttosto che un essere umano?
- Le sembra di sentire delle parti elettroniche, bioniche, meccaniche o qualcosa tipo di legno o minerale all'interno del suo corpo?

A3. Coesione

Disintegrazione del costruito corporeo

La struttura del corpo perde coesione e unità andando

verso una progressiva disgregazione, scomposizione o disintegrazione.

Escludi se:

- l'esperienza è attribuibile a – o c'è il fondato sospetto di – un processo morboso in corso. Particolare attenzione dovrà essere posta a disturbi iatrogeni indotti da farmaci (ad es. acatisia);
- esperienze emotivamente intense riconosciute come tali e riferite attraverso l'uso consapevole di metafore socialmente condivise o condivisibili come: *Ho sentito muovermi tutto dentro; Mi ha fatto bloccare lo stomaco, ecc.*;
- l'esperienza si riferisce alla penetrazione dall'esterno di forze energie movimenti strani o anomali oppure si riferisce alla fuoriuscita di organi o loro sub-componenti (cfr. esperienza di violazione/di esternalizzazione);
- l'esperienza si riferisce a una trasformazione del corpo o di sue parti (cfr. esperienza di trasformazione).

A3.1 Esperienza di dinamizzazione interiore

All'interno del proprio corpo, in modo da superare quanto imposto della biologia e dalle capacità percettive del corpo, sono in azione:

- movimenti strani e innaturali;
- forze o energie anomale e innaturali.

In altri casi parti, organi o sub-componenti dell'organismo si spostano dalla loro consueta posizione perdendo i consueti rapporti spaziali.

Almeno 1 dei precedenti

Manifestazioni associate

L'esperienza è vissuta spesso con perplessità e sconcerto, tanto da risultare spesso assolutamente unica; i pazienti possono fornire pseudo-esplorazioni o riferirla nei termini delle conseguenze o subirla come inspiegabile.

Esempi

- Sento le braccia che fuoriescono dal petto.
- Sento la bocca spostata dove dovrebbero esserci i capelli.
- Sento i due lobi del cervello che ruotano.
- Sento il cervello che gira e non funziona come dovrebbe.
- Il corpo che sta collassando.
- Mi viene il *tichi* ... è uno strano giramento dell'intestino.

Domande

- Le sembra di sentire all'interno del suo corpo dei movimenti o delle forze che agiscono da dentro?

- Le è mai capitato di sentire i suoi organi interni al lavoro? È qualcosa di strano, anomalo, insolito, innaturale, inspiegabile?
- Le sembra di sentire all'interno del suo corpo che alcune parti si stiano spostando dalla loro posizione normale?

A4. Identità

Esperienze dismorfiche

Parti del corpo o le sue fattezze sono in corso di trasformazione.

Escludi se:

- l'esperienza si riferisce alle conseguenze di un processo morboso in corso e documentato;
- l'esperienza si riferisce a un'elaborazione, anche se sproporzionata, di oggettivi cambiamenti nel corpo legati all'età, alla modificazione di abitudini di vita (ad es. la cessazione di attività sportiva, modificazioni delle abitudini alimentari) ecc.;
- l'esperienza si riferisce a un dubbio ipocondriaco, come *Il mio fegato non è più lo stesso*. In questo caso non c'è l'esperienza immediata di un cambiamento del corpo avvertito come tale;
- l'esperienza non implica il movimento ma si riferisce al suo risultato, come nel caso di sensazione di devitalizzazione o atrofia di organi o parti del corpo; sensazione di sostituzione di organi e parti del corpo con macchinari o congegni, oppure si riferisce a uno smembramento del corpo con dissociazione dei suoi componenti (cfr. oggettivazione morbosa e devitalizzazione);
- l'esperienza implica il movimento ma si riferisce alla fuoriuscita di organi o loro sub-componenti (cfr. esperienza di esternalizzazione);
- l'esperienza implica il movimento, ma si riferisce alla sensazione di strane forze energie movimenti che agiscono all'interno del corpo, senza che sia in atto una trasformazione (cfr. esperienza di dinamizzazione interna).

A4.1 Esperienza di trasformazione

Il corpo oppure parti di esso, organi o loro sub-componenti stanno subendo una trasformazione modificando la loro:

- struttura;
- composizione;
- aspetto.

Almeno 1 dei precedenti

Manifestazioni associate

In questi casi c'è un'esperienza continua di movimento

e mutazione, non solo una modificazione dello schema corporeo di cui si veda solo il risultato finale.

Esempi

- Sento i capelli che si stanno asciugando.
- Sento il naso che cambia allo specchio.
- Mi vedo la faccia strana quando la guardo.
- Ogni tanto allo specchio sembro più giovane e ogni tanto più vecchio.
- Sento le mani che s'ingrandiscono.

Domande

- Le è capitato di stare a lungo davanti allo specchio per controllare bene il suo aspetto?
- Ha mai avuto la sensazione che il suo corpo o parte di esso stesse modificandosi o cambiando in qualcosa di stranamente diverso? Che parti del corpo s'ingrandissero, rimpicciolissero, allargassero, schiacciassero o contraessero?
- Ha mai avuto la sensazione che i suoi organi interni o parte di essi si stessero trasformando?
- Ha la sensazione che il suo aspetto esteriore si stia modificando in modo strano e anomalo?

A4.2 Esperienze dismorfiche

Il corpo o le sue fattezze sono visti e sentiti, nonostante il loro aspetto rientri nella normalità, come:

- brutti;
- difettosi;
- sproporzionati.

A differenza delle esperienze di trasformazione (cfr.), in questo caso il paziente riferisce uno stato non un processo in atto.

Almeno 1 dei precedenti

Manifestazioni associate

Il paziente ritiene che i difetti soggettivi siano evidenti anche agli altri.

Esempi

- Il busto più grande e ossa rimpicciolite.
- C'è qualcosa che non va nel mio aspetto fisico.
- C'è qualcosa che non va nella mia gola.
- I denti del giudizio rendono la mia faccia sgradevole.
- Mi sembra di avere la pelle gialla.

Domande

- Le sembra che ci sia qualcosa che non vada bene nel suo corpo come un difetto fisico, delle parti veramente brutte o sproporzionate?
- Le capita di controllare spesso il suo aspetto allo specchio?

- Oppure ha evitato di guardarsi allo specchio per paura che qualcosa non andasse bene nel suo aspetto?

A5. Attività

Ingorgo cenestopatico

Perdita del controllo del proprio corpo con la comparsa di sensazioni atipiche, inspiegabili, strane, innaturali anomale o dolorose.

Escludi se:

- esperienze emotivamente intense, riconosciute come tali e riferite attraverso l'uso consapevole di metafore socialmente condivise o condivisibili, come: *Quando mi arrabbio mi si infiamma il cervello*, ecc.;
- l'esperienza è attribuibile a, o c'è il fondato sospetto di, un processo morboso in corso. Particolare attenzione dovrà essere posta a sintomi di fibromialgia;
- l'esperienza si riferisce a somatizzazione dell'ansia oppure ad attacchi di panico, laddove le sensazioni non sono strane, atipiche o innaturali, ma vengono ricondotte a supposte malattie somatiche che nel pensiero del paziente possono spiegare la sintomatologia;
- l'esperienza configura la cosiddetta *paralisi plumbea* (dolore e impotenza relativi alle grandi masse muscolari) in corso di depressione atipica;
- l'esperienza si riferisce a esperienze di passività, oppure a delirio di controllo o di influenzamento;
- l'esperienza si riferisce a sensazioni di movimento strane e insolite che compaiono in situazioni diverse dall'interazione sociale (cfr. esperienza di dinamizzazione interna);
- l'esperienza si riferisce a una penetrazione dall'esterno di strane forze, energie, movimenti (cfr. esperienza di violazione).

A5.1 Parossismo dis-estesico interpersonale

Inquietanti parossismi di sensazioni corporee che opprimono la propria persona, agendo dall'interno dell'organismo e provocando disagio.

Le sensazioni sono strane, atipiche, innaturali e incomprensibili.

Si manifestano quando ci si trova davanti o in contatto con altre persone.

Manifestazioni associate

I pazienti non riconoscono tali sensazioni come emozioni; i pazienti possono avanzare pseudo-spiegazioni idiosincrasiche dell'esperienza.

Esempi

- Quando guardo qualcuno dritto negli occhi sento strane vibrazioni all'interno.

- Quando incontro persone, dipende dalla situazione, sono preso dall'oscurità.
- A volte nella mia testa sento non un dolore, mi sento soffocato, la mia mente repressa, come un dolore psichico.
- Quando li guardo negli occhi sento una specie di calore nella mia testa.
- Quando sono a lavoro e un cliente mi si avvicina, inizio a tremare, e un dolore dallo stomaco mi sale fino alla testa.
- Stare con le persone mi causa un blocco interno, un blocco delle sensazioni.

Domande

- Quando è a contatto con gli altri si sente in crisi, fisicamente a disagio?
- Per caso sono sensazioni corporee strane, anomale, insolite, innaturali, inspiegabili?

A5.2 Esperienze simil-dolorose ricorrenti

Sensazione soggettiva di dolore, ricorrente, senza cause mediche documentabili. Tali sensazioni possono essere parossistiche o continue.

Manifestazioni associate

Sono caratterizzate da un senso di stranezza, inspiegabilità, sconcerto.

Esempi

- Ho la testa in fiamme.
- Ho dolore e la sensazione che mi stiano tagliando in diverse parti del corpo.
- Sento le stigmate.
- Ho sensazione di pizzichi ovunque.
- Ho uno strazio crescente nel corpo.
- Sento tanti dolori inflitti nel corpo.

Domande

- Ha strane sensazioni di dolore che non riesce a spiegare?

Questionario dei Fenomeni Corporei Abnormi – Versione italiana dell' *Abnormal Bodily Phenomena questionnaire*.
Foglio per il punteggio.

Abnormal Bodily Phenomena			Frequenza	Intensità soggettiva di Arousal o Distress	Compromissione	Coping	Nome: _____ Codice: _____
			Classificare in: (1) Assente; (2) Minimo; (3) Lieve; (4) Moderato; (5) Moderatamente grave; (6) Grave; (7) Molto grave				GG/MM/AAAA: ____/____/____
A.1 Demarcazione	1,1	Esperienza di violazione					Esperienza immediata e sconcertante di strani, insoliti, anormali, non comuni forze, energie o movimenti che violano dall'esterno la superficie e i confini del corpo; in altri casi il paziente può riferire un'esperienza sconcertante di intrusione o penetrazione nel proprio corpo di entità esterne, cose o oggetti.
	1,2	Esperienze di esternalizzazione					Parti del corpo, organi e/o loro sub-componenti, movimenti corporei, energie vitali o attività biologiche sono vissuti come proiettati all'esterno oltre i propri confini somatici.
A.2 Vitalità	2,1	Oggettivazione morbosa					Esperienza di un crescente livello di <i>cosità</i> nel proprio corpo cioè il corpo o sue parti sono esperite come "cose" inorganiche. I pazienti possono riferire che parti del corpo, ordinariamente funzionanti in modo implicito e inavvertibile, si rendono stranamente, chiaramente evidenti e percettibili. In altri casi parti del corpo sono spazializzate, cioè sentite come se fossero smembrate e separate dalla viva totalità del proprio corpo oppure sono sentite chiaramente ma bloccate nel loro funzionamento.
	2,2	Meccanizzazione Devitalizzazione					Il corpo o le sue parti sono vissuti come semplici cose, materiale inerte, oppure sono sentiti come privi di vita e/o mancanti e sostituite da un qualche congegno meccanico o elettronico o tecnologico.
A.3 Coesione	3,1	Esperienza di dinamizzazione interiore					Esperienza sconcertante di insoliti, strani, innaturali, movimenti, energie o forze che agiscono all'interno del proprio corpo, superando quanto imposto dalla biologia e dalle capacità percettive del corpo. In altri casi, componenti del corpo o sub-componenti sono sentiti come allontanarsi dalla loro posizione abituale, perdendo i consueti rapporti spaziali. L'esperienza è vissuta spesso con perplessità e sconcerto; può essere riferita nei termini delle conseguenze o subita come inspiegabile.

(continua)

(segue)

Questionario dei Fenomeni Corporei Abnormi – Versione italiana dell' *Abnormal Bodily Phenomena questionnaire*.
Foglio per il punteggio.

Abnormal Bodily Phenomena			Frequenza	Intensità soggettiva di Arousal o Distress	Compromissione	Coping	Nome: _____ Codice: _____
			Classificare in: (1) Assente; (2) Minimo; (3) Lieve; (4) Moderato; (5) Moderatamente grave; (6) Grave; (7) Molto grave				GG/MM/AAAA: ____/____/____
A.4 Identità	4,1	Esperienza di trasformazione					Sconcertante esperienza di movimento e mutazione, di un cambiamento in atto nel proprio corpo, o in parti di esso, che ne altera la struttura, la composizione o l'aspetto. L'esperienza può riguardare l'intero corpo oppure parti di esso, organi o loro sub-componenti.
	4,2	Dismorfofobia					Una sensazione soggettiva che il corpo o le sue fattezze siano, nonostante il loro aspetto rientri nella normalità, brutti, difettosi, sproporzionati. Il paziente ritiene che tali difetti siano evidenti anche agli altri.
A.5 Attività	5,1	Parossismo dis-estesico interpersonale					Oppressione data da angosianti parossismi di strane, misteriose e incomprensibili sensazioni corporee che agiscono dall'interno dell'organismo e provocano disagio, quando ci si trovi davanti o in contatto con altre persone. I pazienti non riconoscono tali sensazioni come emozioni; possono avanzare pseudo-spiegazioni idiosincrasiche dell'esperienza.
	5,2	Esperienze simil-dolorose ricorrenti					Sensazione soggettiva di dolore ricorrente, senza cause mediche documentabili o verificabili mediante procedure diagnostiche standard. Tali sensazioni possono essere parossistiche o continue. Sono generalmente caratterizzate da un senso di stranezza, inspiegabilità, sconcerto, estraneità.

Tabella di gravità

	Assente	Minimo	Lieve	Moderato	Moderata- mente grave	Grave	Molto grave
Frequenza	Non applicabile	Dubbio	Sporadico non ricorrente	Poco ricorrente ($\leq 1/\text{sett}$)	Molto ricorrente ($\geq 1/\text{sett}$)	Pervasivo (quasi tutti i giorni)	Continuo (tutti i giorni)
Intensità soggettiva di arousal o distress	Non applicabile	Distress/arousal minimo e tollerabile	Distress/arousal presente ma lieve Non induce preoccupazione	Distress/arousal moderato Preoccupazione Evidente	Distress/arousal grave Preoccupazione intensa	Distress/arousal molto grave Quasi intollerabile	Distress/arousal estremo Del tutto intollerabile
Compromissione	Il funzionamento del paziente non è compromesso	Raro bisogno di evitare attività sociali	Occasionale evitamento di attività sociali non essenziali	Frequente evitamento di attività sociali non essenziali	Occasionale evitamento di attività sociali essenziali	Frequente evitamento della maggior parte delle attività sociali essenziali	Completo evitamento delle attività sociali
Coping	Non necessario	Il paziente è in grado di risolvere rapidamente questi disagi	Il paziente sceglie attivamente di evitare questi disagi (strategia comportamentale)	Il paziente pensa di avere problemi che può evitare passivamente (ignorare)	Il paziente riconosce il problema, ma non può farci nulla	Il paziente ha solo una versione non plausibile del problema che deve affrontare	Il paziente pensa di non avere alcun problema



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**Presidente
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**Progetto Promozione Salute Mentale 20.20
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