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Editorial
Άρθρο σύνταξης

From DSM-I to DSM-5

Psychiatriki 2015, 26:13–16

The fifth edition of DSM (Diagnostic and Statistical Manual of Mental Disorders) of the American Psychiatric Association, published in May 2013, aimed to a make a breakthrough in the history of the taxonomy of mental disorders.[1] The first edition of the manual (DSM-I) by the American Psychiatric Association in 1952 was an attempt to provide a common language for communication between the clinicians. Both DSM-I and its revision, DSM-II (published in 1968), identified only three broad categories of mental disorders: psychoses, neuroses, and character disorders. The terminology used and the description of disorders in these early editions largely reflected the psychoanalytic approach of psychopathology and the identification of specific disorders was based rather on an expert consensus than on research findings. DSM-III, published in 1980, established the most important changes in psychiatric classification so far.[2] It defined specific descriptive criteria for the diagnosis of mental disorders while dropping any reference to particular theories on their etiology, relied to a much greater extent on data from clinical and epidemiological studies to define the specific disorders, and introduced the multi-axial diagnosis (apart from the clinical-diagnostic categories, additional separate axes describing personality and intelligence disorders, medical conditions, psychosocial problems, and global functioning). These features of psychiatric classification remained in the next edition of the manual, DSM-IV (published in 1994).[3] The general taxonomic approach introduced by DSM-III –using specific descriptive diagnostic criteria, atheoretical with regard to etiology, and based on empirical data– remained in DSM-5, but there are also several important changes in classification methodology as well as in diagnostic categories and criteria.

The shift from the categorical approach of psychopathology (diagnosis based on criteria that either are fulfilled or not) to a dimensional approach (definition of the disorders based on psychopathological dimensions along a continuum of severity or intense) was a central goal in the development of DSM-5, which was reduced, however, to the introduction of some "dimensional" aspects in its current version.[4] More precisely, while the categorical diagnostic criteria remain, there are also specifiers of disorder severity and other clinical features, and certain symptoms can be also assessed by clinical scales. Several disorders are grouped into broad categories that are called "spectrums", e.g. "schizophrenia spectrum", however only in autism separate disorders of DSM-IV are now unified in a psychopathological continuum, the autism spectrum disorder. Moreover, a multidimensional model for the description of personality disorders is proposed as an alternative, whereas in the official model the DSM-IV diagnostic categories and criteria for these disorders are preserved.

The multi-axial system for diagnosis has been dropped in DSM-5, although there was no argument against the clinical importance of the axes in past editions of DSM, i.e. the biopsychosocial approach to assessing and treating the patients. Since the multi-axial diagnosis was not widely used in everyday practice, in the new system diagnoses of any mental disorder (including personality disorders) and any medical condition are made on a single axis. Additionally DSM-5 comprises, although optionally, the identification of certain psychosocial stressors and the assessment of global functioning by a self-administered scale, the WHODAS 2.0.[5] As a companion to diagnosis, the use of certain clinical tools is proposed: "cross-cutting symptom measures" for the assessment of symptoms co-occurring across mental disorders (e.g. depression, anger, mania, anxiety),[6] and specific clinical scales for the assessment of symptom severity in certain disorders (e.g. dimensions of psychosis symptoms). Another useful clinical instrument, especially in a cross-cultural clinical context, is the Cultural Formulation Interview, a semi-structured interview for the assessment of cultural factors with significant impact on patient's attitude towards the recognition and treatment of a mental disorder.[7]

The number of diagnoses included in DSM-5 is much higher than DSM-IV (541 versus 383). This increase is mainly due to splitting or regrouping of disorders already existing in prior editions. However, DSM-5 introduced a significant number of new disorders, such as disruptive mood dysregulation disorder, premenstrual dysphoric disorder, binge eating disorder, hoarding

disorder etc. Important changes from DSM-IV have also been made in diagnostic criteria and clinical subtypes of specific disorders.[8] Regarding schizophrenia, for example, the special diagnostic significance of bizarre delusions and auditory hallucinations (Schneiderian first-rank symptoms) are eliminated. Moreover, clinical subtypes of schizophrenia are eliminated due to their limited validity, reliability, and longitudinal stability. Instead, the evaluation of clinical heterogeneity and severity of the disorder through the dimensions of symptomatology (positive, negative, disorganized, psychomotor, affective, and cognitive) is recommended. Catatonia is now described as a distinct clinical syndrome and can be specifier to the diagnosis of psychotic, bipolar, or depressive disorders. Some of the possible new disorders that were considered, they are proposed for further research. The most important and most controversial among them, the "attenuated psychosis syndrome", describes a condition that is considered prodromal of psychosis, although many individuals with this condition do not finally manifest the full blown syndrome.[9] Suicidal behavior and nonsuicidal self-injury are also proposed as candidate distinct syndromes for further study, because these behaviors may be associated with specific psychological and biological factors independently of other co-occurring mental disorders. Other conditions (syndromes) proposed for further study are the following: depressive episodes with aort-duration hypomania, persistent complex bereavement disorder, caffeine use disorder, internet gaming disorder, neurobehavioral disorder associated with prenatal alcohol exposure.

The controversies that surrounded the development and publication of DSM-5 rose important issues not only about the changes in this revision but more generally about diagnostic systems and the status of psychiatric diagnosis. The risk of diagnostic overexpansion through the "medicalization" of psychopathology, the currently poor evidence for the validity of psychiatric diagnosis, the "phenomenological poverty" that is resulted from the exclusive use of the DSM in clinical practice and psychiatric training, are issues open for discussion and crucial for the future of psychiatry.[10] On the other hand, the revolutionary changes that have been proclaimed but could not be actualized as yet, i.e., the incorporation of neuroscientific findings in the diagnostic system and the dimensional and spectrum approach in psychopathology, also aim to strengthen the scientific status of psychiatric diagnosis.[11] The most interest and progressive aspect of the new diagnostic system might be its association with the prospective of faster and continuing revisions (to DSM-5.1, -5.2, etc.). Modern psychiatry should find a shorter route to the direction that combines more reliable and valid diagnosis with individualized care for patients.

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Άρθρο σύνταξης
Editorial

Από το DSM-I στο DSM-5

Ψυχιατρική 2015, 26:13–16

Η 5η έκδοση του διαγνωστικού συστήματος DSM (Diagnostic and Statistical Manual of Mental Disorders) της Αμερικανικής Ψυχιατρικής Εταιρείας, που κυκλοφόρησε τον Μάιο του 2013, φιλοδοξεί να αποτελέσει τομή στην ιστορία της ταξινόμησης των ψυχιατρικών διαταραχών.[1] Η πρώτη έκδοση του εγχειριδίου (DSM-I) έγινε το 1952 από την Αμερικανική Ψυχιατρική Εταιρεία ως μια προσπάθεια υιοθέτησης μιας κοινής γλώσσας μεταξύ των κλινικών. Τόσο το DSM-I όσο και η αναθεώρησή του, το DSM-II (1968), αναγνώριζαν μόνο τρεις ευρείες κατηγορίες ψυχικών διαταραχών, τις ψυχώσεις, τις νευρώσεις και τις χαρακτηρολογικές διαταραχές. Η ορολογία και οι περιγραφές των διαταραχών σε αυτές τις εκδόσεις αντανακλούσαν σε μεγάλο βαθμό την ψυχαναλυτική προσέγγιση της ψυχοπαθολογίας, και η ταυτοποίηση των διαταραχών στηριζόταν περισσότερο στη γενική συναίνεση των ειδικών παρά σε ερευνητικά δεδομένα. Το DSM-III (1980) επέφερε τις σημαντικότερες αλλαγές στην ψυχιατρική ταξινόμηση μέχρι σήμερα.[2] Όρισε ειδικά περιγραφικά κριτήρια για τη διάγνωση των ψυχικών διαταραχών απαλείφοντας κάθε αναφορά σε συγκεκριμένες θεωρίες ως προς την αιτιολογία τους, στηρίχθηκε σε μεγάλο βαθμό σε δεδομένα κλινικών και επιδημιολογικών μελετών για τον προσδιορισμό των διαταραχών, και εισήγαγε την πολυαξονική διάγνωση (εκτός από τις κλινικές-διαγνωστικές κατηγορίες επιπλέον παράλληλοι άξονες για την προσωπικότητα και τη νοημοσύνη, τις σωματικές νόσους, τις ψυχοκοινωνικές αντιξοότητες και τη γενική λειτουργικότητα). Τα γνωρίσματα αυτά της ψυχιατρικής ταξινόμησης διατηρήθηκαν και στην επόμενη έκδοση του εγχειριδίου, DSM-IV (1994).[3] Η γενική προσέγγιση του DSM-III για την ταξινόμηση –με αυστηρά περιγραφικά διαγνωστικά κριτήρια, αθεωρητική ως προς την αιτιολογία και βασιζόμενη σε εμπειρικά δεδομένα– διατηρήθηκε στο DSM-5, ενώ παράλληλα επιχειρούνται ορισμένες σημαντικές αλλαγές τόσο στη μεθοδολογία της ταξινόμησης όσο και σε διαγνωστικές κατηγορίες και κριτήρια.

Η στροφή από την κατηγορική προσέγγιση της ψυχοπαθολογίας (διάγνωση με βάση κριτήρια που πληρούνται ή όχι) στη διαστασιακή προσέγγιση (προσδιορισμός των διαταραχών μέσω ψυχοπαθολογικών διαστάσεων διαβαθμισμένης βαρύτητας ή έντασης) υπήρξε κεντρική επιδίωξη στη διαμόρφωση του DSM-5, η οποία ωστόσο περιορίστηκε στην εισαγωγή ορισμένων μόνο «διαστασιακών» στοιχείων στην παρούσα έκδοση.[4] Συγκεκριμένα, ενώ διατηρούνται τα κατηγορικά διαγνωστικά κριτήρια, εισάγονται εξειδικευτές της διάγνωσης βάσει της βαρύτητας της διαταραχής ή άλλων κλινικών χαρακτηριστικών της, και δυνατότητα διαβαθμισμένης αποτίμησης συμπτωμάτων. Ορισμένες διαταραχές ομαδοποιούνται σε ευρύτερες κατηγορίες που καλούνται «φάσματα», π.χ. «φάσμα σχιζοφρένειας», αλλά μόνο στην περίπτωση του αυτισμού διαφορετικές διαγνωστικές κατηγορίες του DSM-IV συνενώνονται σε ένα ψυχοπαθολογικό συνεχές, εν προκειμένω τη διαταραχή αυτιστικού φάσματος. Επίσης ένα πολυδιαστασιακό μοντέλο περιγραφής των διαταραχών προσωπικότητας προτείνεται ως εναλλακτικό, αλλά επισήμως υιοθετούνται οι κατηγορίες και τα κριτήρια του DSM-IV για τις εν λόγω διαταραχές.

Στο DSM-5 καταργείται το πολυαξονικό σύστημα διάγνωσης, παρόλο που δεν αμφισβητείται η κλινική σημασία που είχαν οι άξονες των προηγούμενων εκδόσεων, δηλαδή η βιο-ψυχο-κοινωνική προσέγγιση της εκτίμησης και αντιμετώπισης των ασθενών. Επειδή η πολυαξονική διάγνωση δεν έτυχε ευρείας εφαρμογής στην καθημερινή πρακτική, το νέο σύστημα συνδυάζει τη διάγνωση κάθε ψυχικής διαταραχής (συμπεριλαμβανομένων των διαταραχών προσωπικότητας) και κάθε σωματικής νόσου σε έναν μόνο άξονα. Παράλληλα το DSM-5 περιλαμβάνει, αν και προαιρετικά, την ταυτοποίηση συγκεκριμένων αντίξοων ψυχοκοινωνικών παραγόντων και την αποτίμηση της γενικής λειτουργικότητας μέσω της αυτοσυμπληρούμενης κλίμακας WHODAS 2.0.[5] Συμπληρωματικά προς τη διάγνωση προτείνεται η χρήση συγκεκριμένων κλινικών εργαλείων για την ανίχνευση και την αποτίμηση μη-ειδικών συμπτωμάτων που «διατρέχουν» το σύνολο των ψυχικών διαταραχών (cross-cutting symptoms) (όπως κατάθλιψη, θυμός, μανία, άγχος κ.ά.),[6] καθώς και ορισμένων ειδικών κλιμάκων για την εκτίμηση της βαρύτητας συμπτωμάτων συγκεκριμένων διαταραχών (π.χ. διαστάσεων της ψυχωτικής συμπτωματολογίας). Ένα κλινικά χρήσιμο εργαλείο, ιδίως σε διαπολιτισμικά πλαίσια άσκησης της κλινικής πράξης, αποτελεί επίσης η ειδική ημι-δομημένη συνέντευξη για την εκτίμηση πολιτισμικών παραγόντων με σημαντική επίδραση στη στάση του ασθενούς σχετικά με την αναγνώριση και την αντιμετώπιση της ψυχικής διαταραχής (Cultural Formulation Interview).[7]

Ο αριθμός των διαγνώσεων που περιγράφονται στο DSM-5, είναι κατά πολύ μεγαλύτερος από αυτόν του DSM-IV (541 έναντι 383). Η αύξηση προκύπτει σε μεγάλο βαθμό από διαχωρισμούς και εξειδικεύσεις προϋπαρχόντων διαταραχών, εισάγεται όμως κι ένας

σημαντικός αριθμός νέων διαταραχών, όπως η διαταραχή απορρύθμισης της διάθεσης με ευερεθιστότητα, η προεμμηνορρυσιακή δυσφορική διαταραχή, η διαταραχή κρίσεων υπερφαγίας, η διαταραχή παρασυσσώρευσης κ.ά. Σημαντικές μεταβολές από το DSM-IV γίνονται και στα διαγνωστικά κριτήρια και τους υποτύπους ορισμένων διαταραχών.[8] Για παράδειγμα, στη σχιζοφρένεια καταργείται η ιδιαίτερη διαγνωστική βαρύτητα των αλλόκοτων παραληρητικών ιδεών και των ακουστικών ψευδαισθήσεων (πρώτης τάξεως συμπτώματα κατά Schneider). Επιπλέον, καταργούνται οι κλινικοί υπότυποι, λόγω περιορισμένης εγκυρότητας, αξιοπιστίας και σταθερότητάς τους στον χρόνο, και αντ' αυτών συστήνεται η εκτίμηση της ετερογένειας και της βαρύτητας της διαταραχής μέσω διαστάσεων της συμπτωματολογίας της (θετικής, αρνητικής, αποδιοργανωτικής, ψυχοκινητικής, συναισθηματικής, νοητικής). Η κατατονία περιγράφεται πλέον ως ξεχωριστό κλινικό σύνδρομο και μπορεί να αποτελεί εξειδικευτή της διάγνωσης στις ψυχωτικές, διπολικές και καταθλιπτικές διαταραχές. Ορισμένες από τις νέες διαταραχές που συζητήθηκαν, προτείνονται για περαιτέρω διερεύνηση. Η πιο σημαντική αλλά και πλέον αμφιλεγόμενη από αυτές είναι το «σύνδρομο εξασθενημένης ψύχωσης» (Attenuated Psychosis Syndrome), το οποίο περιγράφει μια κατάσταση που θεωρείται πρόδρομη της ψύχωσης, αν και πολλά από τα άτομα που την παρουσιάζουν δεν θα εμφανίσουν τελικά ψυχωσικού τύπου διαταραχή.[9] Προτείνονται επίσης ως πιθανά ξεχωριστά σύνδρομα προς περαιτέρω μελέτη η αυτοκτονική συμπεριφορά και οι μη-αυτοκτονικοί αυτοτραυματισμοί, επειδή οι συμπεριφορές αυτές πιθανώς συνδέονται με ειδικούς ψυχολογικούς και βιολογικούς παράγοντες ανεξάρτητα από άλλες συνυπάρχουσες ψυχικές διαταραχές. Άλλες προτεινόμενες καταστάσεις (σύνδρομα) για περαιτέρω μελέτη είναι οι παρακάτω: καταθλιπτικά επεισόδια με σύντομης διάρκειας υπομανία, επιμένουσα σύνθετη διαταραχή πένθους, διαταραχή χρήσης καφεΐνης, διαταραχή παιχνιδιών μέσω internet, νευροσυμπεριφορική διαταραχή σχετιζόμενη με προγεννητική έκθεση σε οινοπνευματώδη.

Οι αντιπαραθέσεις που συνόδευσαν την ανάπτυξη και την κυκλοφορία του DSM-5 ανέδειξαν σημαντικά ζητήματα, όχι μόνο για τη συγκεκριμένη έκδοση αλλά γενικότερα για τα διαγνωστικά συστήματα και την επιστημονική τεκμηρίωση της ψυχιατρικής διάγνωσης. Ο κίνδυνος για διαγνωστικό υπερπληθωρισμό μέσω της «ιατρικοποίησης» της ψυχοπαθολογίας, η υπολειπόμενη ακόμα σε τεκμηρίωση εγκυρότητα της ψυχιατρικής διάγνωσης, η «φαινομενολογική πτωχία» που επέρχεται από την αποκλειστική χρήση του DSM κατά την κλινική πράξη και την εκπαίδευση των νέων ψυχιάτρων, είναι θέματα ανοιχτά για συζήτηση και κρίσιμα για το μέλλον της Ψυχιατρικής.[10] Από την άλλη πλευρά, οι επαναστατικές αλλαγές που εξαγγέλθηκαν –αλλά δεν ήταν δυνατό να πραγματοποιηθούν στη βάση των σημερινών δεδομένων–, όπως η ενσωμάτωση νευρο-επιστημονικών ευρημάτων στο διαγνωστικό σύστημα και η διαστασιακή και φασματική προσέγγιση της ψυχοπαθολογίας, στοχεύουν επίσης στην ενίσχυση της επιστημονικής τεκμηρίωσης της ψυχιατρικής διάγνωσης.[11] Ίσως το πιο ενδιαφέρον και προχωρημένο στοιχείο του νέου διαγνωστικού συστήματος είναι ότι συνδέεται με την προοπτική ταχύτερων και συνεχιζόμενων αναθεωρήσεων (σε DSM-5.1, -5.2 κ.ο.κ). Η σύγχρονη Ψυχιατρική πρέπει να βρει τον συντομότερο δρόμο προς την κατεύθυνση που συνδυάζει την πιο έγκυρη και αξιόπιστη διάγνωση με την εξατομικευμένη φροντίδα για τους πάσχοντες.

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Research article
Ερευνητική εργασία

The relationship of Theory of Mind with symptoms and cognitive impairment in bipolar disorder: A prospective study*

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Previous studies in bipolar disorder suggest patients' deficient performance in Theory of Mind tasks, both during manic or depressive episodes and in remission. However, most of the extant studies were cross-sectional and did not control for potential confounders such as residual symptoms or co-existent deficits in other cognitive functions. The present study is the first prospective study that assessed the effect of remission on Theory of Mind (ToM) in patients with Bipolar Disorder (BD) controlling for other cognitive deficits. ToM was assessed in 29 patients with BD type I during an episode of the illness and in remission as well as in 29 healthy controls. The two groups were pair-matched for gender, age and education level. Three tests with different levels of complexity were used to assess ToM: First Order False Belief Task, Hinting Task and Faux Pas Recognition Test. Concomitantly, a comprehensive battery of neuropsychological tests was administered to all participants assessing general intelligence, working memory, attention, speed processing, verbal learning, and memory and executive functions. The Hamilton Rating Scale for Depression, Young Mania Rating Scale, Brief Psychiatric Rating Scale, and GAF were also administered to the patients. Differences between patients –in acute phase and in remission– and the control group on neuropsychological tests were tested using one-way ANOVA with post hoc Bonferroni corrections. The effect of other cognitive deficits on patients' ToM dysfunction was controlled for using general linear models. The patients

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showed significantly lower performance in all ToM tests during the acute phases as compared to the control group (p values from 0.001 to 0.014). However, these impairments did not persist beyond acute mood episode, except patients' poor performance on Faux Pas (p=0.001). Additionally, patients had poorer performance compared to control group in verbal learning and memory (p<0.001) as well as visuospatial working memory (p<0.001) during both the acute and the euthymic phases of the illness. Patients also had poorer performance than healthy controls in immediate memory (p=0.026) and executive functions (p=0.001), however only during episodes of illness. Differences in Faux Pas did not remain statistically significant when the effect of verbal memory and visuospatial working memory was controlled for. Differences in other ToM tests during episodes did not remain statistically significant, when other cognitive functions that were found impaired in patients during episodes, were controlled for. The findings of this study support the hypothesis that ToM dysfunction in BD is associated with mood symptoms and it might reflect underlying cognitive deficits rather than representing a specific trait marker of the disorder.

Key words: Theory of Mind, social cognition, cognitive dysfunction, bipolar disorder, remission.

Introduction

Theory of Mind (ToM), the ability to understand mental states of other people (such as beliefs and intentions), is one of the key components of social cognition.[1,2] Many studies have offered evidence for ToM dysfunction in schizophrenia and two recent meta-analyzes found large effect sizes of the differences between schizophrenia patients and healthy controls in ToM performance.[3,4] ToM dysfunction has a significant negative impact on social functioning of these patients, probably in a greater extent than any other concurrent cognitive deficit.[5] Moreover, ToM deficits in schizophrenia persist beyond the acute phase of the disorder[6–13] and they may be independent of concomitant deficits in other cognitive functions, such as general intelligence, memory, attention and executive functions.[7,14–16]

More recently, the examination of ToM in bipolar disorder (BD) has been the focus of relevant research, as ToM impairments could be associated with psychosocial dysfunction in this disorder too. Significant deficits in ToM tests were found during the acute phases of the illness (mania or depression) in both adults[17–20] and pediatric patients with BD[21] as well as in subsyndromal phases.[22] Moreover, some studies in remitted patients with BD found that they exhibit poorer performance in some ToM tests compared with healthy controls.[23–30] However, other studies have not found ToM impairment in BD patients in both remission[17] and mania,[31] while in most of the studies that they used multiple ToM tests BD patients performed worse than controls only in some of these tests and not in others.[18,19,22,25,27,28,30,32] Therefore, the available evidence on ToM impairment as a stable characteristic of BD is far from robust, and a number of methodological issues in this line of research as well as the effect of potential confounding factors should be further examined.

Regarding the methodological shortcomings of previous studies, it should be noted that some of them used mixed samples of patients with BD and major depression[18,23] or patients with BD type I and II,[22,27,30,32] although it has been found that the type of disorder can significantly affect ToM performance.[21] Moreover, the studies in non-acute phases of BD used different criteria for the definition of euthymia and/or remission.[19,25,28,30] Thus, it is not clear whether patients' ToM dysfunction in these studies was not related with residual symptoms. On the other hand, studies that examined the effect of symptoms on ToM performance in BD patients found a significant correlation with the severity of both manic[21,32] and depressive[22] symptoms. To our knowledge, there has been as yet no prospective study that directly examined the effect of remission in ToM performance in patients with BD.

The potential impact of deficits in other cognitive functions on ToM dysfunction in BD was examined in previous studies, although only two of these assessed a wide range of cognitive abilities and found an association between executive functions and ToM deficits.[24,25] There is also evidence that ToM dysfunc-

tion in BD is associated with sustained attention deficits.[26,29] Hence, in contrast to previous findings in schizophrenia, both symptoms and overall cognitive functioning might be determinants of ToM in BD. Therefore, recent reviews[33,34] and a meta-analysis[35] on ToM deficits in BD highlighted that the role of subclinical symptoms, general cognitive deficits and other possible confounding factors should be further investigated in order to determine whether ToM dysfunction is a stable feature of the disease.

This study is the first prospective study examining the effect of remission on ToM in BD. ToM performance was evaluated in patients with BD type I during episode and was reassessed in euthymia. The potential impact of coexisting deficits in a wide range of cognitive domains on ToM dysfunction in BD was also examined.

Material and method

Participants and procedures

Twenty-nine patients (12 male and 17 female) aged 22–65 years meeting the DSM-IV-TR criteria for BD type I,[36] 16 of them being in depressive and 13 in manic episode, were recruited along with 29 healthy participants. Patient and control groups were matched for gender, age and education level. The clinical sample was recruited from the psychiatric departments of the General Hospital "G. Gennimatas" and the Eginition Hospital in Athens. Healthy participants were recruited from local communities. Clinical and neuropsychological evaluation of the patients was held in two phases. The first assessment was conducted shortly after their admission to the hospital, while the second assessment was performed at least 4 weeks after discharge (mean 7.2±3.4 weeks) and only if the patients met the criteria for euthymia (see below). All patients were receiving medication at the time of assessment. In particular, all of them were receiving mood stabilizers (lithium, divalproex sodium, etc.), and the majority of them were additionally on antipsychotics, antidepressants or benzodiazepines. Exclusion criteria for all participants included: age beyond 60 years old, intellectual disability, history of head injury, history of a serious neurological disorder or a systemic illness with known neurological complications, alcohol or substance abuse (other than nicotine) within the last month or alcohol or substance dependence (other than nicotine) in the last 6 months preceding their inclusion in the study, and receiving electroconvulsive therapy within the last 6 months. Inclusion criteria for the control subjects were no personal history of psychiatric disorder or family history of psychosis or bipolar disorder. All participants were Greek native speakers. All participants had been informed about the research procedures and given written informed consent as approved by the local Ethics Committee. Additional information for patients was obtained from their medical records and treating physicians.

Clinical assessment

Symptom severity in patients with BD was evaluated by valid and widely used clinical scales: (a) the Brief Psychiatric Rating Scale (BPRS),[37] which assesses psychotic symptoms, (b) the Hamilton Depression Rating Scale (HDRS),[38] which assesses depressive symptomatology, and (c) the Young Mania Rating Scale (YMRS),[39] which assesses manic symptomatology. Euthymia was defined by a score of 6 or less at the YMRS and a score of 8 or less at the HDRS. Finally, the patient's psychosocial functioning was assessed by the Global Assessment of Functioning (GAF).[40]

Neuropsychological assessment

A neuropsychological battery assessing a wide range of cognitive functions was administered to all participants. The Vocabulary subscale (WAIS-Vocabulary) from Wechsler Adult Intelligence Scale (WAIS)[41] was used to estimate general intellectual ability, because it is considered as the scale with the highest correlation with individual's general intelligence. The Block Design (WAIS-Block design) and Digit Span (WAIS-Digit span) subscales were used to assess visuospatial and verbal working memory, respectively. Executive functions were examined using three different tasks: the Stroop Color-Word test (Stroop),[42] the Wisconsin Card Sorting Test – 64 version (WCST),[43] and the Trail Making Test, part A & B (Trails).[44] The Stroop-Interference, WCST-Categories, WCST-Perseverative errors and Trails-B were used as indicators of executive functioning. Moreover, the Stroop-Word and Trails-A scores were used in this study as measures of sustained attention and processing speed. Verbal learning and memory were

assessed by the Rey Auditory Verbal Learning Test (RAVLT)[45] scores – immediate memory, learning curve, immediate and delayed recall, recognition.

ToM assessment

ToM was evaluated by the following three tests in order of increasing complexity:

a. *The First Order False Belief task*.[7,46,47] This test consists of two stories that are read aloud to the subject followed by two questions. The first question refers to one of the characters' mistaken belief regarding the situation. Correct answer to this question requires the knowledge of the mental state of the hero (ToM question). The second question is a measure of story comprehension regarding another aspect of the situation and can be answered correctly without using ToM skills (reality question).

b. *The Hinting task*.[7,46,47] This test requires the subject's ability to infer the real intentions behind direct speech. The original test consists of 10 stories (4 of which are only used in this study) describing an interaction between two characters in which one of them drops an obvious hint. The subject is then asked what the character really meant when he/she said this. For each correct response two points are given. If the subject fails to give the correct response, an even more obvious hint is added to the story and one point is given for each correct response.

c. *The Faux Pas Recognition Test (Faux Pas)*.[48] A Faux Pas occurs when someone says something without thinking that the person who hears it may not want to hear it or be offended or hurt by it. The test consists of 20 stories arranged in random order – 10 stories with social cognition mistakes and 10 control stories. In the present study, the sum of correct error detections and correct rejections in control stories (non-Faux Pas stories) were measured (Faux Pas-recognition score).

Statistical analyses

The normality of distribution was examined by the means of Shapiro-Wilk test. None of the variables showed non-normal distribution; therefore, exclusively parametric tests were used. For comparisons between BD patients and healthy controls in demographic characteristics t-test was used for quantitative variables and x^2 test for gender. The differences in clinical variables between episodes and euthymia and in neuropsychological variables between manic and depressive episodes were tested by t-test. The differences between patients –whether in the acute phase or in remission– and controls in neuropsychological performance were tested using one-way ANOVA with paired contrasts corrected for multiple comparisons using Bonferroni corrections. To examine ToM impairment after controlling for the potential influence of other cognitive deficits, comparisons in ToM performance were repeated using general linear models in which other neuropsychological variables were entered as covariates. All results at a p level <0.05 were considered significant, unless otherwise noted. Statistical analyses were performed using IBM SPSS Statistics version 20.

Results

Demographic and clinical characteristics of the sample are presented in table 1. There were no significant differences between patients and healthy controls in gender, age and education level. As expected, patients had significantly higher scores in all clinical scales –HDRS, YMRS, and BPRS– and significantly lower GAF score during mood episodes than in remission.

The comparison between patients undergoing a manic episode and those in a major depressive episode did not reveal statistically significant differences in any of the neuropsychological tests. Accordingly, patients undergoing a mood episode irrespective of polarity were considered as a single group in further analyses. Neuropsychological performance of the groups and the results of ANOVA and post hoc comparisons are presented in table 2. Patients with BD exhibited significant deficits in general intellectual ability (WAIS-Vocabulary), visuospatial working memory (WAIS-Block design), verbal learning (RAVLT-Learning curve), short and long term verbal memory (RAVLT-Immediate and Delayed recall) both in mood episodes and in remission compared to healthy controls. Patients' performance was impaired only during mood episodes in the verbal component of immediate memory (RAVLT-Immediate memory) and in executive functions – in particular,

Table 1. Demographic and clinical characteristics of patients with bipolar disorder (BD) and healthy controls.

	BD Patients (n=29) Mean (SD)	*Healthy Controls (n=29) Mean (SD)*	*Statistics*	*p*
Gender (Women), n (%)	17.0 (58.6)	17.0 (58.6)	x^2=0.00	1.000
Age (years)	44.2 (11.8)	44.9 (13.0)	t=0.21	0.833
Education (years)	12.7 (4.0)	12.4 (3.7)	t=–0.27	0.786
Age at onset (years)	28.1 (7.4)	–		
Duration of illness (years)	16.3 (10.0)	–		
Hospitalizations	3.4 (3.4)	–		
HDRS (n=16)		–	t=8.40	<0.001
Episode	23.7 (7.9)			
Remission	6.7 (1.4)			
YMRS (n=13)		–	t=14.12	<0.001
Episode	30.5 (5.1)			
Remission	5.5 (1.0)			
BPRS		–	t=5.92	<0.001
Episode	42.9 (9.9)			
Remission	28.8 (7.0)			
GAF		–	t=–9.27	<0.001
Episode	38.8 (9.9)			
Remission	65.8 (11.6)			

HDRS=Hamilton Depression Rating Scale, *YMRS*=Young Mania Rating Scale, *BPRS*=Brief Psychiatric Rating Scale, *GAF*=Global Assessment of Functioning

Table 2. Neuropsychological performance of patients with bipolar disorder (BD) during episode and in remission, in comparison with healthy controls (one-way ANOVA and post hoc Bonferroni corrections).

	Healthy controls (n=29) Mean (SD)	*BD-Episode (n=29) Mean (SD)*	*BD-Remission (n=29) Mean (SD)*	*F (df=2.87)*	*p*	*Pairwise comparisons*
WAIS-Vocabulary	11.93 (1.89)	10.07 (2.09)	9.92 (2.26)	8.18	0.001	E,R<HC
WAIS-Block design	10.55 (1.68)	7.96 (1.91)	8.15 (1.76)	18.48	<0.001	E,R<HC
WAIS-Digit span	9.61 (2.87)	8.07 (2.21)	8.23 (2.49)	3.07	0.052	NS
Stroop-Word	94.58 (16.77)	82.57 (19.21)	87.73 (19.27)	3.14	0.048	NS
Stroop-Interference	1.69 (9.02)	–1.61 (9.08)	–1.50 (9.38)	1.19	0.311	NS
RAVLT-Immediate memory	7.00 (2.46)	5.45 (1.90)	6.54 (2.18)	3.81	0.026	E<R,HC
RAVLT-Learning curve	13.48 (2.60)	10.38 (2.65)	11.15 (2.85)	10.34	<0.001	E,R<HC
RAVLT-Immediate recall	11.93 (3.44)	7.86 (3.18)	8.92 (3.65)	10.97	<0.001	E,R<HC
RAVLT-Delay recall	12.28 (3.24)	7.69 (3.13)	9.38 (3.35)	14.87	<0.001	E,R<HC
RAVLT-Recognition	19.45 (6.45)	16.21 (6.67)	18.38 (6.32)	1.88	0.160	NS
WCST-Categories	3.03 (1.27)	1.69 (1.28)	2.23 (1.53)	7.17	0.001	E<HC
WCST-Perseverative errors	11.11 (8.67)	20.31 (9.99)	14.27 (8.00)	7.77	0.001	E>R,HC
Trails A	47.00 (29.71)	72.14 (60.32)	52.27 (31.90)	2.70	0.074	NS
Trails B	109.59 (80.54)	181.52 (87.68)	165.54 (92.92)	5.43	0.006	E>HC
False belief task	1.71 (0.66)	1.17 (0.85)	1.58 (0.58)	4.50	0.014	E<HC
Hinting task	7.11 (1.03)	5.52 (1.72)	6.61 (1.74)	8.04	0.001	E<HC
Faux Pas-Recognition	10.47 (1.94)	12.32 (2.33)	13.91 (2.78)	8.26	0.001	E<R<HC

E=Patients during episode, *R*=Patients in remission, *HC*=Healthy controls, *NS*=Not Significant differences

set shifting (WCST-Categories and Perseverative errors, Trails-B). Regarding ToM assessment, patients had significantly poorer performance than healthy controls in all tests during the episode but only in Faux Pas during remission.

The neuropsychological profiles of patients during the episode of the disorder and in euthymia are graphically illustrated in figure 1. Patient's z scores presented in this graph were calculated using means and standard deviations of the healthy control group.

In order to examine the effect of other cognitive deficits on patients' ToM performance general linear models were created. In each of these models, a ToM task was the dependent variable and the group of participants (patients with BD/healthy controls), along with their scores on other neuropsychological tests, were entered as independent variables (see Table 3). Regarding Faux Pas test, scores in other tests in which euthymic patients showed significantly poorer performance than healthy controls were entered as covariates. This analysis revealed that differences in Faux Pas performance were no longer statistically significant when the effect of WAIS-Block design, RAVLT-Immediate recall and delayed recall were controlled for, whereas these differences remained significant after controlling for the effect of WAIS-Vocabulary and RAVLT-Learning curve. The impact of other cognitive deficits on patients' performance on ToM tests during episodes was also tested with general linear models. Scores in other tests in which patients performed significantly poorer than healthy controls during episodes were entered as covariates. The difference in performance on the False Belief test did not remain statistically significant when WAIS-Vocabulary and Block design, RAVLT- Learning curve, Immediate and Delayed recall, WCST-Categories and Perseverative errors and Trails-B were entered as covariates. Furthermore, performance differences on Hinting task did not remained statistically significant when WAIS-Block design was entered as covariate (table 3).

Discussion

The present study is the first to examine prospectively ToM and cognitive functioning in patients with BD-I during episodes and in euthymia. In order to as-

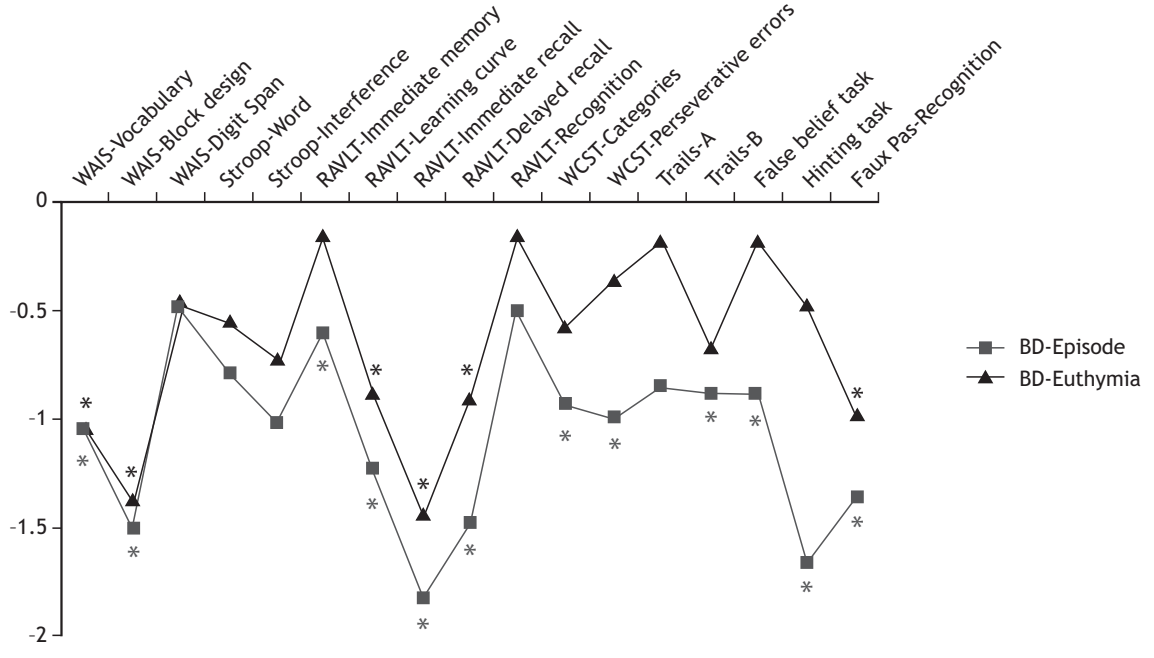

Figure 1. The impact of remission on cognitive functioning: Performance of patients with bipolar disorder (BD) during episode and in euthymia (z-scores). Asterisks indicate statistically significant differences between patients and healthy controls.

Table 3. The impact of other cognitive functions on ToM in patients with bipolar disorder (BD): The effect of study group (bipolar patients/healthy controls) in general linear models with scores in other neuropsychological tests entered as covariates.

Variables	*Adjusted R^2*	*F**	*p**
Dependent: False Belief Task**			
WAIS-Vocabulary	0.19	2.50	0.119
WAIS-Block design	0.12	2.19	0.145
RAVLT-Immediate memory	0.10	4.30	0.043
RAVLT-Learning curve	0.18	1.24	0.270
RAVLT-Immediate recall	0.22	0.53	0.470
RAVLT-Delay recall	0.13	1.22	0.275
WCST-Categories	0.20	1.46	0.233
WCST-Perseverative errors	0.13	2.56	0.116
Trails B	0.17	2.69	0.107
Dependent: Hinting Task**			
WAIS-Vocabulary	0.32	6.64	0.013
WAIS-Block design	0.33	2.13	0.151
RAVLT-Immediate memory	0.26	10.85	0.002
RAVLT-Learning curve	0.25	7.90	0.007
RAVLT-Immediate recall	0.28	5.73	0.020
RAVLT-Delayed recall	0.28	4.42	0.040
WCST-Categories	0.25	9.39	0.003
WCST-Perseverative errors	0.21	10.97	0.002
Trails B	0.29	9.54	0.003
Dependent: Faux Pas – Recognition***			
WAIS-Vocabulary	0.19	4.24	0.018
WAIS-Block Design	0.20	2.12	0.127
RAVLT-Learning curve	0.21	3.53	0.034
RAVLT-Immediate recall	0.35	1.79	0.174
RAVLT-Delay recall	0.33	1.57	0.259

*Values correspond to study group (patients with BD/healthy controls) as an independent variable in each general linear model, **Patients' performance during episode, ***Patients' performance in remission

sess more accurately the impact of symptom remission on ToM, patients were reassessed only if they met strict criteria for euthymia. Moreover, the impact of concurrent cognitive deficits on patient's ToM performance was examined.

We found impairments in verbal immediate memory, verbal learning ability, short-term and long-term verbal memory as well as in executive functions –in particular, mental flexibility– during BD episodes in agreement with the findings of previous studies.[49,50] Deficits in sustained attention have also been found with specific tests that were not included in our study battery. The significant deficits that were found in general intellectual ability and visuospatial working memory, have also been identified in previous studies, mainly in the manic phase.[50] However, in our study these deficits remained significant after remission. The majority of previous studies in euthymia found deficits in executive functions, verbal learning and memory, processing speed and sustained attention.[33,49–56] The findings of this study confirm only impairments in verbal memory and learning but not in the other aforementioned cognitive functions in euthymia. As it has been pointed out in reviews of the literature, findings vary considerably across the available studies.[50,57]

Regarding ToM assessment, patients in a mood episode had significantly poorer performance in all

tests than healthy controls. Our findings are in line with studies of Kerr et al,[17] and Bonstein et al,[18] that found ToM impairment only in the acute phase of BD using false belief tests. Moreover, ToM deficits have been also found in other studies using false belief and hinting tests in patients with bipolar mania,[19,20] with depression[19] as well as in acute pediatric patients.[21] To date, only one study did not find ToM deficits using cartoon stories in manic patients, whose symptoms however were of mild to moderate severity.[58] In euthymia, only patients' performance in the Faux Pas, the most complex of ToM tests administered, remained significantly poorer than in healthy controls. Otherwise, euthymic patients did not differ from normal controls in any other ToM test. In line with our findings, none of the previews studies has detected ToM dysfunction using false beliefs or ToM stories in euthymic patients[17,23,25,26] and/or in patients with subsyndromal symptoms.[22] Only in the study by Wolf et al[19] euthymic BD patients performed worse than healthy controls in both first and second-order false belief stories as well as in hinting task. However, regarding hinting task, findings are contradictory: euthymic patients showed impaired performance in one study[24] while in another study no such impairment was detected.[32] By contrast, all studies that used Faux Pas or other similar test in euthymic patients found impairments,[29] mainly in the cognitive[27,28,30] but not in the emotional component of ToM.

The effect of cognitive functions on ToM during BD episodes has not been as yet systematically studied. Only a few studies have investigated specific effects on ToM performance in bipolar patients during acute phases and found no correlation with general intelligence (IQ),[17,18,20] practical intelligence and executive functions.[19] In the present study, it was found that in BD episodes, deficits in many cognitive functions (intellectual ability, visuospatial working memory, verbal learning and memory and executive functions) decisively contribute to patients' poor performance in false belief tasks. Moreover, working memory impairment significantly contributed to patients' poor performance in hinting task. In addition, differences between patients and control group in Faux Pas test, both during episodes and in remission, remained significant after controlling for other cognitive deficits which also persist in remission, such as visuospatial working memory and verbal memory deficits. Two previous studies found no effect of executive functions and attention on ToM performance of BD patients in the Faux Pas test.[28,29] However, unlike the present study, these studies were not prospective. Moreover, they did not examine patients' cognitive deficits, both in episodic relapse and in remission, as covariates. Based on our findings, ToM deficits that are present in both episodes and remission of BD might be secondary to underlying deficits in basic cognitive functions.

Among the limitations of our study we should acknowledge that its sample size, although adequate for comparisons between groups, was not large enough for the assessment of differences between depressed and manic patients. Moreover, the practice effect in repeated neuropsychological testing should be taken into account in the interpretation of the findings. Finally, as in all previous studies, it was not possible to eliminate the confounding effect of medication.

In conclusion, the findings of this study offer support to the hypothesis that ToM dysfunction in BD is associated with mood symptoms and is more likely to reflect other underlying cognitive deficits than to represent a stable characteristic of the disorder. The effect of ToM as a key component of social cognition on psychosocial functioning of patients with BD should be further investigated. However, our findings indicate that ToM may be a mediator in the relationship between basic cognitive deficits and social dysfunction that is observed in BD.[59] Consequently, therapeutic interventions targeting enduring cognitive deficits in the course of BD are crucial to improve both patients' social cognition and global functioning.

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Η σχέση της Θεωρίας του Νου με τα συμπτώματα και τη νοητική δυσλειτουργία στη διπολική διαταραχή: Προοπτική μελέτη

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Προηγούμενες μελέτες παρείχαν ευρήματα υπέρ της ύπαρξης δυσλειτουργίας της Θεωρίας του Νου (ΘτΝ) στη διπολική διαταραχή (ΔΔ), τόσο σε οξείες φάσεις της νόσου όσο και στην ύφεση. Ωστόσο, εμμένοντα υποκλινικά συμπτώματα και συνυπάρχοντα ελλείμματα άλλων νοητικών λειτουργιών αποτελούν πιθανούς συγχυτικούς παράγοντες των μελετών αυτών. Η παρούσα μελέτη αποτελεί την πρώτη προοπτική μελέτη με σκοπό να εκτιμήσει την επίδραση της ύφεσης στη ΘτΝ σε ασθενείς με ΔΔ, συνεξετάζοντας άλλες νοητικές λειτουργίες. Η ΘτΝ αξιολογήθηκε σε 29 ασθενείς με ΔΔ τύπου Ι κατά τη διάρκεια επεισοδίου και κατά την ύφεση της συμπτωματολογίας, καθώς και σε 29 υγιείς συμμετέχοντες. Οι δύο ομάδες εναρμονίστηκαν με αντιστοιχία ένας-προς-έναν ως προς το φύλο, την ηλικία και το επίπεδο εκπαίδευσης. Χρησιμοποιήθηκαν τρεις δοκιμασίες ΘτΝ με διαφορετικά επίπεδα πολυπλοκότητας: Δοκιμασία Εσφαλμένης Πεποίθησης Πρώτης Τάξης (First Order False Belief Task), Δοκιμασία υπαινιγμού (Hinting Task) και Δοκιμασία αναγνώρισης ατοπήματος (Faux Pas Recognition Test). Αξιολογήθηκαν παράλληλα με συστοιχία νευροψυχολογικών δοκιμασιών το γενικό νοητικό δυναμικό, η μνήμη εργασίας, η προσοχή, η ταχύτητα επεξεργασίας, η λεκτική μνήμη και μάθηση, και οι εκτελεστικές λειτουργίες. Χορηγήθηκαν στους ασθενείς οι κλινικές κλίμακες: Hamilton Rating Scale for Depression, Young Mania Rating Scale, Brief Psychiatric Rating Scale και GAF. Οι διαφορές μεταξύ των ασθενών –σε οξεία φάση και σε ύφεση– και της ομάδας ελέγχου στις νευροψυχολογικές δοκιμασίες, ελέγχθηκαν με τη δοκιμασία one-way ANOVA με post hoc Bonferroni διορθώσεις. Η επίδραση των άλλων νοητικών δυσλειτουργιών στα ελλείμματα των ασθενών σε δοκιμασίες ΘτΝ ελέγχθηκε μέσω γενικών γραμμικών μοντέλων. Οι ασθενείς εμφάνισαν σημαντικά χαμηλότερη επίδοση σε όλες τις δοκιμασίες ΘτΝ κατά την οξεία φάση σε σύγκριση με την ομάδα ελέγχου (τιμές p από 0,001 έως 0,014). Ωστόσο, τα ελλείμματα της ΘτΝ δεν διατηρήθηκαν κατά την ύφεση, παρά μόνο η χαμηλή επίδοση των νορμοθυμικών ασθενών στο Faux Pas (p=0,001). Επιπλέον, τόσο κατά τη διάρκεια των επεισοδίων όσο και κατά τη νορμοθυμία βρέθηκε δυσλειτουργία στη λεκτική μνήμη και μάθηση (p<0,001) και την οπτικοχωρική μνήμη εργασίας (p<0,001), σε σχέση με την ομάδα ελέγχου. Χαμηλότερες επιδόσεις στην άμεση μνήμη (p=0,026) και τις εκτελεστικές λειτουργίες (p=0,001) βρέθηκαν μόνο κατά τα επεισόδια της νόσου. Οι διαφορές στο Faux Pas δεν παρέμειναν στατιστικά σημαντικές, όταν συνεκτιμήθηκε η επίδραση της λεκτικής μνήμης και της οπτικοχωρικής μνήμης εργασίας. Η μειωμένη επίδοση των ασθενών στις υπόλοιπες δοκιμασίες ΘτΝ στα επεισόδια δεν παρέμεινε στατιστικά σημαντική όταν συνεκτιμήθηκαν άλλες νοητικές λειτουργίες στις οποίες οι ασθενείς εμφάνισαν έλλειμμα στα επεισόδια. Τα ευρήματα της παρούσας μελέτης υποστηρίζουν την υπόθεση ότι η δυσλειτουργία της ΘτΝ στη ΔΔ σχετίζεται με τα συναισθηματικά συμπτώματα και είναι πιθανότερο να αντανακλά υποκείμενα ελλείμματα άλλων νοητικών λειτουργιών παρά να αντιπροσωπεύει ένα σταθερό χαρακτηριστικό της διαταραχής.

Λέξεις ευρετηρίου: Θεωρία του Νου, κοινωνική νόηση, νοητική δυσλειτουργία, διπολική διαταραχή, ύφεση.

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Research article
Ερευνητική εργασία

The burden of caring for patients with dementia and its predictors

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Dementia not only affects patients but also care providers. The assessment of Caregivers' Burden (CB) has grown exponentially in the dementia field, as studies have shown that it is higher in dementia than in other diseases. Dementia care in Greece is different compared to other developed countries, as most of the patients receive care at home from family members. The aim of the present study was to examine the level of burden in Greek caregivers who live in Athens, and its association with patient and caregiver factors. This was a cross-sectional study of 161 primary caregivers of dementia patients living in the community and attending a secondary clinic. CB was assessed with the Zarit Burden Interview (ZBI) and caregivers' depression with the Center for Epidemiological Studies Depression Scale (CES-D). Clinical characteristics of the patients were also assessed using validated scales (cognitive status, functional ability, neuropsychiatric symptoms). In order to find predictors of caregiver Burden, we conducted a 3-step hierarchical regression analysis. Most patients were suffering from Alzheimer's Dementia (n=101; 62.73%) and had moderate and severe dementia according to the MMSE score (mean MMSE=11.50), with patients being unable to perform 2 basic activities of daily living on average. 45 patients (27.95%) had depression according to the CSDD; only 5 patients didn't have any behavioral problem in the NPI, while patients had more than 5 behavioral problems on average. Caregivers were involved in their role for 3.6 years on average and the mean weekly caregiving time was more than 70 hours. Nearly half (n=80; 49.06%) of the 161 caregivers demonstrated high CB (ZBI >40) and nearly one fourth had depression according to the CES-D scale. All blocks of variables entered into the regression model independently predicted caregiver burden's variance (demographics, clinical factors and caregiving characteristics). Lower caregiver's age, high behavioral symptoms of dementia patients and caregivers' depression were found to be independently associated with CB. The final regression model explained 47.2% of the variance in CB. Dementia causes a great burden in caregivers. CB is a

complex issue that is associated with several patients and caregivers' factors. The level of CB should be assessed in everyday dementia clinical practice.

Key words: Alzheimer's disease, dementia, caregiver, burden.

Introduction

Dementia is a chronic deteriorating condition. Symptoms of dementia include cognitive and functional decline, behavioral problems, lack of insight, and personality change on the part of patients. As a result, all areas of daily life are hampered, not only for patients themselves but also for their caregivers.[1,2]

The concept of burden has been developed in order to study the effects of caring. Caregiver burden is a term that includes all the consequences of caring for a chronically ill patient: economic, social, physical and psychological.[3] It is divided into objective and subjective burden. Objective burden is the result of care on family life and includes items such as activities of daily living, economic and physical health of family members. Subjective burden refers to how caregivers perceive the burden of care and its emotional impact.[4] Caregiver burden is increasingly recognized as a key component in dementia treatment. Its study has grown considerably in the past decade and has been used to evaluate the impact of pharmacological and non-pharmacological treatments in dementia and the effectiveness of social and health services.[5]

Caregivers of patients with dementia experience greater burden than caregivers of patients with other chronic diseases,[6] for example compared to carers of patients with cancer.[7] Caregivers of patients with dementia also report greater cost, less free time and more difficulty in working than similar aged matched caregivers of patients with physical disabilities.[8] The same has been reported for depression[9] and anxiety.[10] Dementia care in Greece differs compared to many other countries in that the vast majority of patients (>95%) receive care at home from family members. Community services for dementia in Greece are developing and the need to establish these as policy priorities is urgent. We have highlighted the importance of caregiver factors in contributing patients' Quality of life in a companion study.[11]

The main objective of this study was to evaluate the prevalence of burden experienced by caregivers of dementia patients in Greece and its association with the sociodemographic, psychological and clinical characteristics of patients and caregivers.

Material and method

Participants

The study took place in a memory clinic of the Psychogeriatric Association "Nestor", a Non-Profit Organization offering free of charge services for dementia patients and their families in Athens, Greece. 200 community residing patients and their primary caregivers were invited to participate in the study, when they contacted the service by phone for the first time. Patients were invited only if they had a dementia diagnosis and their primary caregivers were available. A total of 197 caregivers responded positively after one reminder. 11 patients did not show up at the interview, 24 patients did not meet the inclusion criteria of the study (most commonly, they didn't have dementia) and one caregiver stopped before the end of the study. Thus the study participants consisted of 161 patients and their primary

Table 1. Patient and caregiver demographic characteristics (n=161).

Patients' demographics	
Female gender (%)	109 (67.70)
Age (SD)	76.87 (7.03)
Married (%)	85 (52.80)
Years of education (SD)	8.24 (4.44)
Caregivers' demographics	
Female gender (%)	110 (68.32)
Age (SD)	59.18 (13.88)
Married (%)	123 (76.40)
Years of education (SD)	11.61 (3.96)
Kinship relationship to the patient (%)	
Adult child	72 (44.72)
Husband or wife	71 (44.10)
Other	18 (11.18)

Table 2. Disease and caregiving characteristics (n=161).

Age of dementia onset (SD)	72.97 (7.61)
Dementia type (%)	
AD	101 (62.73)
VD	32 (19.88)
DLB	13 (8.07)
FTD	13 (8.07)
PD	2 (1.24)
Severity of the disease (%)	
MMSE 20–30	40 (24.84)
» 10–19	56 (34.78)
» 0–9	65 (40.37)
Stay in relation to the patient (%)	
Same house (%)	107 (66.46)
Same building (%)	20 (12.4)
Same neighbourhood (%)	9 (5.6)
Same town (%)	24 (14.9)
Other town (%)	1 (0.6)
Years of caregiving (SD)	3.6 (2.61)
Weekly caregiving hours (SD)	73.11 (40.89)
Professional caregiver at home (%)	35 (21.75)
Health problems (SD)	1.38 (0.59)

AD=Alzheimer Disease, VD=Vascular Dementia, LBD=Lewy Body Dementia, FTD=Frontotemporal Dementia

caregivers. All patients met the diagnostic criteria for dementia according to DSM-IV-TR.[12] Caregivers were all primary, informal caregivers, involved in their role for at least two hours, twice a week.

Procedure

The study took place between May 2007 and April 2008. All caregivers and patients signed their written consent before their enrollment in the study, which was approved by the Ethics Committees of both the Psychogeriatric Association and the Department of Psychiatry, Medical School of the University of Ioannina. Patients and caregivers were seen separately when they visited one of the consultation clinics for the first time. Demographic factors and scales on patients were completed by a neuropsychologist; caregiver demographic factors and scales were completed by a Psychiatrist. On the same day, the psychiatrist interviewed both patient and caregiver, in order to complete the Cornel Scale for Depression in Dementia and make the diagnosis of dementia (table 3). Both professionals received special training for scale administration and had at least 3 years of working experience with dementia patients.

Measures

Demographic data (gender, age, education and patient-caregiver family relationship) were collected for both patients and caregivers. Specific disease characteristics (age of dementia onset, dementia subtypes) were also assessed, as well as specific caregiving characteristics: whether the caregiver was living with the patient, weekly caregiving time, years of caregiving, presence of professional caregiver and subjective number of caregiver's diseases posing problems in the caregiving process.

Dementia type was diagnosed according to the Diagnostic and Statistical Manual of Mental Disorders criteria (DSM-IV; American Psychiatric Association, 2000) for the diagnosis of Alzheimer's disease (AD) and vascular dementia (VD), consen-

Table 3. Patient and caregiver assessment variables (n=161)

Scale	*Mean*	*SD*	*Range*	*alpha*	*Rater*	*Professional*
Patient assessment variables						
MMSE	11.50	7.08	0–28	0.81	Patient	Neuropsychologist
Katz ADL	4.01	1.90	0–6	0.81	Caregiver	Psychiatrist
IADL	3.04	2.17	0–8	0.82	Caregiver	Psychiatrist
CSDD	5.43	4.55	0–21	0.76	Both	Psychiatrist
NPI	29.61	20.07	0–88	0.71	Caregiver	Psychiatrist
Caregiver assessment variables						
CES-D	14.31	11.61	0–54	0.86	Caregiver	Psychiatrist
ZBI	42.26	16.33	8–76	0.87	caregiver	Psychiatrist

MMSE=Mini Mental State Examination, Katz ADL=Katz Activities of Daily Living, IADL=Lawton's Instrumental Activities of Daily Living, CSDD=Cornell Scale for Depression in Dementia, NPI=Neuropsychiatric Inventory, CES-D=Center for Epidemiological Studies Depression Scale, ZBI=Zarit Burden Interview

Table 4. Hierarchical logistic regression analyses (n=161), with ZBI as the dependent variable.

	Step 1					*Step 2*	*Step 3*										
	β	*95% CI*		*p*	R^2	*ΔF*	*β*	*95% CI*		*p*	R^2	*ΔF*	*β*	*95% CI*		*p*	R^2	*ΔF*
Patient's age	–0.11	–0.70	0.17	0.234	0.123	2.56**	–0.11	–0.69	0.17	0.239	0.276	4.32**	0.03	–0.32	0.44	0.740	0.472	8.69**
Patient's gender	–0.03	–10.54	8.19	0.805			0.01	–8.43	9.16	0.934			0.06	–5.82	9.95	0.605		
Patient's education	0.03	–0.60	0.85	0.734			0.03	–0.58	0.83	0.728			0.01	–0.57	0.69	0.856		
Caregiver's age	–0.35	–0.77	0.08	0.016*			–0.34	–0.74	0.09	0.012*			–0.31	–0.66	–0.09	0.011*		
Caregiver's gender	0.08	–4.94	10.80	0.463			0.04	–6.08	8.93	0.707			0.04	–5.28	8.38	0.654		
Caregiver's education	–0.10	–1.27	0.42	0.326			–0.09	–1.16	0.44	0.377			0.00	–0.72	–0.71	0.989		
Caregiver being a spouse	0.32	–1.14	22.22	0.076			0.32	0.34	21.60	0.057			0.23	–2.75	18.30	0.146		
AD or not							0.07	–8.43	3.74	0.447			0.08	–8.29	2.52	0.292		
MMSE							0.15	–0.14	0.86	0.158			0.06	–0.31	0.58	0.548		
KATZ ADL							–0.03	–2.50	1.89	0.785			0.06	–1.45	2.43	0.616		
IADL							–0.18	–3.59	0.77	0.204			–0.06	–2.50	1.60	0.663		
CSDD							0.04	–0.59	0.85	0.717			0.00	–0.63	0.66	0.965		
NPI							0.27	0.06	0.40	0.009**			0.21	0.23	0.32	0.024*		
Years of caregiving													0.05	–0.66	1.29	0.520		
Weekly caregiving time													–0.07	–0.11	0.05	0.494		
Professional caregiver													–0.16	–13.31	0.11	0.054		
Caregiver living with the patient													0.11	–4.22	11.60	0.357		
CES–D													0.48	0.46	0.93	0.000**		

AD=Alzheimer's Disease, VD=Vascular Dementia, MMSE=Mini Mental State Examination, Katz ADL=Katz Activities of Daily Living, IADL=Lawton's Instrumental Activities of Daily Living, CSDD=Cornell Scale for Depression in Dementia, NPI=Neuropsychiatric Inventory, CES-D=Center for Epidemiological Studies Depression Scale, ZBI=Zarit Burden Interview β=standardized regression coefficient CI=Confidence Interval, ΔF=partial F test

*p<0.01, **p<0.05

sus criteria by Mckeith et al[13] for the diagnosis of dementia with Lewy bodies (DLB) and Neary et al[14] criteria for the diagnosis of Frontotemporal dementia (FTD).

Caregiver burden and depressive symptoms were assessed as follows:

a. Zarit Burden Interview[15] (ZBI), a 22 item scale. It was initially developed in 1986 in order to assess the subjective burden experienced by caregivers of dementia patients in USA. Since then it has been translated and validated in many languages. The 22 items assess various sources of burden and the caregivers are asked to respond using a 5-point Likert Scale (ranged from "never" to "nearly always") how often they feel that way. The questions are about caregivers' physical and mental health, economic status, social life and interpersonal relationships. Higher score means higher burden. The cutoff score of clinically significant burden is score >40. The scale was translated and validated in Greek by Papastavrou et al.[16] The results from validity and reliability analysis in the Greek population have shown that the internal consistency reliability is exceptional (a=0.93). Furthermore, validity and reliability analysis gave 4 factors which explain 63.92% of the variance and refer to "personal intensity", "intensity of role", "loss of relationships" and "care management". In a recent review on caregiver stressors and health by Pinquart and Sörensen,[17] ZBI was used in 32 of 85 articles studied.

b. Center for Epidemiological Studies Depression Scale (CES-D),[18,19] a 20-item measure, which has been extensively used in caregiver research.[20]

Patients' clinical characteristics, namely cognition, disease severity, functioning, depression and neuropsychiatric features were assessed by the use of the following scales:

a. Mini Mental State Examination (MMSE),[21] the most widely used instrument for measuring cognitive function. MMSE was translated and validated in Greek by Fountoulakis et al.[22]

b. Katz ADL (Katz's Activities of Daily Living Scale),[23] a measure of six basic activities of daily living (bathing, dressing, toileting, transferring, continence, feeding).

c. Cornell Scale for Depression in Dementia (CSDD),[24] a 19-item instrument for measuring depressive symptoms in dementia. Both the patients and the caregivers are interviewed by a psychiatrist, but the scale is clinician-rated. Ratings >12 are strongly correlated with a psychiatric diagnosis of major depressive episode.[25]

d. Neuropsychiatric Inventory (NPI)[26] assesses 12 non-cognitive, psychiatric symptoms of dementia: delusions, hallucinations, agitation, dysphoria, anxiety, euphoria, apathy, disinhibition, irritability, aberrant motor behavior, sleep, and appetite and eating disorders. The caregiver rates each of the syndromes by frequency and severity. We included night-time behaviors and appetite/eating that are usually not counted in the total score of the NPI. The scale was translated and validated in Greek by Politis et al.[27]

Statistical methods

The Statistical Package for Social Sciences (SPSS), version 13 for Windows, was used for the data analyses. To analyze demographic factors and to investigate the prevalence of cognitive and psychiatric symptoms in persons with dementia and their caregivers, mean scores and standard deviations were calculated. Cronbach's alpha was estimated to assess the internal consistency of all scales used. ZBI, the dependent variable in this study, was normally distributed (Kolmogorov-Smirnov test). We conducted a 3-step hierarchical regression analysis with Caregiver Burden as the dependent variable. Patients' and caregivers' demographic characteristics were entered at step 1, disease and clinical characteristics were entered at step 2 and caregiving characteristics were finally entered in the model. The possibility of multicollinearity was investigated in order to ensure the validity of our model.

Results

The demographic profiles of patients and caregivers are presented in table 1. Our sample represented a typical community dementia sample visiting a memory clinic: patients were elderly, mainly female with a low education level; caregivers were younger female (patients' daughters or wives) and highly educated. Clinical factors and caregiving characteristics

are presented in table 2. Most patients were suffering from Alzheimer disease and had moderate to severe dementia, according to the MMSE.

Most caregivers were living in the same house or building with the patients and were involved in caregiving on a daily basis. Caregivers had been involved in their role for 3.6 years on average and the mean time given to caregiving was more than 70 hours weekly. Finally, in every one in five cases, a professional caregiver was also present.

Cognitive function was severely impaired (mean MMSE=11.50), with patients being unable to perform 2 basic activities of daily living on average. 45 patients (27.95%) had depression according to the CSDD; only 5 patients didn't have any behavioral problem in the NPI, while patients had more than 5 behavioral problems on average. Nearly half (n=80; 49.06%) of the 161 caregiver were highly burdened (ZBI>44). Moreover, 36 caregivers (22.4%) had depression according to the CES-D scale (scores≥24). The mean scores of assessment scales in both patients and caregivers as well as internal consistency reliability (Cronbach's alpha) for all scales used are in table 3. Alpha coefficients were fair to good for all scales used.

Multivariate regression analysis

In the first block, patients' and caregivers' sociodemographic characteristics were entered into the regression equation (table 4). Demographics as a block were associated with caregivers' burden (R^2= 0.123, p=0.02). Regarding single variables, caregivers' age was the only variable that was independently associated with ZBI. In the next step, clinical characteristics were entered into the equation. Their inclusion resulted in a significant increase in the R^2 (p<0.001), with NPI contributing independently to the CB variance. This shows that the percentage of CB variance explained by the model has increased; it means that clinical characteristics additionally explained CB variance after demographics have been taken into account. The R^2 was significantly increased (p<0.001), with caregivers' depression being independently associated with CB. In this third step of the regression analysis, lower caregiver's age was independently associated with CB. The R^2 of the final model was 0.472.

As we were concerned with the potential correlation between independent variables, it should be noted that intercorrelations among independent variables were below 0.80 with the exception of age of disease onset that showed a very high correlation with the patients' age (Spearman's r=0.949) and thus it was not used in the analysis. To further test for multicollinearity, the Variance Inflation Factor (VIF) was calculated for each independent variable. VIF values were between 1.35 and 6.82, indicating the lack of severe collinearity problem.

Discussion

In the current study, nearly half of the 161 caregiver were highly burden (ZBI>40) and almost one fourth were depressed (CES-D scores ≥24). Lower caregiver's age, behavioral symptoms of dementia patients and caregivers' depression were found to be independently associated with CB.

The high percentage of highly burdened caregivers found in this study confirms previous findings reported in the literature.[3,28] It is difficult to compare the amount of caregiver burden between different studies due to methodological differences. For example, the mean ZBI score in our study was higher than that found by Rymer et al.[29] or Davis and Tremont;[30] this may be explained by the fact that the former studied caregivers of Alzheimer Disease patients only, while the latter only included caregivers of patients with mild and moderate dementia. There is evidence that CB is lower in Alzheimer Disease patients and in patients with less severe disease.[6,28] A study from Cyprus revealed higher mean caregiver burden than our study.[27] This may be due to the fact that the Cyprian sample derived from local Caregivers Association members. Cultural issues may also play an important role, as in both studies that used patients of Greek origin, the mean ZBI was much higher (42.26 in our study, even higher in the Cyprian study) than the average burden level of 29.9 found in the meta-analysis of Pinquart and Sorensen.[6]

Depressive symptoms are also common in caregivers of dementia patients. In our study, 22.4% of the caregivers had depression according to the CES-D scale (score≥24). Rates of depression in caregivers of patients with dementia range, among studies, from

10,5%[31] up to 83%,[32] while the rate of depression in elderly patients living in the community is estimated at only 7%.[32] Caregivers' burden and depression are highly associated, although their association remains complex.[33] In general, although different methods are used, a common finding in all studies is the high prevalence of both burden and depression in caregivers of patients with dementia.

As concerning the associations of CB, all three blocks of variables entered in the hierarchical regression, were significantly associated with CB. That confirms that CB is a complex issue, resulting from multiple demographic, clinical, personal, social and specific caregivers' characteristics, as found in other studies.[6,34]

Patients' and caregivers' demographics were associated with CB, explaining 12.3% of its variance. The younger age of caregivers independently predicted CB. This has been reported elsewhere[35] and may be linked to the fact that younger caregivers have more family and professional obligations, to which they cannot respond due to their caregiver role.

The only clinical characteristic that appeared to be associated with ZBI was patients' behavioral problems. Cognitive status (MMSE) and functional level (Katz ADL) did not appear associated with the ZBI. This is in agreement with other studies and reviews of the literature: only 2 of the 8 studies reviewed by Schulz et al[36] found an association between CB and patients' cognitive function. In their review, Pinquart και Sörensen[6] noted the weak association between CB and functional decline. Finally, depressive symptoms seem to have a weaker role in CB than more positive patients' behaviors.[5] In most studies, behavioral problems in dementia are the most important predictor of caregiver burden, with respect to patient characteristics.[5,37–39] The Bédard et al[40] study reported that the neuropsychiatric symptoms of patients were the most important predictor of caregiver burden in 74% of the studies reviewed; moreover, the Almeida and Black[41] review of the literature reported that neuropsychiatric symptoms could explain 5.6–71% of the CB variance. As concerning specific caregivers' characteristics, caregivers' depression predicted ZBI. However, the interrelationship between depression and burden is not yet fully understood.[32]

Our final multivariate model explained 47.2% of the CB variance. In a meta-analysis by Pinquart and Sörensen,[6] caregiver and patient's variables could only explain 28% of the variance of burden. As CB is a complex issue, other factors that were not studied here may contribute to the variance of CB: quality of patient-caregiver emotional relationship,[34] caregiver's sense of adequacy,[42] family functioning,[43] caregiver's high expressed emotion[44] and coping strategies.[16] A recent study on the associations of CB by Campbell et al[34] ended up in a 7 factor model which explained 80% of CB variance. Most of these factors (quality of patient-caregiver relationship, negative life experiences, neurotic caregiver's components, and caregiver's sense of adequacy and feeling of capture within caregiver's role) comprise components of the caregivers' personality.

There are several limitations in our study. Cross sectional studies cannot provide definitive answers regarding cause and effect and the possibility of reverse causality should be explored further in longitudinal studies. Our sample may not be representative of dementia community patients, as the study was conducted in a secondary clinic. Caregivers in the clinic may be particularly motivated or severely burdened; many patients were referred for a second opinion. Furthermore, most patients were suffering from moderate and severe dementia; neuropsychiatric symptoms are more common in the most advanced stages of the disease.[11] Functional status, behavioral competence, comorbidities and economic situation were measured based on the caregiver's report and the results might have been biased by caregivers' factors. Caregivers, especially those who are more burdened, are known to underestimate patients' abilities. Furthermore, factors such as caregivers' economic and health status weren't assessed. In addition to all these, the sample comes from the urban population of Athens. The level of burden may have been different if the sample had come from all over Greece including suburban and rural areas. Finally, the sample size, although large, did not allow us to differentiate predictive factors between subgroups of patients and caregivers. This is important, because the associations of CB may differ, for example, between dementia subtypes. For example, it is possible that caregivers of dementia patients with Lewy bodies and frontotempo-

ral dementia experience more burden than caregivers of AD patients, although in this study that couldn't be observed due to the small number of patients with LBD and FTD. Also, the impact of caregiving differs according to the caregiver's Kinship relationship to the patient.[36,45]

Caregivers have a very important influence on the course of dementia. Their psychological status determines the time of patient's institutionalization.[41] If we want to delay institutionalization of dementia patients, it is essential that interventions for dementia target both patients and caregivers. CB should routinely be assessed and novel caregiver interventions must be developed. This study highlights behavioral problems, as the first target of such interventions. Homecare services must be developed, especially for younger caregivers. Future research in caregiving must contain factors not studied in the current study and dementia interventions should also aim to diminish the burden of care.

Η επιβάρυνση από τη φροντίδα στην άνοια και οι παράγοντες πρόβλεψής της

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Η άνοια δεν επηρεάζει μόνο τους ίδιους τους ασθενείς, αλλά και τους φροντιστές τους. Η μελέτη της Επιβάρυνσης από τη φροντίδα στην άνοια έχει αναπτυχθεί τα τελευταία χρόνια, καθώς μελέτες δείχνουν πως η Επιβάρυνση από τη φροντίδα στην άνοια είναι μεγαλύτερη σε σχέση με άλλες νόσους. Ο βασικός σκοπός της παρούσας μελέτης είναι ο υπολογισμός της Επιβάρυνσης σε ένα δείγμα φροντιστών ασθενών με άνοια που διαμένουν στην Αθήνα, καθώς και η εύρεση των παραγόντων που την επηρεάζουν. Πρόκειται για συγχρονική μελέτη επισκόπησης και συσχέτισης σε 161 ασθενείς με άνοια και τους φροντιστές τους, οι οποίοι κατοικούν στην κοινότητα και επισκέφτηκαν ένα ιατρείο μνήμης. Η Επιβάρυνση από τη φροντίδα μετρήθηκε με το Ερωτηματολόγιο Επιβάρυνσης του Zarit (Zarit Burden Interview, ZBI) και η κατάθλιψη των φροντιστών με την κλίμακα του Κέντρου Επιδημιολογικών Ερευνών για την Κατάθλιψη (Center for Epidemiological Studies Depression Scale, CES-D), ενώ τα κλινικά χαρακτηριστικά των ασθενών υπολογίστηκαν με χρήση σταθμισμένων κλιμάκων (γνωσιακή κατάσταση, λειτουργικότητα, διαταραχές συμπεριφοράς). Για την εύρεση των παραγόντων που επηρεάζουν την Επιβάρυνση, πραγματοποιήθηκε μια ιεραρχική ανάλυση παλινδρόμησης τριών σταδίων. Οι περισσότεροι ασθενείς έπασχαν από νόσο του Alzheimer (n=101· 62,73%) σε μέτριο έως σοβαρό στάδιο άνοιας σύμφωνα με το MMSE (μέση τιμή MMSE=11,50) και παρουσίαζαν αδυναμία στην πραγματοποίηση δύο βασικών δραστηριοτήτων της καθημερινότητας κατά μέσον όρο. Σύμφωνα με την κλίμακα CSDD, 45 ασθενείς (27,95%) έπασχαν από κατάθλιψη, ενώ σύμφωνα με το NPI οι ασθενείς παρουσίαζαν 5 προβλήματα συμπεριφοράς κατά μέσον όρο. Οι φροντιστές παρείχαν τις υπηρεσίες τους στους ασθενείς για μέσο χρονικό διάστημα 3,6 χρόνια και για περισσότερο από 70 ώρες την εβδομάδα. Σχεδόν οι μισοί (n=80· 49,06%) από τους 161 φροντιστές παρουσίαζαν υψηλή επιβάρυνση (ZBI>40) και 36 φροντιστές (22,4%) είχαν κατάθλιψη σύμφωνα με την κλίμακα CES-D (αποτέλεσμα≥24). Η ιεραρχική ανάλυση παλινδρόμησης κατέδειξε πως όλα τα

επίπεδα που εισήχθησαν ιεραρχικά στο μοντέλο συνέβαλαν ανεξάρτητα στη διακύμανση της επιβάρυνσης (δημογραφικά στοιχεία ασθενών και φροντιστών, κλινικά χαρακτηριστικά των ασθενών και χαρακτηριστικά της φροντίδας). Η μικρότερη ηλικία του φροντιστή, οι διαταραχές συμπεριφοράς στο πλαίσιο της άνοιας και η κατάθλιψη του φροντιστή παρουσίασαν ανεξάρτητη συσχέτιση με την Επιβάρυνση από τη φροντίδα. Το R^2 του τελικού μοντέλου ήταν 0,472. Η άνοια προκαλεί σημαντική επιβάρυνση στους φροντιστές των ασθενών. Η Επιβάρυνση από τη φροντίδα είναι μια πολύπλοκη έννοια, η οποία εξαρτάται από πολλούς παράγοντες των ασθενών και των φροντιστών. Στην καθημερινή κλινική πρακτική, η Επιβάρυνση των φροντιστών πρέπει να αξιολογείται.

Λέξεις ευρετηρίου: Νόσος Alzheimer, άνοια, φροντιστές, επιβάρυνση.

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Research article
Ερευνητική εργασία

Religiosity dimensions and subjective health status in Greek students

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The quest for existential meaning constitutes a universal phenomenon traditionally manifested in official religions (religiosity) or personal modes of transcendence (spirituality). Religiosity and spirituality have been found to be associated with a variety of mental health and illness parameters. In the last decades there is an increasing number of publications with interesting results on the relationship between religiosity and mental health, both on a theoretical and a clinical level. Recent research suggests the presence of clinically important interactions between religious beliefs and mental health, although the exact nature of the associations remains unclear. The aim of the present study is to investigate subjective health status in relation to specific dimensions of religiosity and spirituality in Greek students; 202 students of the faculty of Theology of the University of Athens were interviewed using the Brief Multidimensional Measurement of Religiousness/Spirituality (BMMRS), which assesses the dimensions of "daily spiritual experiences", "meaning", "values/beliefs", "forgiveness", "private religious practices", "religious/spiritual coping", "religious support", "religious/spiritual history", "commitment", "organizational religiousness", and "religious preferences". Subjective health status was measured by the General Health Questionnaire (GHQ-28) which examines four areas of health in the following sub-scales: (a) somatic symptoms, (b) anxiety and insomnia, (c) social dysfunction and (d) severe depression. Pearson correlations coefficients and linear regression analyses were used to estimate the associations of GHQ-28 subscales with religiosity dimensions. High scores in each dimension of BMMRS corresponded to a low level of religiosity. The dimension of "daily spiritual experiences" was positively correlated with the subscales of anxiety/ insomnia, social dysfunction and severe depression, while the dimension of "values/beliefs" with social dysfunction and severe depression and the dimension of "forgiveness" with all GHQ-28 subscales. The "organizational religiousness" dimension was positively correlated with anxiety/ insomnia, while overall self-ranking with social dysfunction and severe depression. Additionally, the dimension of "meaning" had a negative correlation with somatic symptoms. Moreover, in the multiple linear regression analyses, "meaning" was independently negative associated with somatic symptoms (p=0.032), whilst "daily spiritual

experiences" were positively associated with anxiety/insomnia (p=0.023). Also, "values/beliefs and the overall self-ranking were positively associated with social dysfunction (p=0.026), (p=0.01) and "daily spiritual experiences", "values/beliefs", "forgiveness", as well as the overall self-ranking with severe depression (p=0.03), (p=0.01), (p=0.017), (p=0.009). Certain religiosity dimensions ("daily spiritual experiences", "values/beliefs", "forgiveness" and "organizational religiousness") were correlated with lower morbidity, in accordance to previous reports in different populations, whereas "meaning" was correlated with more somatic symptoms.

Key words: Religiosity, spirituality, mental health.

Introduction

Religion is an organized system of beliefs, practices, rituals and symbols designed to facilitate closeness to the sacred or transcendent (God, higher power, or ultimate truth/reality) and to foster an understanding of one's relationship and responsibility to others in living together in a community.[1] Religiosity is defined as the level of involvement and the personal significance that the subject invests in a given religion. Religiosity is a description of the extent and depth to which a person holds the beliefs of his/her religion.[2] Spirituality is the personal quest for understanding answers to ultimate questions about life, meaning and relationship to the sacred or transcendent, which may (or may not) lead to or arise from the development of religious rituals and the formation of community.[1]

Religion continues playing an important role in the lives of many people. Recent research suggests the presence of clinically important interactions between religious beliefs and mental health, although the exact nature of the associations remains unclear. Psychiatry has been biased against taking full account of this for many possible reasons, but this seems to be changing in the last decades.[3]

Most of previous research has operationalized psychological health and well-being in terms of low scores on a variety of non-diagnostic measures of depression and anxiety and only a small number of studies have examined the relationship between indices of religiosity and mental health employing the General Health Questionnaire (GHQ). This is somewhat surprising as the family of GHQ measures is much favored in health, epidemiology, and clinical psychology in order to detect minor psychiatric disturbances in community or non-psychiatric clinical settings.[4] The aim of the present study is to investigate subjective health status in relation to specific dimensions of religiosity-spirituality in Greek students in order to extend the research base in this area to the Greek Christian Orthodox tradition.

Material and method

Our sample consisted of 202 students attending the second year of the department of Social Theology of the University of Athens. They were interviewed using the Brief Multidimensional Measurement of Religiousness/Spirituality (BMMRS), which assesses the dimensions of "daily spiritual experiences", "meaning", "values/beliefs", "forgiveness", "private religious practices", "religious/spiritual coping", "religious support", "religious/spiritual history", "commitment", "organizational religiousness", and "religious preferences".[5] A team of researchers supported by the Fetzer Institute and the National Institute on Aging has developed this questionnaire which is one of the best-recognized in the field of health and religiosity. It was translated into Greek according to the WHO guidelines and the recommendations of the Trust Scientific Advisory Committee (forward and backward translations, review of translated versions and revision by experts etc).[6,7] Subjective health status was measured by the General Health Questionnaire (GHQ-28) which is a well known self-report measure of common psychiatric symptoms widely used to identify short term changes in mental health and is often used as a screening instrument for detecting mental disorders in clinical and non-clinical populations.[8] The instrument examines four areas of health in the following sub-scales: (a) somatic symptoms, (b) anxiety and insomnia, (c) social dysfunction and (d) severe depression. The questions were rated on a Likert scale of 0-1-2-3.

Psychometric properties of the 28-item Greek version are reported as satisfactory.[9] Quantitative variables are presented with mean and standard deviation (SD). Qualitative variables are presented with absolute and relative frequencies. Pearson correlations coefficients were used to explore the association of two continuous variables. Linear regression analyses were used to estimate the associations of GHQ-28 subscales with religiosity dimensions after adjusting for sex, age, family status, number of family members, living alone, with others or with family and place of birth. Each religiosity dimension was examined separately in the linear regression model because model diagnostics with two or more dimensions in the models indicated that the regression estimates were highly collinear. Regression coefficients and standard errors were computed from the results of the linear regression analyses. All reported p values are two-tailed. Statistical significance was set at $p<0.05$ and analyses were conducted using SPSS (version 19.0).

Table 1. Sample characteristics

	n (%)
Sex	
Women	131 (64.9)
Men	71 (35.1)
Age (years), mean±SD	22.5 (4.9)
Married	
No	170 (91.9)
Yes	15 (8.1)
Lives with:	
Alone	36 (20.1)
Family	133 (74.3)
Others	10 (5.6)
No of family members, mean±SD	4.4 (1.3)
Place of birth	
Urban	125 (65.8)
Rural	51 (26.8)
Other country	14 (7.4)

Results

The mean age of the 202 participants was 22.5 years (SD=4.9 years), whilst 71 of them were men (35.1%) and 131 women (64.9%). Sample characteristics are presented in table 1. Most of the participants lived with their family (74.3%) and 91.9% were single. Bivariate associations of GHQ-28 subscales with religiosity dimensions are shown in table 2. The dimension of "daily spiritual experiences" was correlated with the subscales of anxiety/insomnia, social dysfunction and severe depression. The dimension of "values/beliefs" was correlated with social dysfunction and severe depression. Also, the dimension of "forgiveness" was correlated with all GHQ-28 subscales. The "organizational religiousness" dimension was correlated with anxiety/insomnia, while overall self-ranking was correlated with social dysfunction and severe depression. On the contrary, the dimension of "meaning" had a negative correlation with somatic symptoms. Multiple linear regression analyses were conducted with dependent variables the GHQ-28 subscales. After adjusting for demographics (sex, age, family status, number of family members, living alone, with others or with family and place of birth) it was found that the dimension of "meaning" was independently negative associated with somatic symptoms and the dimension of "daily spiritual experiences" was positively associated with anxiety and insomnia symptoms (table 3). Also, the dimension of "values/beliefs" and the overall self-ranking were positively associated social dysfunction and the dimensions of "daily spiritual experiences", "values/beliefs", "forgiveness", as well as the overall self-ranking were associated with severe depression (table 4).

Discussion

In order to comprehend the above findings it is essential to have in mind that high scores in the dimensions of religiosity corresponded to a low level of religiosity and high scores in the GHQ-28 subscales corresponded to high morbidity. In our study certain religiosity dimensions ("daily spiritual experiences", "values/beliefs", "organizational religiousness" and overall self-ranking) were correlated with specific subscales of GHQ-28 and "forgiveness" with all subscales, with the exception of the "meaning" dimension which was negatively correlated with somatic symptoms. In the multiple linear regression analyses "meaning" was independently negative associated with somatic symptoms, but on the other hand, "daily spiritual experiences" are independently associated with anxiety and insomnia symptoms, "values/beliefs" and the overall self-ranking are independently

Table 2. Pearson's correlation co-efficients of GHQ-28 subscales with religiosity dimensions.

	GHQ-28			
	Somatic symptoms	*Anxiety/ insomnia*	*Social dysfunction*	Severe depression
Daily spiritual experiences	0.05	0.21**	0.15*	0.22**
Values/Beliefs	–0.08	0.05	0.15*	0.20**
Forgiveness	0.16*	0.17*	0.17*	0.28***
Private religious practices	0.00	0.10	0.00	0.11
Religious/Spiritual coping	–0.14	–0.04	0.09	0.08
Religious support	0.04	0.10	–0.04	0.11
Religious/Spiritual history	0.02	0.13	0.02	0.11
Commitment	0.03	0.08	0.11	0.14
Organizational religiousness	0.09	0.22**	0.00	0.13
Overall self-ranking	0.02	0.12	0.24**	0.21**
Meaning	–0.15*	0.03	0.11	0.02

*p<0.05, **p<0.01, ***p<0.001

Table 3. Multiple linear regression models: regression coefficients±standard errors for somatic symptoms and Anxiety/Insomnia subscales.

	Somatic symptoms		*Anxiety/insomnia*	
	β±SE*	*p*	*β*±SE*	*p*
Daily spiritual experiences	0.26±0.36	0.475	0.91±0.4	**0.023**
Values/Beliefs	–0.48±0.71	0.499	0.66±0.78	0.398
Forgiveness	0.79±0.7	0.260	1.05±0.77	0.175
Private religious practices	0.06±0.3	0.829	0.35±0.33	0.286
Religious/Spiritual coping	–1.19±0.82	0.153	–0.23±0.94	0.810
Religious support	0.12±0.53	0.826	0.46±0.6	0.446
Religious/Spiritual history	–0.12±1.29	0.926	1.83±1.43	0.203
Commitment	0.29±0.56	0.602	0.47±0.63	0.460
Organizational religiousness	0.21±0.33	0.538	0.60±0.38	0.117
Overall self-ranking	–0.22±0.57	0.704	0.53±0.64	0.407
Meaning	–1.18±0.54	**0.032**	0.14±0.61	0.819

*Adjusted for sex, age, family status, number of family members, living alone, with others or with family and place of birth

associated to social dysfunction and "daily spiritual experiences", "values/beliefs", "forgiveness", as well as the overall self-ranking were independently associated with severe depression.

In the present study, most of the dimensions of religiosity were correlated with lower morbidity, with the exception of finding meaning. That is, the greater the religious meaning exhibited by the participants, the more bodily symptoms they displayed. Perhaps, this result could be interpreted with recourse to religion in order to find meaning in life ordeals.

The daily spiritual experiences seem to constitute a predictive factor for anxiety and insomnia, a finding similar to previous reports.[10–12] This dimension refers mainly to the subject's relationship to the transcendental in daily life, as it is hypostasized in experiences of unity, fulfilment, security, love and harmony. These feelings may play a protective role against psychological stress, and therefore are helpful in sustaining health and well-being.

Also, increased religiosity in general (overall self-ranking) seems to promote social functioning, a fact which could contribute to sustaining relation-

Table 4. Multiple linear regression models: regression co-efficients±standard errors for social dysfunction and severe depression subscales.

	Social dysfunction		*Severe depression*	
	β±SE*	*p*	*β*±SE*	*p*
Daily spiritual experiences	0.54±0.29	0.063	0.61±0.28	**0.030**
Values/Beliefs	1.25±0.55	**0.026**	1.40±0.54	**0.010**
Forgiveness	0.8±0.56	0.152	1.29±0.53	**0.017**
Private religious practices	0.04±0.24	0.868	0.30±0.23	0.187
Religious/Spiritual coping	0.76±0.67	0.260	1.16±0.65	0.077
Religious support	–0.45±0.43	0.297	0.49±0.42	0.240
Religious/Spiritual history	0.2±1.03	0.845	0.43±1.01	0.674
Commitment	0.55±0.45	0.223	0.88±0.46	0.086
Organizational religiousness	0.01±0.27	0.979	0.35±0.26	0.186
Overall self-ranking	1.17±0.45	**0.010**	1.16±0.44	**0.009**
Meaning	0.46±0.44	0.299	0.02±0.43	0.955

*Adjusted for sex, age, family status, number of family members, living alone, with others or with family and place of birth

ships, social interactions and a supportive social network.[13] Social support, defined as the feeling of belonging to a social network encompassing, accepting and offering tangible support to the individual, is considered to be an important factor maintaining health in general and mental health and well-being in particular.[14]

In the present study, forgiveness was independently associated with depression, which means that forgiveness may help prevent depressive symptoms. These results are consistent with a growing body of research supporting a positive association between forgiveness and lower levels of psychological distress and depression.[15–18]

A direct effect of forgiveness on depression may operate through rumination by involving such negative emotions as resentment, hatred, hostility, anger and fear.[19] Cognitive theory suggests that negative and often punitive thoughts about the self, such as worthlessness and guilt, are a key characteristic of depression.[20] An indirect effect may operate through mediating associations with distinct variables such as health behavior, interpersonal functioning and social support.[21] So, improvements in intrapersonal and interpersonal functioning, via forgiveness, may consequently affect risk for depression.[22]

In addition, daily spiritual experiences, strong religious values and increased religiosity in general may help prevent depressive symptoms. These findings are in accordance to previous reports in different populations.[23–25]

It is a fact that in some studies about religiosity and morbidity there were no statistically significant correlations,[26,27] but this could be caused by the misrecognition of crucial dimensions of religious experience as well as by the lack of sensitivity of the instruments measuring religiosity.[28] In any case, there is a growing bibliography foregrounding the relationship between religiosity and its various dimensions with low morbidity or mental well-being[29–31] and our findings support this conclusion. Further investigation could demonstrate possible interactions within the dimensions of religiosity and spirituality, as well as the way in which religiosity and situational factors might co-determine morbidity on an individual level.

Limitations

The population of our study was relatively homogeneous with respect to religiosity or health status. A non-clinical sample of young adults completing a measure of subjective health status is likely to result in limited variability for individual items which, in turn, can also attenuate the resulting correlations of interest. Furthermore, it is always important to consider that respondents reporting on religiousness and spirituality can be influenced by social desirability. Our self report, cross-sectional methodology precludes assessment of causality.

Διαστάσεις θρησκευτικότητας και υποκειμενική αξιολόγηση της υγείας σε Έλληνες φοιτητές

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Η αναζήτηση υπαρξιακού νοήματος αποτελεί καθολικό και πανανθρώπινο φαινόμενο που βρίσκει την έκφρασή του μέσα από τις επίσημες θρησκείες ή την προσωπική «αναζήτηση». Η σύγχρονη έρευνα έχει αναδείξει ποικίλες συσχετίσεις μεταξύ της θρησκευτικότητας και παραμέτρων ψυχικής υγείας˙ 202 υγιείς φοιτητές του τμήματος Κοινωνικής Θεολογίας ΕΚΠΑ συμπλήρωσαν το Βραχύ Πολυδιαστατικό Ερωτηματολόγιο Θρησκευτικότητας-Πνευματικότητας (BMMRS) και το Ερωτηματολόγιο Γενικής Υγείας (GHQ-28). Οι μετρούμενες διαστάσεις της θρησκευτικότητας/πνευματικότητας είναι οι εξής: ημερήσιες πνευματικές εμπειρίες, αξίες/πεποιθήσεις, συγχωρητικότητα, ιδιωτικές θρησκευτικές πρακτικές, θρησκευτικοί/πνευματικοί τρόποι αντιμετώπισης, θρησκευτική υποστήριξη, θρησκευτικό/πνευματικό ιστορικό, δέσμευση, οργανωμένη θρησκευτικότητα, νόημα ζωής και θρησκευτική προτίμηση/συνολική αυτοαξιολόγηση. Το GHQ-28 είναι ένα αυτοσυμπληρούμενο ερωτηματολόγιο το οποίο χρησιμοποιείται για την ανίχνευση πρόσφατης (τελευταίες δύο εβδομάδες) ψυχικής νοσηρότητας και περιλαμβάνει 4 υποκλίμακες: σωματικά συμπτώματα, άγχος και αϋπνία, κοινωνική δυσλειτουργία, σοβαρή κατάθλιψη. Για τον έλεγχο της σχέσης δύο ποσοτικών μεταβλητών χρησιμοποιήθηκε ο συντελεστής συσχέτισης του Pearson. Η ανάλυση γραμμικής παλινδρόμησης με τη διαδικασία διαδοχικής ένταξης/αφαίρεσης χρησιμοποιήθηκε για την εύρεση ανεξάρτητων συσχετίσεων των διαστάσεων θρησκευτικότητας με τις υποκλίμακες GHQ-28. Πρέπει να υπογραμμισθεί πως χαμηλή βαθμολογία αντιστοιχεί σε υψηλή θρησκευτικότητα/πνευματικότητα σε όλες τις διαστάσεις του BMMRS. Όσο λιγότερες ήταν οι ημερήσιες πνευματικές εμπειρίες, τόσο περισσότερα ήταν τα συμπτώματα άγχους και αϋπνίας, κοινωνικής δυσλειτουργίας και κατάθλιψης. Ακόμη, όσο λιγότερες οι αξίες/πεποιθήσεις, τόσο περισσότερη η κοινωνική δυσλειτουργία και η κατάθλιψη καθώς και όσο λιγότερη ήταν η συγχωρητικότητα, τόσο περισσότερα ήταν τα συμπτώματα σε όλες τις υποκλίμακες του GHQ-28. Επιπλέον, όσο λιγότερη ήταν η οργανωμένη θρησκευτικότητα, τόσο περισσότερα ήταν τα συμπτώματα άγχους και αϋπνίας, ενώ όσο μικρότερη ήταν η συνολική αυτοαξιολόγηση, τόσο περισσότερη η κοινωνική δυσλειτουργία και η κατάθλιψη. Αντίθετα, όσο μεγαλύτερο νόημα ζωής βρίσκουν οι συμμετέχοντες στη θρησκεία, τόσο περισσότερα ήταν τα σωματικά τους συμπτώματα. Επιπροσθέτως, στην ανάλυση γραμμικής παλινδρόμησης, η υποκλίμακα των σωματικών συμπτωμάτων εξαρτάται αρνητικά από τη διάσταση «νόημα» (p=0,032), ενώ η υποκλίμακα του άγχους-αϋπνίας εξαρτάται θετικά από τη διάσταση «ημερήσιες πνευματικές εμπειρίες» (p=0,023). Επίσης, η υποκλίμακα της κοινωνικής δυσλειτουργίας εξαρτάται θετικά από τη διάσταση «αξίες/πεποιθήσεις» (p=0,026) και τη συνολική αυτοαξιολόγηση (p=0,01), ενώ η υποκλίμακα της κατάθλιψης εξαρτάται θετικά από τις διαστάσεις «ημερήσιες πνευματικές εμπειρίες» (p=0,03), «αξίες/πεποιθήσεις» (p=0,01), «συγχωρητικότητα» (p=0,017) και τη συνολική αυτοαξιολόγηση (p=0,009). Ορισμένες διαστάσεις θρησκευτικότητας-πνευματικότητας (ημερήσιες πνευματικές εμπειρίες, αξίες/πεποιθήσεις, συγχωρητικότητα και οργανωμένη θρησκευτικότητα) συσχετίζονται με χαμηλότερη νοσηρότητα, ενώ η διάσταση «νόημα ζωής» με περισσότερα σωματικά συμπτώματα.

Λέξεις ευρετηρίου: Θρησκευτικότητα, πνευματικότητα, ψυχική υγεία.

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Special article
Ειδικό άρθρο

Early psychotic experiences: Interventions, problems and perspectives

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Psychotic or psychotic-like experiences and symptoms may precede and be indicative of later psychosis emergence. DSM-5 has introduced Attenuated Psychosis Syndrome (APS) as a condition for further study, arguing for its clinical validity and the need for identifying subthreshold psychotic states. Early psychosis intervention has an already established role in reducing the Duration of Untreated Psychosis (DUP), delaying psychosis onset and relieving Ultra High Risk (UHR) individuals from their presenting symptoms. Pharmacological and mainly psychotherapeutical approaches are suggested for this purpose. Cognitive Behavior Therapy (CBT) seems to have clear evidence of favorable outcome concerning transition to psychosis rates, omega-3 fatty acids lower but promising evidence, while low-dose antipsychotic medication or antidepressant treatment may seem beneficial, but it remains unclear if the reported favorable effects persist in the long term and how long intervention in UHR subjects should be given for. Case management and close monitoring based on principles of social psychiatry are considered key elements for the management of UHR individuals. However, the blazing case about early psychosis concerns the accurate specification of the prodromal stage of psychosis, which may set the basis for meaningful and effective early intervention. Although psychometric tools have been developed and provide a common criteria-based recognition method, debate is alive and well regarding "false positive" cases, since most UHR subjects will not finally develop psychosis. Moreover, transition rates to psychosis have been declining over the years, leading to fierce criticism over the validity of the UHR/APS state and legitimacy of its treatment. On this framework, ethical issues of stigmatizing through unnecessary diagnosing and antipsychotics' prescribing are matters of serious questioning. Clinical heterogeneity and high comorbidity are further implications of the UHR state. Current research emphasizes on improving validity of inclusion criteria and formulating personalised and clinical stage-based intervention strategies. In order to do that, early psychosis recognition and intervention ser-

vices are established throughout the world, trying to contribute in research by applying clinical, cognitive or neuropsychological criteria. Nevertheless, in the majority of so far conducted studies, samples sizes are considered small and duration of follow-up short, which are limitations yet to overcome. Other scientific voices argue that the UHR state might represent a non-specific risk factor for psychiatric disorders in general and not necessarily for psychosis and tend to examine the UHR and early intervention idea under the prism of subthreshold or early mental distress state. Either way, recognizing and intervening early in emerging psychiatric states, especially in those with psychotic or psychotic-like symptomatology, share indisputable benefits under the broader concept of prevention, setting a strong scientific-clinical rationale for service provision to help-seeking people and the possibility of changing the course for those with vulnerability to psychotic illnesses.

Key words: Early psychosis, Attenuated Psychosis Syndrome, psychosis prodrome, preventive psychiatry.

Introduction

Early detection and care are as critical in potentially serious mental illness as they are in physical illnesses such as cancer, diabetes and cardiovascular disease. According to the World Health Organization's World Health Report 2001, schizophrenia and other forms of psychoses, which affect at most young people, represent a major public health problem. Worldwide, schizophrenia ranks among the top 10 causes of disability.[1] Schizophrenia is related with poor physical health and premature death, with a reduction in life expectancy of 10–25 years compared to general population, mainly due to higher risk for cardiovascular, metabolic, respiratory diseases and suicide.[2] Moreover, there are major social and financial consequences, though it is hard to estimate precisely the direct and indirect impact.[3,4] Thus, schizophrenia and psychosis in general pose an enormous burden, both in terms of economic cost and of human suffering. Beside the importance of this serious mental illness and the need for research regarding its nature, it is common knowledge that prevention is the best therapy. Although therapeutic options are improving, the illness course for patients with psychotic disorders is often disappointing with multiple hospitalizations and a lifetime of antipsychotic medication prescriptions.[5] As the field is far from a "cure" for psychotic disorders, advancing prevention and early intervention is vital to improving functional deficits and later outcome. Identification of those most at risk for developing a psychotic disorder is a crucial step. The onset of psychosis may be preceded by weeks, months or years of psychological and behavioral abnormalities, including disturbances in cognition, speech, emotion, perception, motivation and sleep. The emergence of these symptoms provides researchers with an opportunity to identify those at heightened risk for psychosis conversion and to conduct research on early treatment. Over the last 20 years, a focus on early intervention in psychotic disorders has emerged. Initially, the early psychosis movement focused on timely recognition, phase-specific treatment of first-episode psychosis and the crucial time period coming up.[6] However, early psychosis researchers suspected that pushing the point of intervention even further, back to the prodromal phase of psychotic disorders, may result in even better outcomes.

The early (prodromal) phase

The "prodromal phase" is characterized by non-specific or subtle psychotic symptoms and functioning impairment.[7] People with such symptoms are considered Ultra High Risk (UHR) for developing psychosis. People UHR of psychosis are associated with an approximately 30% risk of developing psychosis in the following two years, 400 times greater risk than normal people, three- to four-fold higher risk than people with family history of psychosis alone.[8,9] We can conclude that most UHR subjects will not develop psychosis. Hence the term "Ultra High Risk" is preferred rather than "prodromal", as the last one refers to the period of subclinical signs and symptoms that usually precedes the onset of psychosis.

Intervening early and effectively in the course of psychosis can limit initial problems and improve long-term prospects for recovery. This is further reinforced by the emerging role of the Duration of Untreated Psychosis (DUP). Recent research indicates that longer DUP is associated with worse functional outcomes in addition to persistent symptoms, poorer quality of life and lower treatment response.[10,11] This is one additional reason for early recognition and intervention for UHR people. Moreover, effective treatment of first psychotic episode improves prediction and determines more or less further outcome with an emphasis given in the first five years of the psychotic disease.[12]

Early recognition (Psychometric tools and Criteria)

The clinical assessment of UHR people is considered rather challenging, since these people have a difficult, subtle psychopathology and are usually guarded. As a result, two or three sessions may be required for safe clinical evaluation. The small percentage of individuals that will finally develop full-blown psychosis in comparison with the total number of those diagnosed as UHR raises the question of "false positive" diagnoses and stigmatization. In order to limit false positive cases, efforts for accurate diagnostic tools and better screening methods are made.

For this purpose, established psychometric tools are being used, specifically CAARMS (Comprehensive Assessment of At Risk Mental States) and SPI-A (Schizophrenia Proneness Instrument). These tools display the patient's emerging symptoms and combined with psychiatric examination, genetic predisposure, family history, young age, presence of risk factors (such as cannabis abuse or immigration) and recent functioning impairment, contribute in the formulation of Ultra High Risk criteria[13] in order to compose a Close-in Strategy.[14] The most prevalent classification of UHR people has been suggested from PACE (Personal Assessment and Crisis Evaluation) clinic in Australia. According to this suggestion,[15] UHR people are classified in three groups: (a) group of Attenuated Psychotic Symptoms (APS) in which subjects have experienced subthreshold, attenuated positive symptoms during the past year, (b) group of Brief Limited Intermittent Psychotic Symptoms (BLIPS) in which subjects have experienced episodes of frank psychotic symptoms that have not lasted longer than a week and have spontaneously abated, (c) group of Trait and State Risk Factor (TSRF) in which subjects have either a first-degree relative with psychotic disorder or a schizotypal personality disorder and have experienced a significant decrease in functioning during the last year.

Early management

The experience of early intervention services has indicated that UHR subjects are 'help-seeking', clinically unwell, functionally impaired and usually in distress. They ask for some form of treatment and are mostly concerned about their presenting problems and less about their risk of developing a psychotic disorder.[16] It is important to notice that in UHR patients insight is less impaired than in psychotic patients. This is a key difference in the appraisal of symptoms, as UHR subjects attribute abnormal experiences to their personal being unwell, while psychotic patients display bizarre or externalizing explanations for their symptoms.[17] Since an UHR patient is presented or referred in an early intervention service, there are short and long term objectives regarding his clinical management. Short term objectives concern relieving of presenting symptoms and functional disability and providing information (psychoeducation), while long term focuses on prevention of psychosis and outcome improvement, if psychosis eventually develops. The efficacy of clinical management is related to engagement maximization and rapid response to referral, flexibility with time and place of assessments, psychoeducation, targeted case management (help with occupational and social problems), psychological intervention (Cognitive Behavioural Therapy at most), low dose antipsychotic medication or antidepressant treatment. Both pharmacological and psychological interventions appear to be effective in reducing the severity of presenting symptoms in UHR subjects. Monitoring of UHR subjects for the first signs of frank psychosis has shown promise in reducing the delay of untreated psychosis. Follow-up studies are required to test whether the reduction of DUP leads to an improved long term outcome and thus prognostic value.

Early treatment-intervention

Antipsychotics

Antipsychotic medication has been established as a standard of care for persons diagnosed with a psychotic disorder. According to this rationale, several trials of antipsychotic agents' administration have been conducted in UHR individuals.

Two randomized clinical trials (RCT) have tested antipsychotic medication in early psychosis. In the first study, risperidone (1–2 mg/day) or CBT added to needs-based intervention was compared to needs-based intervention alone for six months and was found superior regarding transition to psychosis rates. However, the study groups were not blinded to the treatment and the effects of treatment did not persist at either 12 months or 3 years of follow-up.[18] Another study compared the effects of olanzapine versus placebo with a double-blind randomization, with no significant differentiation in transition to psychosis after 12 months.[19] while high drop-out rates did not allow analysis for two-year outcome. In two additional open-label studies, researchers have examined the effect of atypical antipsychotics on symptom severity in prodromal individuals. A small, non randomized study examined UHR participants after 8 weeks of receiving aripiprazole. Results indicated moderate reductions in positive, disorganization and general symptoms and a significant functional improvement.[20] Another randomized parallel-group study compared amisulpride plus needs-based treatment to needs-based treatment alone. At the 12-week outcome, amisulpride plus needs-based treatment was associated with a reduction in positive, basic, negative and depressive symptoms, as well as an improvement in functional deficits.[21] Both aripiprazole and amisulpride were associated with less weight gain than has been observed with olanzapine or risperidone.

In summary, results of antipsychotic medication studies in UHR studies suggest that intervention may delay conversion to psychosis and improve symptoms during the active phase of treatment, but there is no evidence of lasting effects after treatment cessation. Meanwhile, there is skepticism over sensitization of dopamine receptors in the brain, as it has been suggested that possibly leads to supersensitivity psychosis or rapid-onset psychosis following cessation of antipsychotic medication.[22]

Antidepressants

Since administration of antipsychotic agents is accompanied by social stigmatizing, low adherence and small tolerance due to side effects, antidepressant studies in UHR population are conducted. Moreover, up to 50% of UHR subjects present with low mood and anxiety in addition to their attenuated psychotic symptoms.[23] Antidepressants may have an effect on the development of psychosis, as emotional dysregulation processes, anxiety and depressive symptoms have impact on ongoing psychopathology and isolated psychotic experiences are more likely to develop into delusional mood and frank psychosis, if they occur in the context of depression. Antidepressants could improve mood, thereby reducing faulty attributions and appraisals of prodromal symptoms. Similarly, antidepressants may also minimize the risk of psychosis by modulating how individuals respond to environmental stressors.

Studies comparing antidepressant to antipsychotic treatment for UHR, found that both improved clinical symptoms, but conversion rates in antidepressant treatment groups were much lower than those of antipsychotic treatment.[24–26] Issues regarding studies' methodology question the results, as UHR individuals with more severe attenuated symptoms or higher level of disorganized thinking tended to be administered with antipsychotics, while UHR individuals with less severe symptoms were treated with antidepressants.

Psychotherapy

Psychological interventions have been explored as cost-effective, well-tolerated and more preferable as treatment options by consumers. In patients with schizophrenia, research indicates that social skills, cognition and interaction training programs lead to improvements in measures of social functioning. Psychoeducational family interventions also improve social adjustment as well as quality of life, family burden and treatment adherence.

Moreover CBT is widely used in UHR subjects. For example, in the OASIS (Outreach And Support In South London) Early Psychosis service, when pa-

tients are offered the choice of treatment, the majority (70%) of UHR subjects choose to have CBT. In a recent meta-analysis,[27] five trials of CBT were found to have moderate effect on transition to psychosis at both 12 and 18 months. There has also been evidence that complex psychosocial interventions (integrated psychotherapy, psychotherapy plus pharmacological treatment) could reduce transition or delay onset of psychosis, relative to supportive counselling or treatment as usual.

In conclusion, CBT has shown clear evidence of moderate quality on reducing transition to psychosis at 12 months.

Emerging treatments

There is evidence on neurodevelopmental disorders suggesting that fatty acid deficiencies or imbalances may be a contributing factor. Researchers have began to examine the effects of fatty acids, such as omega-3 fish oils [eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA)], on neuropsychiatric disorders such as schizophrenia, depression, bipolar disorder, autism, attention-deficit/hyperactivity disorder, dyslexia and dyspraxia.[28,29] A 12-week trial was conducted comparing EPA with placebo in UHR subjects. At 12 months of follow-up, only 5% of UHR individuals in the EPA group had developed psychosis, compared to 29% in the placebo group. There were also improvements in the levels of attenuated positive and negative symptoms in the active EPA treatment group.[30] This robust finding is being questioned due to small number of events,[27] however, replication, large multi-center study is currently ongoing.

Other ongoing trials, such as PREVENT, are multicentered, with larger samples and aim in comparing psychotherapeutic interventions, omega-3 fish oils, antipsychotic agents (ziprasidone, quetiapine, aripiprazole) with placebo.[31] Moreover, other neuroprotective agents, as lithium or glycine, have been tested in small open label studies[32] in UHR individuals. Finally, two other studies investigate the influence of glutamatergic agents as D-serine and sarcosine compared to placebo.

The upcoming results of these studies will substantially expand the literature on the use of pharmacological or psychological treatments among individuals meeting prodromal or UHR criteria.

Limitations of trials to date

Though it is suggested that both pharmacological and psychological interventions at the UHR stage can ameliorate presenting symptoms reporting positive results, it remains unclear whether each or any intervention can prevent psychosis onset. To date trials are underpowered, because of small sample sizes. UHR individuals are difficult to identify and engage, unless they are help-seeking and significant distressed. Another important feature yet to be determined is how long treatment in the UHR stage should last. Trials conducted so far do not answer this question, as both the duration of the interventions and the follow-up periods have been relatively short. It also remains unclear if benefits persist after cessation of treatment.[6] Finally, neither heterogeneity in UHR population nor phase-specific intervention approaches are adequately considered.

The DSM-5 "Attenuated Psychosis Syndrome" and current attitudes

Attenuated psychosis syndrome (APS) was not included in DSM-5 as an official psychiatric disorder, but introduced as a “condition for further study”. In section 3 of DSM-5, APS is described as a subthreshold (in duration and/or severity) psychotic syndrome. In comparison with psychotic disorders, the APS psychotic-like symptoms are less severe and more transient, are accompanied with distress and impaired function, while insight is relatively maintained. The need of defining APS has emerged, since research indicate that APS individuals are at higher risk of developing a full-blown psychotic disorder within the next two years.

Nevertheless, concerns regarding its validity as a clinical entity, ethical issues related to the stigma of a given diagnosis and unnecessary antipsychotic medication to a probable self-limited psychopathology, raise skepticism and serious objections in determining whether APS should be accepted as an official diagnosis in later editions of DSM.[33]

In order to avoid stigmatization, authors have proposed the term "Subthreshold Prodromal State",

"Subthreshold" because of the decreased severity of psychotic symptoms, "Prodromal" both because the term has been associated with psychosis and because the subjects could manifest major psychopathology in the future, and "State" because diagnosis may change with time.[34]

At the same time, the majority of APS individuals has one or more other current psychiatric comorbid conditions[35] (usually mood or anxiety disorders) and does not (as could initially be hypothesized) exhibit conversion to psychosis, but other psychiatric outcomes (most of them either fully recovery or development of some other psychiatric disorder and only a small proportion develops psychotic disorder). As a consequence, the UHR state might not necessarily be indicative of future psychosis. Moreover, the transition risk varies among studies with the age of the patient, the type of treatment provided and the way the syndrome and transition to psychosis are defined.[36] Recent studies have echoed this with the observed decline in transition rates[36] and presume that the UHR state might represent a non-specific risk factor for psychiatric disorders[37] and not specific for psychosis.

Besides, subthreshold psychotic experiences are commonly met in general population and the majority of them are transitory and disappear over time.[38] Nevertheless, it may become abnormally persistent –and subsequently impairing and clinically relevant– depending on the degree of environmental risk the person is additionally exposed to, according to the psychosis continuum hypothesis.[38]

Therefore, other key researchers tend to abandon the UHR idea and focus early, specific-phase intervention concept on the broad syndrome of early mental distress.[39]

Outstanding issues

Early psychosis services worldwide have adopted certain intervention strategies and face common problems. It is debated whether duration of early intervention should last for one, two years or more. The most popular approach in early intervention services worldwide is to provide care for two years, as during this period the risk of transition to psychosis is considered to be maximal.

Clinical staging has been proposed as an intervention model in UHR subjects. This model[40] is suggested in correspondence to somatic diseases (e.g. staging in cancer), examines the course of prepsychotic phase and the quantitive and qualitive features of psychopathology in terms of phenomenology and respective severity. This suggests that the nature of the intervention should depend on the stage of illness, progressing from low intensity/frequency attenuated psychotic symptoms and low-risk treatments towards more intensive interventions for those who do not show a response and who may be more at risk. It is suggested that through clinical staging, it is possible to provide acceptable and less stigmatizing interventions to patients.[41] Up to date, there have been efforts in formulating evolving phases of clinical model in the prodromal states according to severity of positive symptoms at baseline. For example, the Hillside-RAP (Recognition and Prevention programme) suggested a modified version of the PACE criteria[15] using the term of CRH (Clinical High Risk) based on presence of positive or negative symptoms,[42] the PRIME (Prevention through Risk Identification, Management and Education) programme suggested another early recognition method with modified criteria (COPS, Criteria of Prodromal Syndromes) and psychometric tool (SIPS, Structured Interview for Prodromal Syndromes),[43] while the GRNS (German Research Network for Schizophrenia) programme focused on a risk classification model (Initial Prodromal State, EIPS and Late Initial Prodromal State, LIPS)[44] based on basic symptoms criteria.[45]

Need for targeted intervention has been emphasized, since validity of current UHR criteria are debated, as only a minority of UHR subjects will later develop psychosis. Researchers focus on determining factors or features that could identify the subgroup of subjects who will later become psychotic, so that preventative treatment could be given to those who need it most. This would permit a more efficient use of clinical resources and would be more acceptable from an ethical perspective. A number of clinical measures have been identified that are associated with the later onset of psychosis within UHR samples. The multi-center NAPLS study (North American Prodrome Longitudinal Study) reported

that the combination of a family history of schizophrenia, recent functional deterioration, unusual thought content and suspiciousness/paranoia, and social functioning deficits provided a positive predictive power for later psychosis of up to 80%.[46] The EPOS (European Prediction of Psychosis Study) multicenter study found that SIPS (Structured Interview for Prodromal Syndromes) positive score, bizarre thinking, sleep disturbances, schizotypal personality disorder, global functioning score in the past year, and years of education were the best predictor variables.[47] Neuropsychological studies of UHR subjects at clinical presentation have suggested that certain deficits, particularly impairments in episodic memory, are more marked in subjects who later develop psychosis.[48] Recent studies indicate that Basic Symptom Criteria[49] or combining UHR and cognitive Basic Symptom Criteria may have greater predictive value,[50] improving sensitivity and risk estimation.

Finally, neuroimaging studies of UHR subjects at presentation have found that the subsequent onset of psychosis is associated with smaller prefrontal and medial temporal volumes, increased prefrontal, medial temporal, lateral temporal and midbrain activation increased subcortical dopamine function and an alteration in the relationship between subcortical dopamine function and medial temporal glutamate levels.[51,52]

Conclusion

Till now, early psychosis intervention trials have indicated that both pharmacological and psychological intervention strategies may be of value in terms of symptom reduction and onset delay of threshold psychotic disorder. Reducing DUP and severity of first episode is an indisputable benefit and very important for the first critical period of psychosis. On the other hand, it remains unsure whether these interventions have preventive value. UHR criteria lack convincing validity and sensitivity, since the majority of at risk individuals will not develop psychosis and "false positive" cases consist an issue of strong debate. Small cohort samples and limited duration of follow-up are limitations of so far conducted studies and are yet to overcome. It also remains unclear if the reported beneficial effects persist in the long term and how long intervention in UHR subjects should be given for. Clinical heterogeneity and high comorbidity in UHR subjects impose different methodological research conceptualization and individualized intervention. Clinical staging is proposed as an effective model in order to make early intervention meaningful. Ethical matters and stigmatizing in terms of unnecessary diagnosing and treating should always be considered. DSM-5 has introduced APS as an under consideration psychiatric condition, but all the above issues should be addressed in the field of research.

Πρώιμες ψυχωσικές εμπειρίες: Παρεμβάσεις, προβληματισμοί και προοπτικές

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Οι ψυχωσικού τύπου εμπειρίες και συμπτώματα μπορεί να προηγούνται και να προειδοποιούν για μετέπειτα εμφάνισης ψύχωσης. Το DSM-5 εισήγαγε την έννοια του «Συνδρόμου Εξασθενημένης Ψύχωσης» (Attenuated Psychosis Syndrome, APS) ως «κατάσταση για περαιτέρω διερεύνηση», υποστηρίζοντας την κλινική της εγκυρότητα και την ανάγκη για έγκαιρη ανίχνευση των υποουδικών ψυχωσικών εκδηλώσεων. Η πρώιμη παρέμβαση στην ψύχωση έχει ήδη καθιερωμένο ρόλο στη μείωση του χρόνου μη θεραπευόμενης ψύχωσης, στην καθυστέρηση της έναρξης της ψύχωσης και στην

ανακούφιση των ατόμων λίαν υψηλού κινδύνου (Ultra High Risk, UHR) από τα συμπτώματά τους. Έχουν προταθεί τόσο φαρμακολογικές όσο και ψυχοθεραπευτικές προσεγγίσεις για τον σκοπό αυτόν. Η Γνωσιακή-Συμπεριφορική Ψυχοθεραπεία φαίνεται να έχει σαφείς ενδείξεις και ευνοϊκό αποτέλεσμα όσον αφορά στα ποσοστά μετάβασης σε ψύχωση, τα ωμέγα-3 λιπαρά οξέα χαμηλότερα αλλά υποσχόμενα αποτελέσματα, ενώ η χρήση αντιψυχωσικών (σε χαμηλές δόσεις) ή αντικαταθλιπτικών φαρμάκων μπορεί να φανεί ευεργετική, ωστόσο παραμένει ασαφές, εάν τα ευνοϊκά αποτελέσματα της όποιας παρέμβασης διαρκούν και για πόσον καιρό θα πρέπει να εφαρμόζεται στους UHR. Η διαχείριση περίπτωσης και η στενή παρακολούθηση σε επίπεδο οργανωμένης δομής με βάση αρχές της κοινοτικής ψυχιατρικής αποτελούν βασικά στοιχεία για τον χειρισμό των ατόμων υψηλού κινδύνου. Ωστόσο, το φλέγον ζήτημα σχετικά με την πρώιμη ψύχωση αφορά στον ακριβή και έγκυρο προσδιορισμό του προδρομικού σταδίου της ψύχωσης, που μπορεί να θέσει τις βάσεις για ουσιαστική και αποτελεσματική έγκαιρη παρέμβαση. Αν και έχουν αναπτυχθεί ψυχομετρικά εργαλεία που παρέχουν μια κοινή, βάσει κριτηρίων, μέθοδο αναγνώρισης των UHR ατόμων, η διαμάχη μεταξύ ερευνητών καλά κρατεί όσον αφορά στις «ψευδώς θετικές» περιπτώσεις, δεδομένου ότι τα περισσότερα εξ αυτών δεν θα εκδηλώσουν ποτέ ψύχωση. Επιπλέον, οι έρευνες δείχνουν ότι τα ποσοστά μετάβασης σε ψύχωση έχουν μειωθεί με την πάροδο των ετών, οδηγώντας σε έντονη κριτική για την κλινική εγκυρότητα των UHR/APS καταστάσεων και τη δεοντολογία ως προς την όποια παρέμβαση σε αυτές. Σε αυτό το πλαίσιο, τα ηθικά ζητήματα, που προκύπτουν από τον στιγματισμό μέσω των περιττών διαγνώσεων και της συνταγογράφησης αντιψυχωσικών, συνιστούν σημεία σοβαρής συζήτησης. Η κλινική ετερογένεια και η υψηλή συννοσηρότητα των UHR ατόμων αποτελούν στοιχεία περαιτέρω προβληματισμού. Η τρέχουσα έρευνα δίνει έμφαση στη βελτίωση της εγκυρότητας των κριτηρίων ένταξης και τη διαμόρφωση εξατομικευμένων στρατηγικών παρέμβασης με βάση το μοντέλο κλινικών σταδίων. Προς τον σκοπό αυτόν, δομές πρώιμης αναγνώρισης και παρέμβασης στην ψύχωση, που έχουν αναπτυχθεί ανά τον κόσμο, προσπαθούν να συμβάλουν στην έρευνα με την εφαρμογή κλινικών, γνωστικών ή νευροψυχολογικών κριτηρίων. Παρόλ' αυτά, στην πλειονότητα των μέχρι τώρα δημοσιευμένων μελετών, υπάρχουν αρκετοί περιορισμοί που δεν έχουν ακόμα αρθεί, καθώς τα μεγέθη των προς έρευνα πληθυσμών θεωρούνται μικρά και η διάρκεια της παρακολούθησης σύντομη. Άλλες επιστημονικές φωνές υποστηρίζουν ότι η κατάσταση UHR μπορεί να αντιπροσωπεύει έναν μη ειδικό παράγοντα κινδύνου για ψυχιατρικές διαταραχές γενικά και όχι απαραίτητα για ψύχωση, ενώ υπάρχει η τάση να εξετάζεται η ιδέα της έγκαιρης παρέμβασης υπό το πρίσμα της υποουδικής ή πρώιμης ψυχικής κατάστασης δυσφορίας. Είτε έτσι είτε αλλιώς, η αναγνώριση και η έγκαιρη παρέμβαση σε αναδυόμενες ψυχιατρικές καταστάσεις, ιδιαίτερα σε εκείνες με ψυχωσική ή ψυχωσικού τύπου συμπτωματολογία, συνεπάγονται αδιαμφισβήτητα οφέλη υπό την ευρύτερη έννοια της πρόληψης, θέτοντας ένα ισχυρό επιστημονικο-κλινικό πλαίσιο για πρόσβαση σε παροχή υπηρεσιών σε όσους έχουν ανάγκη από βοήθεια και τη δυνατότητα αλλαγής πορείας της ψυχικής νόσου για εκείνους που έχουν ευαλωτότητα για ανάπτυξη ψυχωσικών διαταραχών.

Λέξεις ευρετηρίου: Πρώιμη ψύχωση, Σύνδρομο Εξασθενημένης Ψύχωσης, προδρομική ψυχωσική συνδρομή, προληπτική ψυχιατρική.

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Special article
Ειδικό άρθρο

Psychiatry training in the United Kingdom - Part 2: The training process

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In the second part of this diptych, we shall deal with psychiatric training in the United Kingdom in detail, and we will compare it –wherever this is meaningful– with the equivalent system in Greece. As explained in the first part of the paper, due to the recently increased emigration of Greek psychiatrists and psychiatric trainees, and the fact that the United Kingdom is a popular destination, it has become necessary to inform those aspiring to train in the United Kingdom of the system and the circumstances they should expect to encounter. This paper principally describes the structure of the United Kingdom's psychiatric training system, including the different stages trainees progress through and their respective requirements and processes. Specifically, specialty and subspecialty options are described and explained, special paths in training are analysed, and the notions of "special interest day" and the optional "Out of programme experience" schemes are explained. Furthermore, detailed information is offered on the pivotal points of each of the stages of the training process, with special care to explain the important differences and similarities between the systems in Greece and the United Kingdom. Special attention is given to The Royal College of Psychiatrists' Membership Exams (MRCPsych) because they are the only exams towards completing specialisation in Psychiatry in the United Kingdom. Also, the educational culture of progressing according to a set curriculum, of utilising diverse means of professional development, of empowering the trainees' autonomy by allowing initiative-based development and of applying peer supervision as a tool for professional development is stressed. We conclude that psychiatric training in the United Kingdom differs substantially to that of Greece in both structure and process. There are various differences such as pure psychiatric training in the United Kingdom versus neurological and medical modules in Greece, in-training exams in the United Kingdom versus an exit exam in Greece, and of course the three years of higher training, which prepares trainees towards functioning as consultants. However, perhaps the most important difference is one of mentality; namely a culture of competency-based training progression in the United Kingdom, which further extends beyond training into profes-

sional revalidation. We believe that, with careful cultural adaptation, the systems of psychiatric training in the United Kingdom and Greece may benefit from sharing some of their features. Lastly, as previously clarified, this diptych paper is meant to be informative, not advisory.

Key words: Psychiatric training, Greece, United Kingdom, specialisation.

Introduction

The first part of this paper, published earlier in Psychiatriki, focused on the broad structure of psychiatric training in the UK, whereas this part analyses the training process and focuses on specific issues pertinent to aspiring Greek trainees. As previously stated, this article should not be seen as an advertisement of training abroad, especially during the challenging times psychiatrists and psychiatric trainees face in Greece. Instead, this is meant to be a source of realistic information, which will hopefully enable those who are thinking about emigrating for psychiatric training to make a truly informed decision. This article is written in English rather than Greek, specifically so that it can be subjected to constructive criticism and subsequent updating by both lingual audiences.

General overview of psychiatric training in the UK

In Part I we explained how one could enter training at various levels and described the different training paths one could take. In part II we will deal with what happens once already in psychiatric training. Typically in the UK that would refer to persons who have already worked for two years as Foundation Doctors following graduation from medical school, gained their competencies in general medicine and surgery and have secured a training post in psychiatry through national interviews. They would be about to commence their training as a Core Trainee (CT 1-3) before advancing to become a Higher Trainee (ST 4-6), hopefully three years later. The harmonization of psychiatric training in Europe has been a prevalent issue for quite some time,[2] due to major incompatibilities existing in systems between countries. For clarity on the comparison between the systems in Greece and the United Kingdom, please refer to the first part of the paper[1] and consult figure 1.

The training process

As a trainee, your aim is to achieve (and *demonstrate* that you have achieved), a number of competencies that will lead to the award of the Certificate of Completion of Training (CCT). These competencies are clearly laid out in the training curricula for Psychiatry, compiled by the Royal College of Psychiatrists (the UK equivalent of the Hellenic Psychiatric Association, ΕΨΕ). The training curricula are very detailed accounts of the competencies trainees must achieve during their time in training. The Royal College has published a curriculum for Core Training and multiple Advanced Curricula for the various subspecialties of Higher Training. The reader is advised to refer to the relevant College webpage[3] for further details, and also consult the "Gold Guide", which details the training process for all postgraduate specialty training.[4]

Progression through the training years depends on satisfactory yearly reviews, attesting that trainees have achieved the relevant competencies. These reviews are formally called Annual Reviews of Competence Progression (ARCP) and are carried out by panels composed of the local deanery's educational leads (for example the Training Program Director, the Postgraduate Dean etc). Passing the ARCP is dependent on the demonstration of *evidence* attesting to the trainee having achieved the competencies set out by the training curriculum. The responsibility is on trainees to provide the evidence. This means that trainees are empowered to use their initiative to train in their chosen way, as long as competencies are met. Local training authorities usually facilitate this and provide guidance and opportunities to train towards achieving competencies. For instance, local deaneries usually suggest a local leadership and management course which will enable trainees to fulfil relevant competencies. However, trainees may choose to gain their competencies in leadership and man-

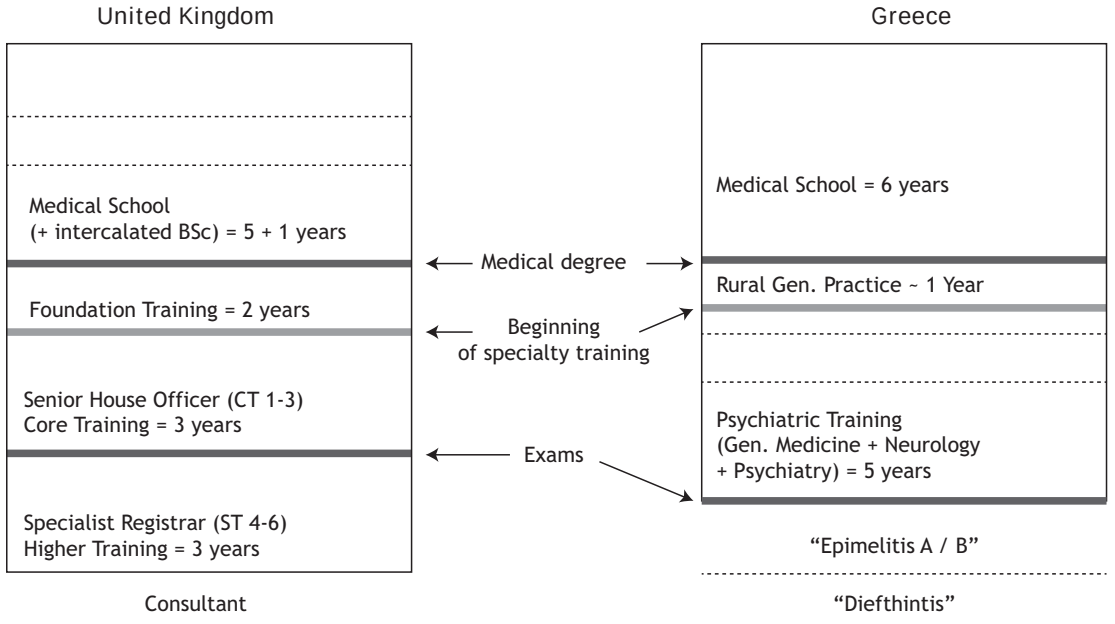

Figure 1. A rough comparison of progression through the Greek and the United Kingdom's psychiatric training systems.

agement by "shadowing" an executive or a manager for a few days. In this case they would have to *demonstrate* that they have gained competencies, for example by writing a reflection note or by completing a workplace-based assessment (please see below).

Between ARCPs trainees have regular mini-reviews with their supervisors. These mini-reviews are there to identify and remedy potential problems early. There are three levels of supervisors: Clinical, Educational and Training Programme Director. The clinical supervisor is usually the trainee's Consultant at their place of work (usually for six months to a year), with whom they meet on a weekly basis and complete most competency assessments. The Educational supervisor usually follows the trainee for their whole training and monitors their overall progress three times a year, plus at the ARCP. The Training Programme Director has a formal role, among others for quality assurance, but would not normally get involved in a particular trainee's training, unless there is concern. Supervision does not stop with the end of training, but morphs into Continuing Professional Development.[5] As part of this, specialists are required to demonstrate that they maintain and advance their expertise. They are asked to achieve this by many means, including peer-support groups, where specialists reflect against each other's clinical practice and professional development plans. Peer supervision has many advantages which would potentially benefit the Greek academic world (at both training and post-training levels), as it offers the chance to network, reflect, collaborate and motivate/be motivated.

Trainees are required to maintain a portfolio (sometimes referred to as a "log-book") through which they can keep track of their progress and demonstrate it to their reviewers in an organised fashion. The Royal College facilitates this by offering an online portfolio service.[6] In addition to uploading evidence towards passing the ARCP (e.g. documents, certificates, publications, reflections etc), the online portfolio facilitates Workplace-based assessments (WPBAs). These are assessments of various competencies which correspond to the training curriculum. The trainee is responsible for arranging these with their supervisors, at their place of clinical work or elsewhere. For instance, the clinical supervisor may sit with a trainee during an interview to witness the trainee's skills in clinical assessment

and management (this is called an Assessment of Clinical Encounter, ACE). Or, for another example, a trainee may ask ten or so members of their multidisciplinary team to feedback on his/her overall performance as a member of that team (this is called a Peer Assessment Tool, PAT). People asked to provide this could be psychiatrists and allied professionals such as social workers, psychologists, nurses, but could also include others like secretaries and managers. If used correctly, WPBAs can be very useful educational tools, and are important because you can only progress to the next year of training once you have completed them.

The membership exam to the Royal College of Psychiatrists (MRCPsych)

As described in Part I and depicted in figure 1, psychiatric training is composed of "Core" and "Higher" training, each nominally lasting for three years, after which one may become a Consultant Psychiatrist. As a trainee you will work at Core Training level until you manage to pass your exams for Membership to the Royal College of Psychiatrists (MRCPsych), after which point you may move to Higher Training level. Progression to Higher Training is absolutely dependent on passing the exams and your annual review (ARCP) will not allow you to progress until you have passed.

The MRCPsych is a four-part exam, composed of three written papers and a practical examination. These exams span the Core Training years and therefore the minimum time required to get through them is three years. The written papers are taken during the Core Training years and the practical exam before the end of CT3, or during a special 6 month extension to core training (CT3+), once a trainee has already passed the written papers. The written papers are all multiple choice exams and last for three hours each. The content and structure of the exam papers are detailed on the College webpage.[7] The exams follow the curriculum and trainees are expected to develop their knowledge, skills and attitudes from diverse sources, but mainly from their clinical exposure. The practical exam (Clinical Assessment of Skills and Competencies, CASC) is a 16-station exam in which candidates are asked to assess and manage real-life clinical scenaria. Some stations are manned by actors and an examiner and some only by an examiner. The themes used in CASC are very broad, but reflect clinical reality, therefore the best way to prepare for this exam is to expose yourself to real-life clinical situations.

Overall, the MRCPsych exam is a difficult exam (Indicatively, please refer to the analysis of the results for the 2008–2010 cohort[8]). However, that is expected and justified, given that it is the only exam taken during psychiatric training. As such, it is the only equivalent to the speciality exams taken at the end of specialisation in Greece, however the MRCPsych is much more comprehensive. The two exams coincide temporally as well, given that at the point of taking the MRCPsych exam, UK trainees have completed *at least* five years of post-medical school work as doctors. In fact, in many cases this is inflated to six or seven years due to re-sitting one or more papers.

Core training and higher training

Psychiatric trainees start their training as Core trainees (CT 1-3). During the three years of Core training, they are expected to get experience in all subspecialties, including child and adolescent psychiatry. Core trainees perform daily duties which are equivalent to those performed by psychiatric trainees in Greece. These include working on the frontline during on-calls, admitting and clerking patients, and attending to basic daily needs of inpatient wards. They get formal training once a week (usually a couple of hours on a morning), when they either present cases to their colleagues or critically appraise a published paper. This supervised activity is often used for developing knowledge, skills and attitudes towards the MRCPsych, although the latter is also covered by special courses run by the private sector. Core trainees rotate between different subspecialties every six months, thus passing through at least six subspecialties during their core training.

Once they are successful at the MRCPsych exam, trainees progress from Core Training to Higher Training. This level of training does not exist in Greece. Higher training takes three years and thematically involves working *exclusively* in one subspecialty. Therefore, trainees will only work in one of six psychiatric subspecialties: General Adult, Old Age,

Learning Disability, Child and Adolescent, Forensic, Psychotherapy. For example, a Higher Trainee will work *only* in psychotherapy or *only* in child and adolescent psychiatry for at least three years. Furthermore, Higher Trainees in Adult Psychiatry have the opportunity to sub-specialise even further by getting an "endorsement" in Liaison, Substance Misuse or Rehabilitation Psychiatry.[3]

Higher Training is by far the most exciting part of psychiatric training in the UK, for a number of reasons. To start with, the focus of training shifts from the development of clinical skills (as these are acquired during Core Training), to the development of more composite skills. This is reflected on various features of training. For instance, most Higher Trainees work in their normal base for only four days per week. The fifth day is a "special interest & research" day, during which the trainee will embark on a range of activities responding to their inclination and needs for professional development, such as research, teaching or psychotherapy. The choice obviously depends on the trainee, and is not limited to the expertise a specific training area can offer, but is often helpful to abide to the latter. The exception to the "special interest day" rule are academic trainees, who often sacrifice that day as their time is already divided between many commitments. Higher Trainees could also embark on "Out of Programme Experience" (OOPE) projects. These can count towards training time if the Deanery, the Royal College and the General Medical Council all agree, however in most cases extra time is added to overall training in order to accommodate the OOPE. Real life examples of OOPEs witnessed by the authors include supporting psychiatric education in developing African states, studying towards a PhD, or completing a research project that demanded a full time commitment. Another exciting aspect of Higher Training is the so-called "Acting-up period". This is when a Higher Trainee (usually in the latter stages of their training) works as a Consultant Psychiatrist (~ "Diefthintis") for a few months under supervision. This example is indicative of the seniority achieved by UK higher trainees.

Conclusion

Psychiatry training in the UK offers a very interesting experience, and most Greek trainees embarking on it would find themselves developing in a pleasantly different direction as professionals. That said, it is an important undertaking requiring a significant level of commitment, and the incompatibilities of the two systems need careful consideration. The authors believe that, with thoughtful cultural adaptation, the two countries' training systems may benefit from exchanging some elements. Indeed, as per the European Union of Medical Specialists (UEMS),[9] and the European Federation of psychiatric Trainees (EFPT),[10] such exchange may contribute to the harmonisation of psychiatric training across Europe.

Η ψυχιατρική εκπαίδευση στο Ηνωμένο Βασίλειο - Μέρος 2: Η διαδικασία εκπαίδευσης

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Στο δεύτερο μέρος του δίπτυχου αυτού άρθρου θα ασχοληθούμε λεπτομερώς με την ψυχιατρική ειδίκευση στο Ηνωμένο Βασίλειο, και θα τη συγκρίνουμε –όπου αυτό έχει νόημα– με το αντίστοιχο σύστημα στην Ελλάδα. Όπως τεκμηριώθηκε στο πρώτο μέρος του άρθρου, λόγω της πρόσφατα αυξημένης μετανάστευσης Ελλήνων ψυχιάτρων και ειδικευομένων, και λόγω του γεγονότος ότι το Ηνωμένο Βασίλειο είναι δημοφιλής προορισμός, έχει καταστεί αναγκαίο να πληροφορηθούν όσοι

επιδιώκουν να εκπαιδευτούν στο Ηνωμένο Βασίλειο σχετικά με το σύστημα και τις συνθήκες που ενδέχεται να αντιμετωπίσουν. Το παρόν άρθρο πρωτίστως περιγράφει τη δομή του συστήματος ειδίκευσης στο Ηνωμένο Βασίλειο, συμπεριλαμβανομένων και των επιμέρους σταδίων της ειδικότητας, όπως και των σχετικών προϋποθέσεων και διαδικασιών. Συγκεκριμένα, περιγράφονται και επεξηγούνται οι επιλογές ειδίκευσης και υποειδίκευσης, αναλύονται οι ειδικές κατευθύνσεις εκπαίδευσης και εξηγούνται οι έννοιες της «ημέρας ειδικών ενδιαφερόντων» (special interest day) και της προαιρετικής «εμπειρίας εκτός προγράμματος» (out of programme experience). Επιπλέον, προσφέρονται λεπτομερείς πληροφορίες πάνω στα κομβικά σημεία κάθε φάσης της διαδικασίας ειδίκευσης, με ειδική έμφαση στη σύγκριση μεταξύ Ελλάδας-Ηνωμένου Βασιλείου. Ειδική μνεία γίνεται στις εξετάσεις για την απόκτηση της ιδιότητας μέλους του Βασιλικού Κολεγίου Ψυχιάτρων (MRCPsych), καθώς αυτές είναι οι μόνες εξετάσεις που απαιτούνται για την απόκτηση ειδικότητας στο Ηνωμένο Βασίλειο. Επίσης, σκιαγραφείται η εκπαιδευτική νοοτροπία, με βάση την οποία η πρόοδος στην ειδικότητα επιτυγχάνεται με γνώμονα ένα πρόγραμμα σπουδών (curriculum), χρησιμοποιώντας ποικίλους τρόπους επαγγελματικής εξέλιξης, ενισχύοντας την αυτονομία των ειδικευομένων, επιτρέποντάς τους να αυτοσχεδιάζουν την εξέλιξή τους και χρησιμοποιώντας ένα σύστημα συναδελφικής εποπτείας ως εργαλείο επαγγελματικής εξέλιξης. Καταλήγουμε στο συμπέρασμα ότι η ψυχιατρική εκπαίδευση στο Ηνωμένο Βασίλειο διαφέρει ουσιαστικά από εκείνη της Ελλάδας τόσο στη δομή όσο και τη διαδικασία. Υπάρχουν πολλές διαφορές, όπως η κατ' αποκλειστικότητα εκπαίδευση στο αντικείμενο της Ψυχιατρικής στο Ηνωμένο Βασίλειο, σε αντιδιαστολή με την άσκηση στη Νευρολογία και στην Παθολογία στην Ελλάδα, οι εξετάσεις κατά τη διάρκεια της ειδικότητας στο Ηνωμένο Βασίλειο έναντι των εξετάσεων στο τέλος της ειδικότητας στην Ελλάδα, και φυσικά τα επιπλέον τρία χρόνια εκπαίδευσης (higher training), κατά τα οποία οι εκπαιδευόμενοι προετοιμάζονται για να λειτουργήσουν ως διευθυντές. Ωστόσο, η πιο σημαντική διαφορά είναι στη νοοτροπία. Ο προβιβασμός στα διάφορα στάδια της ειδικότητας στο Ηνωμένο Βασίλειο βασίζεται σε μια κουλτούρα απόδειξης της επάρκειας των εκπαιδευόμενων, η οποία εκτείνεται πέρα από την εκπαίδευση και στην επαγγελματική πιστοποίηση επάρκειας. Πιστεύουμε ότι με προσεκτική πολιτιστική προσαρμογή, τα συστήματα ψυχιατρικής εκπαίδευσης του Ηνωμένου Βασιλείου και της Ελλάδας μπορούν να επωφεληθούν από την ανταλλαγή κάποιων από τα χαρακτηριστικά τους. Τέλος, όπως έχει ήδη διευκρινιστεί, το παρόν άρθρο είναι ενημερωτικό και όχι συμβουλευτικό.

Λέξεις ευρετηρίου: Ψυχιατρική εκπαίδευση, Ελλάδα, Ηνωμένο Βασίλειο, ειδικότητα.

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9. http://www.uems.eu/
10. www.efpt.eu

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23–26 Απριλίου 2015

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  19–21 Μαρτίου 2015
  Οργάνωση: Ελληνική Εταιρεία Βιοψυχοκοινωνικής Προσέγγισης στην Υγεία
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- **6th World Congress on Women's Mental Health, Tokyo, Japan**
  22–25 March 2015
  Organizer: International Association for Women's Mental Health
  Collaboration: Tokyo Women's Medical University Medical School
  Tel: +511 222 1656, +519 979 05507
  E-mail: iawmh2015@congre.co.jp, Website: www.congre.co.jp/iawmh2015

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  28–31 March 2015
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  Congress Secretariat: Kenes International, 1-3 Rue de Chantepoulet, P.O. Box 1726 CH-1211, Geneva 1, Switzerland
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- **International Psychological Applications Conference and Trends, Ljublijana, Slovenia**
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  Organizers: Portuguese Association of Psychoanalysis and Psuchoanalytic Psychotherapy
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- **4th International Congress on Neurobiology, Psychopharmacology & Treatment Guidance, Agios Nikolaos Crete, Greece**
  14–17 May 2015
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  10–13 Ιουνίου 2015
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- **12th World Congress of Biological Psychiatry, Athens, Greece**
  14–18 June 2015
  Organizer: World Federation of Societies of Biological Psychiatry
  Host: Hellenic Society for the Advancement of Psyciatry and Related Sciences
  Congress Secretariat: WFSBP Global Headquarters
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- **20th Congress of European Association for Psychotherapy, Athens, Greece**
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  Organizer: European Association for Psychotherapy (EPA)
  Organizing Secretariat: Event Management, Conference & Event Organization, 475 Markopoulou street, P.O.B. 57, GR-190 03 Markopoulo, Attiki, Hellas
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- **Primary Care Mental Health: Innovation and Transdisciplinarity, Bucharest, Romania**
  24–27 June 2015
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- **10th International Congress of the INA, Jerusalem, Israel**
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3. Kinden A. *Stress and emotion*. Springer, Berlin, 1990 (Book).
4. Larsen E, Elliot B. Fatigue in major depression. *Psychiatriki* 2007, (Suppl 1):S143–S144 (Journal Supplement)
5. Silverstone A, Leman H, Stark J. *Attempted suicide by drug-overdose*. Paper presented at 2nd Congress on Suicide behaviour, 4–6 May 2002, Rome, Abstracts Book, pp 212–213 (Conference Presentation - Abstract Book)
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"ΨΥΧΙΑΤΡΙΚΗ"

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Τα κριτήρια αποδοχής των εργασιών περιλαμβάνουν την ποιότητα και την πρωτοτυπία της έρευνας, όπως επίσης τη σημαντικότητα και χρησιμότητα των δεδομένων στους αναγνώστες του περιοδικού.

Όλες οι εργασίες υπόκεινται σε μια αρχική εκτίμηση από τον Εκδότη ή μέλη της Συντακτικής Επιτροπής του περιοδικού προκειμένου να εκτιμηθεί η καταλληλότητα και η ποιότητά τους. Εάν η εργασία κριθεί καταρχήν κατάλληλη για δημοσίευση στο περιοδικό, εκτιμάται από δύο ανεξάρτητους κριτές, ειδικούς στο αντικείμενο της έρευνας. Οι κριτές δεν γνωρίζουν τους συγγραφείς της εργασίας και παραμένουν ανώνυμοι για τους συγγραφείς.

Τα σχόλια των κριτών μαζί με τις υποδείξεις και διορθώσεις τους αποστέλλονται στους συγγραφείς. Οι συγγραφείς ενημερώνονται εγγράφως για την τελική απόφαση της Συντακτικής Επιτροπής του περιοδικού όταν η διαδικασία αξιολόγησης ολοκληρωθεί. Τα ονόματα των κριτών του προηγούμενου έτους εμφανίζονται στο πρώτο τεύχος του επομένου έτους. Η Συντακτική Επιτροπή διατηρεί το δικαίωμα να κάνει φραστικές διορθώσεις στα κείμενα προκειμένου να μειώσει ασάφειες και επαναλήψεις και να βελτιώσει τη δυνατότητα επικοινωνίας ανάμεσα στους συγγραφείς και τους αναγνώστες του περιοδικού.

* Οι οδηγίες προς τους συγγραφείς και το «συνοδευτικό έντυπο υποβολής» υπάρχουν στο 1ο τεύχος κάθε έτους του περιοδικού και στο website της ΕΨΕ: www.psych.gr.

Το περιοδικό «ΨΥΧΙΑΤΡΙΚΗ» καταχωρείται και περιλαμβάνεται στα MEDLINE/PubMed, Index Copernicus, Google Scholar, EMBASE/Excerpta Medica, GFMER, CIRRIE, SCIRUS for Scientific Inf., EBSCOhost™ και στο Iatrotek

ΕΙΔΗ ΑΡΘΡΩΝ

1. **Άρθρα Σύνταξης**: Σύντομα άρθρα γραμμένα ταυτόχρονα στην ελληνική και αγγλική γλώσσα που αναφέρονται σε επίκαιρα θέματα ιδιαίτερης σημασίας. Γράφονται από τη Συντακτική Επιτροπή ή από μέλη της Διεθνούς Συμβουλευτικής Επιτροπής ή μετά από πρόσκληση της Συντακτικής Επιτροπής (μέχρι 700 λέξεις και 7–8 βιβλιογραφικές αναφορές).
2. **Ανασκοπήσεις:** Ενημερωτικά άρθρα που αφορούν σε κριτική ανάλυση ψυχιατρικών θεμάτων ή θεμάτων συγγενών προς την Ψυχιατρική Επιστήμη. Οι ανασκοπήσεις γράφονται από έναν ή δύο συγγραφείς. Η έκτασή τους δεν πρέπει να υπερβαίνει τις 4.000 λέξεις.
3. **Ερευνητικές εργασίες:** Προοπτικές ή αναδρομικές εργασίες που βασίζονται σε ερευνητικό πρωτόκολλο. Πρέπει οπωσδήποτε να έχει γίνει στατιστική επεξεργασία των αποτελεσμάτων. Οι ερευνητικές εργασίες δεν πρέπει να υπερβαίνουν τις 3.000 λέξεις (έως 8 συγγραφείς).
4. **Σύντομα άρθρα:** Στην κατηγορία αυτή υπάγονται ερευνητικές εργασίες που μπορούν να καταχωρηθούν σε περιορισμένο χώρο. Η έκταση των άρθρων αυτών δεν πρέπει να υπερβαίνει τις 1.500 λέξεις.
5. **Ειδικά άρθρα:** Γράφονται μετά από πρόσκληση της Συντακτικής Επιτροπής και αναφέρονται σε θέματα, με τα οποία έχει ιδιαίτερα ασχοληθεί ο συγγραφέας π.χ. θεραπεία συμπεριφοράς, παθολογική ζηλοτυπία, ψυχοθεραπεία μεταιχμιακών καταστάσεων (μέχρι 4.000 λέξεις).
6. **Ενδιαφέρουσες περιπτώσεις:** Η κατηγορία αυτή περιλαμβάνει ενδιαφέρουσες αναφορές περιπτώσεων και περιγραφές περιπτώσεων όπου εφαρμόσθηκαν νέες διαγνωστικές ή/και θεραπευτικές μέθοδοι (μέχρι 1500 λέξεις).
7. **Γενικά άρθρα:** Η *ΨΥΧΙΑΤΡΙΚΗ* δέχεται και άρθρα που εκφράζουν θεωρητικές απόψεις στον χώρο της Ψυχιατρικής, γνώμες για τα συστήματα παροχής ψυχιατρικής περίθαλψης, απόψεις για τους χώρους επαλληλίας μεταξύ Ψυχιατρικής και άλλων επιστημών και άλλα άρθρα ανάλογου περιεχομένου. Τα άρθρα αυτά δεν πρέπει να υπερβαίνουν τις 2.000 λέξεις. Η Συντακτική Επιτροπή μπορεί να προτείνει τη συντόμευση των άρθρων αυτών προκειμένου να δημοσιευθούν ως «Επιστολές προς τη Σύνταξη».
8. **Επιστολές προς τη Σύνταξη:** Περιλαμβάνουν σχόλια και κρίσεις πάνω σε ήδη δημοσιευμένες εργασίες, παρατηρήσεις σε επίκαιρα ψυχιατρικά θέματα, πρόδρομα ερευνητικά αποτελέσματα, κ.λπ. Δεν πρέπει να υπερβαίνουν τις 400 λέξεις (συνοδεύεται από σύντομη αγγλική περίληψη).
9. **Βιβλιοκριτική:** Η παρουσίαση και κριτική βιβλίων γίνεται μετά από πρόσκληση της Συντακτικής Επιτροπής (μέχρι 600 λέξεις - συνοδεύεται από σύντομη αγγλική περίληψη).
10. **Άρθρα στην αγγλική γλώσσα:** Η *ΨΥΧΙΑΤΡΙΚΗ* θα κυκλοφορεί στην ελληνική γλώσσα πάντα με αγγλική περίληψη των εργασιών. Δύο τεύχη ετησίως θα κυκλοφορούν εξ ολοκλήρου στην αγγλική (με εκτεταμένη ελληνική περίληψη, περίπου 400 λέξεις). Στα τεύχη αυτά θα δημοσιεύονται εργασίες ξένων συναδέλφων, αλλά και Ελλήνων. Οι εργασίες Ελλήνων συναδέλφων μπορούν να υποβάλλονται στην ελληνική ή την αγγλική γλώσσα. Όσες εργασίες προκρίνονται για δημοσίευση και έχουν υποβληθεί στην ελληνική γλώσσα θα μεταφράζονται μετά από συνεργασία του περιοδικού με τους συγγραφείς.

ΥΠΟΒΟΛΗ ΕΡΓΑΣΙΩΝ

Οι εργασίες υποβάλλονται στο πρωτότυπο και σε τρία φωτοαντίγραφα, στη διεύθυνση:

Περιοδικό ΨΥΧΙΑΤΡΙΚΗ
Ελληνική Ψυχιατρική Εταιρεία,
Παπαδιαμαντοπούλου 11, 115 28 Αθήνα
e-mail: editor@psych.gr

Το δακτυλογραφημένο κείμενο πρέπει να συνοδεύεται από CD με το κείμενο της εργασίας ή να αποστέλλεται ηλεκτρονικό αντίγραφο με e-mail. Το κείμενο πρέπει να έχει γραφεί με επεξεργαστή συμβατό με πρόγραμμα Windows ή με οποιοδήποτε πρόγραμμα για υπολογιστή Macintosh.

Μαζί με τα υποβαλλόμενα άρθρα πρέπει να υποβάλλεται συμπληρωμένο το «Συνοδευτικό έντυπο υποβολής εργασίας». Οι υποβαλλόμενες εργασίες χαρακτηρίζονται με κωδικό αριθμό, που γνωστοποιείται στους συγγραφείς και ο οποίος χρησιμοποιείται σε κάθε επικοινωνία με το περιοδικό. Τα άρθρα γράφονται στη δημοτική γλώσσα. Η δακτυλογράφηση γίνεται στη μία όψη του φύλλου, με διπλό διάστημα και περιθώριο τουλάχιστον 3,5 cm.

Στην άνω δεξιά πλευρά της πρώτης σελίδας πρέπει να υπάρχει ο χαρακτηρισμός κάθε άρθρου (π.χ. Ανασκόπηση, Ερευνητική εργασία κ.λπ.).

ΔΙΑΤΑΞΗ ΤΗΣ ΥΛΗΣ

Όλες οι σελίδες αριθμούνται, αρχίζοντας από τη σελίδα τίτλου.

Σελίδα τίτλου: Περιλαμβάνει τον τίτλο του άρθρου (μέχρι 12 λέξεις), τα ονόματα των συγγραφέων στην ονομαστική, το κέντρο προέλευσης, τη διεύθυνση και το τηλέφωνο του συγγραφέα που θα επικοινωνεί με το περιοδικό. Στην ίδια σελίδα αναφέρονται επίσης άτομα, οργανισμοί, ιδρύματα κ.λπ., που ενδεχομένως συνέβαλαν στην πραγματοποίηση της εργασίας.

Περίληψη: Στη δεύτερη σελίδα γράφεται η ελληνική περίληψη, (περίπου 400 λέξεις). Στην περίληψη ανακεφαλαιώνονται τα κύρια μέρη της εργασίας. Φράσεις όπως «τα ευρήματα συζητούνται» πρέπει να αποφεύγονται. Στο τέλος της περίληψης αναγράφονται 4–6 λέξεις ευρετηρίου.

Αγγλική περίληψη: Στην τρίτη σελίδα γράφεται η αγγλική περίληψη, που πρέπει να έχει έκταση περίπου 400 λέξεων, ο τίτλος του άρθρου τα ονόματα των συγγραφέων και η προέλευση του άρθρου (ίδρυμα). Στο τέλος της περίληψης αναγράφονται 4–6 λέξεις ευρετηρίου. Η περίληψη πρέπει να δίνει ουσιαστικές πληροφορίες.

Κείμενο: Χωρίζεται σε κεφάλαια. Για τις ερευνητικές εργασίες είναι: Εισαγωγή, Υλικό και μέθοδος, Αποτελέσματα, Συζήτηση. Όσα αποτελέσματα παρατίθενται στους πίνακες δεν επαναλαμβάνονται λεπτομερώς στο κείμενο.

Βιβλιογραφικές παραπομπές: Αριθμούνται με αύξοντα αριθμό, ανάλογα με τη σειρά εμφάνισής τους στο κείμενο (σύστημα Vancouver). Π.χ. *Ο Birley[1] βρήκε ότι..., αλλά ο Afford[2] διαφώνησε...* Αναφέρονται τα ονόματα των έξι πρώτων συγγραφέων. Στον βιβλιογραφικό πίνακα περιλαμβάνονται μόνον οι βιβλιογραφικές παραπομπές που υπάρχουν στο κείμενο. Στα άρθρα ανασκόπησης και τα ειδικά άρθρα οι βιβλιογραφικές παραπομπές δεν πρέπει να υπερβαίνουν τις 100, στις ερευνητικές εργασίες και τα γενικά άρθρα τις 50, στα σύντομα άρθρα και τις ενδιαφέρουσες περιπτώσεις τις 15 και στα άρθρα σύνταξης και τις επιστολές προς τη σύνταξη τις 8. Ο βιβλιογραφικός κατάλογος συντάσσεται με αύξοντα αριθμό, που αντιστοιχεί στη σειρά εμφάνισης των βιβλιογραφικών παραπομπών στο κείμενο, όπως στα ακόλουθα παραδείγματα:

1. Birley JLT, Adear P, Singer D, Rosenberg M. Electrogastrographic studies in elderly patients. *Gastroenterology* 1980, 79:311–314 (Περιοδικό)

2. Alford J, Nemiah J. Peptic ulcer in childhood. In: Sodeman WA (ed) *Pathologic Physiology.* Saunders, Philadelphia, 1970:457–472 (Κεφάλαιο βιβλίου)

3. Kinden A. *Stress and emotion*. Springer, Berlin, 1990 (Βιβλίο)

4. Larsen E, Elliot B. Fatigue in major depression. *Psychiatriki* 2007, (Suppl 1):S143–S144 (Παράρτημα περιοδικού)

5. Silverstone A, Leman H, Stark J. *Attempted suicide by drug-overdose*. Paper presented at 2nd Congress on Suicide behaviour, 4–6 May 2002. Rome, Abstracts Book, pp 212–213 (Παρουσίαση σε Συνέδριο - Τόμος Πρακτικών)

6. Henry A, Andrews B. *Critical issues for parents with mental illness*. N.Y. Centre for Mental Health Services 2001 (Cited 2 June 2005) Available from www. mentalorg/publications (Ιστοσελίδα)

Οι συντμήσεις των περιοδικών πρέπει να γίνονται με βάση το *Index Medicus*.

Πίνακες: Γράφονται με διπλό διάστημα σε ξεχωριστή σελίδα. Αριθμούνται ανάλογα με τη σειρά εμφάνισής τους στο κείμενο, με αραβικούς αριθμούς (πίνακας 1), ακολουθεί σύντομη κατατοπιστική λεζάντα (π.χ. Ασθενείς που νοσηλεύθηκαν για ψευδοκύηση στο Νοσοκομείο «Αλεξάνδρα» κατά το 1988) και σε κάθε στήλη υπάρχει κατατοπιστική επικεφαλίδα. Αποφεύγονται οι κάθετες γραμμές.

Εικόνες: Πρέπει να στέλνονται είτε τα πρωτότυπα των σχεδίων (με σινική μελάνη) είτε φωτογραφίες. Στο πίσω μέρος πρέπει να αναγράφεται με μολύβι ο αριθμός της εικόνας, οι συγγραφείς και ο τίτλος της εικόνας. Όλες οι εικόνες πρέπει να αναφέρονται στο κείμενο και να αριθμούνται με αραβικούς αριθμούς.

Ονοματολογία και μονάδες μέτρησης: Για λεπτομέρειες, βλ. Ιατρική 1980, 37:139.

Διόρθωση τυπογραφικών δοκιμίων: Οι συγγραφείς είναι υποχρεωμένοι να κάνουν μία διόρθωση των τυπογραφικών δοκιμίων. Εκτεταμένες μεταβολές δεν επιτρέπονται.

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ΣΥΝΟΔΕΥΤΙΚΟ ΕΝΤΥΠΟ ΥΠΟΒΟΛΗΣ ΕΡΓΑΣΙΑΣ ΣΤΟ ΠΕΡΙΟΔΙΚΟ *"ΨΥΧΙΑΤΡΙΚΗ"*

(Υποβάλλεται μαζί με την εργασία, τρία φωτοαντίγραφα της εργασίας και την αντίστοιχη δισκέτα ή με την αποστολή ηλεκτρονικού αντιγράφου με e-mail, και τη συμπληρωματική της επόμενης σελίδας συγγραφικής ευθύνης, οικονομικής γνωστοποίησης και ευχαριστιών)

- Παρακαλώ συμπληρώστε/τσεκάρετε όλα τα σημεία του εντύπου
- Είδος εργασίας (σημειώστε με Χ):

❑ ΑΝΑΣΚΟΠΗΣΗ ❑ ΕΡΕΥΝΗΤΙΚΗ ΕΡΓΑΣΙΑ ❑ ΣΥΝΤΟΜΟ ΑΡΘΡΟ

❑ ΕΙΔΙΚΟ ΑΡΘΡΟ ❑ ΓΕΝΙΚΟ ΑΡΘΡΟ ❑ ΠΑΡΟΥΣΙΑΣΗ ΠΕΡΙΠΤΩΣΕΩΣ

- Τίτλος εργασίας .....

.....

- Ονοματεπώνυμα συγγραφέων .....

.....

.....

.....

- Φορέας ή Κέντρο (α), από το οποίο προέρχεται η εργασία .....

.....

.....

- Υπεύθυνος συγγραφέας για την αλληλογραφία .....

Ονοματεπώνυμο .....

Διεύθυνση .....

Τηλέφωνο ..... Fax: ..... E-mail: .....

- Επιβεβαιώστε (σημειώστε με Χ) όλα τα παρακάτω σημεία της εργασίας σας:

❑ Περίληψη της εργασίας στα ελληνικά και αγγλικά, σύμφωνα με τις προδιαγραφές του περιοδικού

❑ 4–5 λέξεις ευρετηρίου στα ελληνικά και στα αγγλικά

❑ Αντιστοιχία των βιβλιογραφικών αναφορών του κειμένου με τον κατάλογο της βιβλιογραφίας, που παρατίθεται στο τέλος του άρθρου

❑ Καταγραφή των βιβλιογραφικών αναφορών σύμφωνα με τις προδιαγραφές της *«Ψυχιατρικής»*

Οι συγγραφείς της εργασίας συμφωνούν με το περιεχόμενό της, τη δημοσίευσή της στο περιοδικό "Ψυχιατρική" και τη μεταβίβαση των συγγραφικών δικαιωμάτων στο περιοδικό. Το ίδιο κείμενο δεν έχει δημοσιευθεί ούτε έχει υποβληθεί για δημοσίευση σε άλλο περιοδικό. Οι συγγραφείς δεν έχουν αντικρουόμενα συμφέροντα σε σχέση με το περιεχόμενο της εργασίας και δηλώνουν ότι το πρωτόκολλο της έρευνας εγκρίθηκε από την Επιτροπή Βιοηθικής του Ιδρύματος όπου πραγματοποιήθηκε η έρευνα. Όλα τα άτομα που συμμετείχαν έδωσαν τη συγκατάθεσή τους πριν συμπεριληφθούν στην έρευνα. Οι συγγραφείς ακόμη δηλώνουν ότι δεν υπήρξε πηγή οικονομικής υποστήριξης (εάν υπήρξε πρέπει να δηλωθεί).

Υπογραφές συγγραφέων Ημερομηνία

ΨΥΧΙΑΤΡΙΚΗ: ΣΥΓΓΡΑΦΙΚΗ ΕΥΘΥΝΗ, ΟΙΚΟΝΟΜΙΚΗ ΓΝΩΣΤΟΠΟΙΗΣΗ ΚΑΙ ΕΥΧΑΡΙΣΤΙΕΣ

Με τη συμπλήρωση και υπογραφή του παρόντος εντύπου, ο συγγραφέας αλληλογραφίας αναγνωρίζει και αποδέχεται πλήρως την ευθύνη εκ μέρους όλων των συγγραφέων που συνεισέφεραν, των δηλώσεων σχετικά με την Συγγραφική Ευθύνη, την Οικονομική Γνωστοποίηση, και την Υποστήριξη Χρηματοδότησης.

ΣΥΓΓΡΑΦΙΚΗ ΕΥΘΥΝΗ

Με την υπογραφή του παρόντος εντύπου και υπογράφοντας στα αντίστοιχα πεδία, ο συγγραφέας αλληλογραφίας πιστοποιεί ότι κάθε συγγραφέας πληροί όλα τα παρακάτω κριτήρια (Α και Β) και στην συνέχεια προσδιορίζει τη συνεισφορά τού κάθε συγγραφέως, σημειώνοντας το όνομά του/της, δίπλα στο αντίστοιχο πεδίο.

❑ Α. Ο συγγραφέας αλληλογραφίας πιστοποιεί ότι:

- Η υποβληθείσα εργασία αποτελεί πρωτότυπη και έγκυρη εργασία και το κείμενό της ή άλλο με παρεμφερές περιεχόμενο στα πλαίσια της συγγραφής μου δεν έχει δημοσιευθεί ή υποβληθεί για δημοσίευση κάπου αλλού, εκτός της περίπτωσης όπου μαζί με την εργασία περιγράφεται και επισυνάπτεται το σχετικό κείμενο. Εφόσον ζητηθεί, ο συγγραφέας αλληλογραφίας, θα παρέχει τα δεδομένα ή θα συνεργαστεί πλήρως στη συγκέντρωση και παροχή των δεδομένων στα οποία βασίζεται η εργασία. Κάθε συγγραφέας έχει εξουσιοδοτήσει τον συγγραφέα αλληλογραφίας να λειτουργεί ως ο κύριος εκπρόσωπος της συγγραφικής ομάδας, και να προβαίνει σε βελτιώσεις της εργασίας με βάση τις υποδείξεις των κριτών του περιοδικού.

❑ Β. Κάθε συγγραφέας έχει δώσει την τελική έγκριση για να γίνει η υποβολή τής εργασίας, έχει συμμετάσχει επαρκώς στην εργασία και αναλαμβάνει δημόσια την ευθύνη για όλο το περιεχόμενο και πληροί τις προϋποθέσεις για συγγραφή, εφόσον υπάρχει το όνομά του/της στην αντίστοιχη γραμμή των πεδίων των συνεισφορών που αναφέρονται παρακάτω.

Οι συγγραφείς που αναφέρονται παρακάτω έχουν συνεισφέρει σημαντικά στην εργασία στα διάφορα πεδία που αναφέρονται παρακάτω.

(ανέφερε τον αντίστοιχο συγγραφέα δίπλα στο κάθε πεδίο- κάθε συγγραφέας πρέπει να περιλαμβάνεται τουλάχιστον σε ένα πεδίο. Περισσότεροι από ένας συγγραφείς μπορεί να αναφέρονται σε κάθε πεδίο)

– Ιδέα και σχεδιασμός .....
– Συγκέντρωση δεδομένων .....
– Ανάλυση και ερμηνεία των δεδομένων .....
– Σύνταξη του κειμένου .....
– Επανεξέταση του κειμένου .....
– Στατιστική ανάλυση .....
– Χορήγηση χρηματοδότησης .....
– Διοικητική, τεχνική ή υλική υποστήριξη .....
– Εποπτεία .....

ΟΙΚΟΝΟΜΙΚΗ ΓΝΩΣΤΟΠΟΙΗΣΗ

❑ Από όλους τους συγγραφείς που έχουν συνεισφέρει στην εργασία δεν υπάρχει σύγκρουση συμφερόντων, συμπεριλαμβάνοντας ειδικά οικονομικά συμφέροντα, σχέσεις και συνεργασίες σχετικές με το αντικείμενο της υποβληθείσας εργασίας.

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❑ Βεβαιώνω ότι όλες οι συγκρούσεις συμφερόντων, συμπεριλαμβανομένων ειδικών οικονομικών συμφερόντων, σχέσεις και συνεργασίες σχετικές με το αντικείμενο της υποβληθείσας εργασίας είναι οι ακόλουθες:

Χορήγηση Χρηματοδότησης και ο Ρόλος του Χορηγού

❑ Δεν έλαβα χρηματοδότηση ή άλλη οικονομική ενίσχυση.

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❑ Βεβαιώνω ότι όλη η χρηματοδότηση, άλλη οικονομική ενίσχυση, και υλική υποστήριξη για την έρευνα και/ή την εργασία προσδιορίζονται σαφώς στη δήλωση συμφερόντων στο τέλος της εργασίας

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Η χρηματοδότηση ή άλλη οικονομική ενίσχυση και υλική υποστήριξη για την έρευνα και/ή την εργασία προσδιορίζονται ευκρινώς παρακάτω:

ΕΥΧΑΡΙΣΤΙΕΣ

Ο συγγραφέας αλληλογραφίας βεβαιώνει ότι:

Όλα τα άτομα που έχουν συνεισφέρει σημαντικά στην εργασία (π.χ. συλλογή δεδομένων, ανάλυση, γραφή ή συμβολή στην έκδοση) αλλά δεν πληρούν τα κριτήρια συγγραφής ονοματίζονται με την συγκεκριμένη συνεισφορά τους στο κείμενο της εργασίας στις Ευχαριστίες. Όλα τα άτομα που ονοματίζονται στις Ευχαριστίες έχουν δώσει γραπτή συγκατάθεση προκειμένου να αναφερθεί το όνομά τους.

Αφού ολοκληρώσετε όλα τα παραπάνω απαιτούμενα πεδία, αυτή η φόρμα θα πρέπει να σταλεί μέσω φαξ ή e-mail ηλεκτρονικά μαζί με το συνοδευτικό έντυπο υποβολής και την υποβληθείσα εργασία.