GR ISSN 1105-2333

PSYCHIATRIKI

Quarterly journal published by the Hellenic Psychiatric Association, Volume 29, No 3, July-September 2018

ΨΥΧΙΑΤΡΙΚΗ

Τριμηνιαία έκδοση της Ελληνικής Ψυχιατρικής Εταιρείας, Τόμος 29, Τεύχος 3, Ιούλιος-Σεπτέμβριος 2018

Καταχωρείται και περιλαμβάνεται στα MEDLINE/PubMed, Index Copernicus, Scopus, Google Scholar, EMBASE/Excerpta Medica, GFMER, CIRRIE, SCIRUS for Scientific Inf., EBSCOhost™, PsychINFO και στο Iatrotek, (Scopus CiteScore 2017=0.41),

Καταχωρείται και περιλαμβάνεται στα MEDLINE/PubMed, Index Copernicus, Scopus, Google Scholar, EMBASE/Excerpta Medica, GFMER, CIRRIE, SCIRUS for Scientific Inf., EBSCOhost™, PsychINFO και στο Iatrotek

Οδηγίες προς τους συγγραφείς και το συνοδευτικό έντυπο είναι διαθέσιμα στην ιστοσελίδα: http://www.psychiatriki-journal.gr

ΨΥΧΙΑΤΡΙΚΗ

Τριμηνιαία έκδοση της Ελληνικής Ψυχιατρικής Εταιρείας
Διονυσίου Αιγινήτου 17, 115 28 Αθήνα
Τηλ.: 210-77 58 410, Fax: 210-77 09 044

Εκδότης:
Βασίλης Κονταξάκης – E-mail: editor@psych.gr

Ιδιοκτήτης:
Ελληνική Ψυχιατρική Εταιρεία
Παπαδιαμαντοπούλου 11, 115 28 Αθήνα
Τηλ.: 210-72 14 184

ΣΥΝΤΑΚΤΙΚΗ ΕΠΙΤΡΟΠΗ

Indexed and included in MEDLINE/PubMed, Index Copernicus, Scopus, Google Scholar, EMBASE/Excerpta Medica, GFMER, CIRRIE, SCIRUS for Scientific Inf., EBSCOhost™, PsychINFO and in Iatrotek

Instructions to contributors and the submission form are available at the webpage http://www.psychiatriki-journal.gr

PSYCHIATRIKI

Quarterly journal published by the Hellenic Psychiatric Association
17, Dionisiou Eginitou str., 115 28 Athens
Tel.: +30-210-77 58 410, Fax: +30-210-77 09 044

Publisher:
Vassilis Kontaxakis – E-mail: editor@psych.gr

Owner:
Hellenic Psychiatric Association
11, Papadiamantopoulou str., 115 28 Athens
Tel.: +30-210-72 14 184

EDITORIAL BOARD

INTERNATIONAL ADVISORY BOARD

Γραμματεία Ελληνικής Ψυχιατρικής Εταιρείας:
Υπεύθυνη: Ε. Γκρέτσα
Τηλ.: 210-72 14 184, Fax: 210-72 42 032
E-mail: psych@psych.gr, Ιστοσελίδα: www.psych.gr
FB: ΕΛΛΗΝΙΚΗ ΨΥΧΙΑΤΡΙΚΗ ΕΤΑΙΡΕΙΑ

Εργασίες για δημοσίευση, επιστολές, βιβλία για παρουσίαση να απευθύνονται στον Πρόεδρο της Συντακτικής Επιτροπής:
Διονυσίου Αιγινήτου 17, 115 28 Αθήνα

Ετήσιες συνδρομές του Περιοδικού:
Εσωτερικού € 40,00
Εξωτερικού $ 80,00 + ταχυδρομικά
Μεμονωμένα τεύχη € 10,00
Καταβάλλονται με επιταγή στον ταμία της ΕΨΕ:
Παπαδιαμαντοπούλου 11, 115 28 Αθήνα
Τα ταμειακώς εντάξει μέλη της Εταιρείας δεν υποχρεούνται σε καταβολή συνδρομής

ΕΠΙΜΕΛΕΙΑ ΕΚΔΟΣΗΣ
EN ISO 9001:2000

ΒΗΤΑ medical arts
ΒΗΤΑ Ιατρικές Εκδόσεις
ΜΟΝΟΠΡΟΣΩΠΗ ΕΠΕ

Αδριανείου 3 και Κατεχάκη, 115 25 Αθήνα (Ν. Ψυχικό)
Τηλ.: 210-67 14 371 – 210-67 14 340, Fax: 210-67 15 015
e-mail: betamedarts@otenet.gr
e-shop: www.betamedarts.gr
EN ISO 9001:2000

Υπεύθυνος τυπογραφείου
Α. Βασιλάκου, Αδριανείου 3 – 115 25 Αθήνα
Τηλ. 210-67 14 340

Manuscripts, letters, books for review should be addressed to the Editor:
17 Dionisiou Eginitou str., GR-115 28 Athens, Greece

Annual subscriptions of the Journal:
€ 40.00 or $ 80.00 + postage – each separate issue € 10.00
are payable by check to the treasurer
of the Hellenic Psychiatric Association:
11, Papadiamantopoulou str., GR-115 28 Athens

For the members of the Association in good standing subscription is free

EDITING
EN ISO 9001:2000

BETA medical arts
BETA Medical Publications

3, Adrianiou str., GR-115 25 Athens-Greece
Tel.: (+30) 210-67 14 371 – (+30) 210-67 14 340,
Fax: (+30) 210-67 15 015
e-mail: betamedarts@otenet.gr, e-shop: www.betamedarts.gr
EN ISO 9001:2000

Printing supervision
A. Vassilakou, 3 Adrianiou str. – GR-115 25 Athens
Tel. (+30)-210-67 14 340

ΕΛΛΗΝΙΚΗ ΨΥΧΙΑΤΡΙΚΗ ΕΤΑΙΡΕΙΑ

ΔΙΟΙΚΗΤΙΚΟ ΣΥΜΒΟΥΛΙΟ

Πρόεδρος: Δ. Πλουμπίδης
Αντιπρόεδρος: Γ. Αλεβιζόπουλος
Γεν. Γραμματέας: Χρ. Τσόπελας
Ταμίας: Λ. Μαρκάκη
Σύμβουλοι: Στ. Κρασανάκης
Β.Π. Μποζίκας
Χ. Τουλούμης

ΠΕΙΘΑΡΧΙΚΟ ΣΥΜΒΟΥΛΙΟ

Μέλη: Β. Αλεβίζος
Ι. Γκιουζέπας
Α. Σπυροπούλου

ΕΞΕΛΕΓΚΤΙΚΗ ΕΠΙΤΡΟΠΗ

Μέλη: Β. Κονταξάκης
Ε. Σιούτη
Ν. Τζαβάρας

ΕΠΙΤΙΜΟΙ ΠΡΟΕΔΡΟΙ

Γ.Ν. Χριστοδούλου, †Α. Παράσχος,
Ν. Τζαβάρας, Ι. Γκιουζέπας

ΕΠΙΤΙΜΑ ΜΕΛΗ

†Σπ. Σκαρπαλέζος, Χ. Βαρουχάκης,
†Ν. Ζαχαριάδης, †Ι. Πιτταράς

ΠΕΡΙΦΕΡΕΙΑΚΑ ΤΜΗΜΑΤΑ

ΑΘΗΝΩΝ
Πρόεδρος: Κ. Κόντης
Γραμματέας: Σ. Θεοδωροπούλου
Ταμίας: Η. Τζαβέλλας

ΜΑΚΕΔΟΝΙΑΣ
Πρόεδρος: Ι. Νηματούδης
Γραμματέας: Ι. Διακογιάννης
Ταμίας: Π. Φωτιάδης

ΚΕΝΤΡΙΚΗΣ ΕΛΛΑΔΟΣ
Πρόεδρος: Π. Στοφόρος
Γραμματέας: Α. Θωμάς
Ταμίας: Α. Οικονόμου

ΒΟΡΕΙΟΔΥΤΙΚΗΣ ΕΛΛΑΔΟΣ & ΔΥΤΙΚΗΣ ΣΤΕΡΕΑΣ
Πρόεδρος: Α. Φωτιάδου
Γραμματέας: Λ. Ηλιοπούλου
Ταμίας: Π. Πετρίκης

ΠΕΛΟΠΟΝΝΗΣΟΥ
Πρόεδρος: Κ. Σωτηριάδου
Γραμματέας: Μ. Σκώκου
Ταμίας: Α. Κατριβάνου

ΜΕΓΑΛΗΣ ΒΡΕΤΤΑΝΙΑΣ
Πρόεδρος: Ε. Παλαζίδου
Γραμματέας: Κ. Κασιακόγια
Ταμίας: Π. Λέκκος

ΤΟΜΕΑΣ ΝΕΩΝ ΨΥΧΙΑΤΡΩΝ
Πρόεδρος: Α. Οικονόμου
Α΄ Γραμματέας: Γ. Πάγκαλος
Β΄ Γραμματέας: Α. Διακουμοπούλου

ΕΝΩΣΗ ΕΛΛΗΝΩΝ ΕΙΔΙΚΕΥΟΜΕΝΩΝ ΨΥΧΙΑΤΡΩΝ
Πρόεδρος: Θ. Κουτσομήτρος
Γραμματέας: Α. Αντωνίου
Ταμίας: Α. Μαυρόμματος

HELLENIC PSYCHIATRIC ASSOCIATION

EXECUTIVE COUNCIL

Chairman: D. Ploumpidis
Vice-Chairman: G. Alevizopoulos
Secretary General: Ch. Tsopelas
Treasurer: L. Markaki
Consultants: St. Krasanakis
V.P. Bozikas
Ch. Touloumis

DISCIPLINARY COUNCIL

Members: V. Alevizos
J. Giouzepas
A. Spyropoulou

FINANCIAL CONTROL COMMITTEE

Members: V. Kontaxakis
Ir. Siouti
N. Tzavaras

HONORARY PRESIDENTS

G.N. Christodoulou, †A. Paraschos,
N. Tzavaras, J. Giouzepas

HONORARY MEMBERS

†S. Scarpalezos, Ch. Varouchakis,
†N. Zachariadis, †I. Pittaras

DIVISIONS

ATHENS
Chairman: C. Kontis
Secretary: S. Theodoropoulou
Treasurer: E. Tzavellas

MACEDONIA
Chairman: J. Nimatoudis
Secretary: J. Diakoyiannis
Treasurer: P. Fotiadis

CENTRAL GREECE
Chairman: P. Stoforos
Secretary: A. Thomas
Treasurer: A. Oikonomou

NORTHWESTERN GREECE
Chairman: A. Fotiadou
Secretary: L. Iliopoulou
Treasurer: P. Petrikis

PELOPONNESE
Chairman: K. Sotiriadou
Secretary: M. Skokou
Treasurer: A. Katrivanou

GREAT BRITAIN
Chairman: H. Palazidou
Secretary: K. Kasiakogia
Treasurer: P. Lekkos

SECTOR OF YOUNG PSYCHIATRISTS
Chairman: A. Economou
Secretary A΄: G. Pagkalos
Secretary B΄: A. Diakoumopoulou

UNION OF GREEK PSYCHIATRIC TRAINEES
Chairman: Th. Koutsomitros
Secretary: Ath. Antoniou
Treasurer: A. Mavromatos

ΚΛΑΔΟΙ

ΑΥΤΟΚΑΤΑΣΤΡΟΦΙΚΩΝ ΣΥΜΠΕΡΙΦΟΡΩΝ
Πρόεδρος: Κ. Παπλός
Γραμματείς: Θ. Παπασλάνης, Δ. Καραΐσκος

ΒΙΑΙΩΝ ΣΥΜΠΕΡΙΦΟΡΩΝ
Πρόεδρος: Χ. Τσόπελας
Γραμματείς: Μ. Δημητρακά, Δ. Πέτσας

ΒΙΟΛΟΓΙΚΗΣ ΨΥΧΙΑΤΡΙΚΗΣ
Πρόεδρος: Π. Σακκάς
Γραμματείς: Α. Μπότσης, Κ. Ψάρρος

ΔΙΑΠΟΛΙΤΙΣΜΙΚΗΣ ΨΥΧΙΑΤΡΙΚΗΣ
Πρόεδρος: Σ. Καπρίνης
Γραμματείς: Σ. Μπουφίδης, Ε. Παρλαπάνη

ΔΙΑΤΑΡΑΧΕΣ ΠΡΟΣΛΗΨΗΣ ΤΡΟΦΗΣ
Πρόεδρος: Ε. Βάρσου
Γραμματείς: Γ. Μιχόπουλος, Φ. Γονιδάκης

ΙΔΙΩΤΙΚΗΣ ΨΥΧΙΑΤΡΙΚΗΣ
Πρόεδρος: Λ. Μαρκάκη
Γραμματείς: Φ. Μωρόγιαννης, Π. Γκίκας

ΙΣΤΟΡΙΑΣ ΤΗΣ ΨΥΧΙΑΤΡΙΚΗΣ
Πρόεδρος: Δ. Πλουμπίδης
Γραμματείς: Αθ. Καράβατος, Ι. Πολυχρονίδης

ΚΛΙΝΙΚΗΣ ΨΥΧΟΦΑΡΜΑΚΟΛΟΓΙΑΣ
Πρόεδρος: Β. Αλεβίζος
Γραμματείς: Χ. Τουλούμης, Ειρ. Σιούτη

ΚΟΙΝΩΝΙΚΗΣ ΨΥΧΙΑΤΡΙΚΗΣ
Πρόεδρος: Α. Μιχοπούλου
Γραμματείς: Γ. Γαρύφαλλος, Μ. Οικονόμου

ΟΥΣΙΟΕΞΑΡΤΗΣΕΩΝ
Πρόεδρος: Ι. Διακογιάννης
Γραμματείς: Θ. Παπαρρηγόπουλος, Ελ. Μέλλος

ΠΑΙΔΟΨΥΧΙΑΤΡΙΚΗΣ
Πρόεδρος: Δ. Αναστασόπουλος
Γραμματείς: Δ. Αναγνωστόπουλος, Κ. Κανελλέα

ΠΡΟΑΣΠΙΣΗΣ ΤΗΣ ΨΥΧΙΑΤΡΙΚΗΣ ΠΡΑΚΤΙΚΗΣ
Πρόεδρος: Γ. Αλεβιζόπουλος
Γραμματείς: Μ. Σκόνδρας, Γ. Καραμπουτάκης

ΠΡΟΛΗΠΤΙΚΗΣ ΨΥΧΙΑΤΡΙΚΗΣ
Πρόεδρος: Β. Κονταξάκης
Γραμματείς: Δ. Κόντης, Η. Τζαβέλλας

ΣΕΞΟΥΑΛΙΚΟΤΗΤΑΣ ΚΑΙ ΔΙΑΠΡΟΣΩΠΙΚΩΝ ΣΧΕΣΕΩΝ
Πρόεδρος: Λ. Αθανασιάδης
Γραμματείς: Κ. Παπασταμάτης, Η. Μουρίκης

ΣΤΡΑΤΙΩΤΙΚΗΣ ΨΥΧΙΑΤΡΙΚΗΣ
Πρόεδρος: Π. Φωτιάδης
Γραμματείς: Ι. Νηματούδης, Δ. Μοσχονάς

ΣΥΜΒΟΥΛΕΥΤΙΚΗΣ - ΔΙΑΣΥΝΔΕΤΙΚΗΣ ΨΥΧΙΑΤΡΙΚΗΣ & ΨΥΧΟΣΩΜΑΤΙΚΗΣ
Πρόεδρος: Θ. Υφαντής
Γραμματείς: Α. Καρκανιάς, Μ. Διαλλινά

ΤΕΧΝΗΣ & ΨΥΧΙΑΤΡΙΚΗΣ
Πρόεδρος: Σ. Κρασανάκης
Γραμματείς: Η. Βλάχος, Χ. Γιαννουλάκη

ΤΗΛΕΨΥΧΙΑΤΡΙΚΗΣ
Πρόεδρος: Κ. Κατσαδώρος
Γραμματείς: Ι. Χατζιδάκης, Ι. Αποστολόπουλος

ΦΙΛΟΣΟΦΙΑΣ & ΨΥΧΙΑΤΡΙΚΗΣ
Πρόεδρος: Ι. Ηλιόπουλος
Γραμματείς: Γ. Νικολαΐδης, Α. Κομπορόζος

ΨΥΧΙΑΤΡΙΚΗΣ ΗΘΙΚΗΣ & ΔΕΟΝΤΟΛΟΠΑΣ
Πρόεδρος: Γ. Χριστοδούλου
Γραμματείς: Ι. Γκιουζέπας, Α. Δουζένης

ΨΥΧΙΑΤΡΙΚΗΣ & ΘΡΗΣΚΕΙΑΣ
Πρόεδρος: π. Α. Αυγουστίδης
Γραμματείς: Στ. Κούλης, Κ. Εμμανουηλίδης

ΨΥΧΙΚΗΣ ΥΓΕΙΑΣ ΓΥΝΑΙΚΩΝ & ΨΥΧΙΑΤΡΙΚΗΣ ΤΗΣ ΑΝΑΠΑΡΑΓΩΓΗΣ
Πρόεδρος: Ι. Ζέρβας
Γραμματείς: Ε. Λαζαράτου, Α. Λεονάρδου

ΨΥΧΙΑΤΡΟΔΙΚΑΣΤΙΚΗΣ
Πρόεδρος: Γ. Τζεφεράκος
Γραμματείς: Δ. Τσακλακίδου, Ι. Γιαννοπούλου

ΨΥΧΟΘΕΡΑΠΕΙΑΣ
Πρόεδρος: Α. Πεχλιβανίδης
Γραμματείς: Σ. Τουρνής, Ρ. Γουρνέλλης

ΨΥΧΟΓΗΡΙΑΤΡΙΚΗΣ
Πρόεδρος: Ν. Δέγλερης
Γραμματείς: Α. Κώνστα, Θ. Βορβολάκος

ΨΥΧΟΜΕΤΡΙΚΩΝ & ΝΕΥΡΟΨΥΧΟΛΟΓΙΚΩΝ ΜΕΤΡΗΣΕΩΝ
Πρόεδρος: Β.Π. Μποζίκας
Γραμματείς: Ι. Νηματούδης, Κ. Κόλλιας

ΨΥΧΟΟΓΚΟΛΟΓΙΑΣ
Πρόεδρος: Αθ. Καρκανιάς
Γραμματείς: Κ. Παπλός, Μ. Συγγελάκης

ΨΥΧΟΠΑΘΟΛΟΓΙΑΣ
Πρόεδρος: Ν. Τζαβάρας
Γραμματείς: †Γ. Καπρίνης, Μ. Διαλλινά

ΨΥΧΟΦΥΣΙΟΛΟΓΙΑΣ
Πρόεδρος: Ι. Λιάππας
Γραμματείς: Ι. Νηματούδης, Χ. Παπαγεωργίου

SECTIONS

SELF-DESTRUCTIVE BEHAVIORS
Chairman: K. Paplos
Secretaries: Th. Papaslanis, D. Karaiskos

VIOLENT BEHAVIORS
Chairman: Ch. Tsopelas
Secretaries: M. Dimitraka, D. Petsas

BIOLOGICAL PSYCHIATRY
Chairman: P. Sakkas
Secretaries: A. Botsis, C. Psarros

CROSS-CULTURAL PSYCHIATRY
Chairman: S. Kaprinis
Secretaries: S. Boufidis, H. Parlapani

EATING DISORDERS
Chairman: E. Varsou
Secretaries: J. Michopoulos, F. Gonidakis

PRIVATE PRACTICE PSYCHIATRY
Chairman: L. Markaki
Secretaries: F. Morogiannis, P. Gkikas

HISTORY OF PSYCHIATRY
Chairman: D. Ploumpidis
Secretaries: Ath. Karavatos, J. Polyhronidis

PSYCHOPHARMACOLOGY
Chairman: V. Alevizos
Secretaries: C. Touloumis, I. Siouti

SOCIAL PSYCHIATRY
Chairman: A. Michopoulou
Secretaries: G. Garyfallos, M. Economou

SUBSTANCE ABUSE
Chairman: J. Diakoyiannis
Secretaries: Th. Paparrigopoulos, El. Mellos

CHILD PSYCHIATRY
Chairman: D. Anastasopoulos
Secretaries: D. Anagnostopoulos, K. Kanellea

ADVOCACY OF PSYCHIATRIC PRACTICE
Chairman: G. Alevizopoulos
Secretaries: M. Skondras, G. Karampoutakis

PREVENTIVE PSYCHIATRY
Chairman: V. Kontaxakis
Secretaries: D. Kontis, E. Tzavellas

SEXUALITY AND INTERPERSONAL RELATIONSHIPS
Chairman: L. Athanasiadis
Secretaries: K. Papastamatis, H. Mourikis

MILITARY PSYCHIATRY
Chairman: P. Fotiadis
Secretaries: J. Nimatoudis, D. Moschonas

CONSULTATION-LIAISON PSYCHIATRY & PSYCHOSOMATICS
Chairman: T. Hyphantis
Secretaries: A. Karkanias, M. Diallina

ART & PSYCHIATRY
Chairman: S. Krasanakis
Secretaries: E. Vlachos, C. Giannoulaki

TELEPSYCHIATRY
Chairman: K. Katsadoros
Secretaries: J. Chatzidakis, J. Apostolopoulos

PHILOSOPHY & PSYCHIATRY
Chairman: J. Iliopoulos
Secretaries: G. Nikolaidis, A. Komborozos

PSYCHIATRY & ETHICS
Chairman: G. Christodoulou
Secretaries: J. Giouzepas, A. Douzenis

PSYCHIATRY & RELIGION
Chairman: r. A. Avgoustidis
Secretaries: S. Koulis, K. Emmanouilidis

WOMEN'S MENTAL HEALTH & REPRODUCTIVE PSYCHIATRY
Chairman: J. Zervas
Secretaries: H. Lazaratou, A. Leonardou

FORENSIC PSYCHIATRY
Chairman: G. Tzeferakos
Secretaries: D. Tsaklakidou, J. Giannopoulou

PSYCHOTHERAPY
Chairman: A. Pechlivanidis
Secretaries: S. Tournis, R. Gournellis

PSYCHOGERIATRICS
Chairman: N. Degleris
Secretaries: A. Konsta, Th. Vorvolakos

PSYCHOMETRIC & NEUROPSYCHOLOGICAL MEASUREMENTS
Chairman: V.P. Bozikas
Secretaries: J. Nimatoudis, K. Kollias

PSYCHO-ONCOLOGY
Chairman: A. Karkanias
Secretaries: K. Paplos, M. Syngelakis

PSYCHOPATHOLOGY
Chairman: N. Tzavaras
Secretaries: †G. Kaprinis, M. Diallina

PSYCHOPHYSIOLOGY
Chairman: J. Liappas
Secretaries: J. Nimatoudis, C. Papageorgiou

PSYCHIATRIKI

Quarterly journal published by the Hellenic Psychiatric Association

CONTENTS

ΨΥΧΙΑΤΡΙΚΗ

Τριμηνιαία έκδοση της Ελληνικής Ψυχιατρικής Εταιρείας

ΠΕΡΙΕΧΟΜΕΝΑ

Research article
Ερευνητική εργασία

Hypothalamus-pituitary-adrenal (HPA) axis parameters and neurocognitive evaluation in patients with bipolar disorder*

K. Tournikioti,[1] D. Dikeos,[2] M. Alevizaki,[3] I. Michopoulos,[1] P. Ferentinos,[1] E. Porichi,[1] C.R. Soldatos,[4] A. Douzenis[1]

[1]*Second Department of Psychiatry, Attikon General Hospital, University of Athens, Medical School, Athens,*
[2]*First Department of Psychiatry, Eginition Hospital, University of Athens, Medical School, Athens,*
[3]*Endocrine Unit, Department of Medical Therapeutics, Alexandra Hospital, University of Athens, Medical School, Athens,*
[4]*Mental Health Care Unit, Evgenidion Hospital, University of Athens, Medical School, Athens, Greece*

Psychiatriki 2018, 29:199–208

Bipolar disorder is associated with neurocognitive impairment but the etiology of such impairment remains largely unknown. The present study aimed at investigating the performance of bipolar patients in various neuropsychological tasks within the framework of HPA axis hyperactivity model and also the impact of disease characteristics on neuropsychological functioning. Cognitive performance of 60 bipolar-I patients and 30 healthy controls was evaluated by using tasks from the CANTAB battery targeting visual memory, executive function and inhibitory control. Current symptoms were evaluated via administration of the Hamilton Depression Rating Scale (HAMD) and Young Mania Rating Scale (YMRS) whereas assessment of functioning was performed with the Global Assessment of Functioning (GAF). Basal cortisol levels were determined and all patients were administered the Dexamethasone Suppression Test (DST). Statistically significant differences between patients and controls were found in visuo-spatial associative learning and memory, planning, attentional set shifting and inhibitory control. Worse performance in visuospatial associative memory correlated with longer duration of illness and higher levels of basal cortisol. Poorer attentional set shifting was related to higher number of manic episodes. We found no relationship of neurocognitive measures with DST suppression status, current symptom severity or history of psychosis. The results of our study confirm the presence of cognitive deficits in bipolar disorder and provide evidence on the relation of cortisol with neuropsychological functioning, especially visuo-spatial associative memory. Moreover, we have found that number of previous manic episodes and duration of illness is associated with worse cognitive performance. It is known that neurocognitive deficits are evident in many patients with bipolar disorder. These deficits are often a cause of considerable distress and can lead to impairment of psychosocial and occupational functioning. The role of HPA axis needs to be further examined in bipolar disorder. Nevertheless, the identification of factors affecting neurocognitive functioning, like basal cortisol and number of manic episodes, may contribute to the implementation of more appropriate prevention strategies.

Key words: Bipolar disorder, HPA axis, cortisol, neurocognitive functioning, visual memory, executive function.

*This paper was awarded in 23rd Pan-Hellenic Psychiatric Congress, 23–26 April 2015, Larissa.

Introduction

Bipolar disorder (BD) is a recurrent psychiatric condition characterized by episodes of altered mood (depressive, hypomanic/manic, mixed) interspersed by periods of symptomatic remission or euthymia. Evidence has accumulated over the past decade that many, but not all, bipolar patients show significant deficits in various cognitive domains. Impairments in sustained attention, verbal memory and executive functions represent the most replicated findings during the active phases of the disease but also in euthymia.[1,2]

The etiology of cognitive impairment in bipolar disorder remains largely unknown. Previous research has speculated that Hypothalamus-Pituitary-Adrenal (HPA) axis dysregulation may be contributing to the development of cognitive impairment.[3,4] In fact, many bipolar patients exhibit markers of HPA axis hyperactivity, such as hypercortisolemia, increased rates of non suppression at the Dexamethasone Suppression Test (DST) or at the more sensitive combined dexamethasone suppression/corticotropin-releasing hormone stimulation test (DEX/CRH test).[5,6] On the other hand, there is evidence for cortisol-dependent memory impairment[7–9] and executive dysfunction[9] in recurrent major depression, as well as in healthy subjects.[10,11]

There have been only three studies so far investigating the association between indices of HPA axis activity and cognitive functioning in bipolar disorder but results have been inconsistent.[12–14]

Therefore, the present study aimed at investigating the performance of bipolar patients in various cognitive tasks targeting attention, visual memory and executive function within the framework of the HPA axis hyperactivity model. It also examined the impact of various disease-related factors suggested in the literature (such as age of onset, duration of illness, presence of affective symptoms, number of affective episodes, history of psychosis) on neuropsychological functioning. Our main hypothesis was that an increased HPA axis activity would be associated with poor cognitive performance, especially in memory and executive function tasks. We also expected to find a relationship between clinical variables indicating illness severity and cognitive dysfunction.

Material and method

Subjects

Sixty bipolar patients were consecutively recruited in the study from the 2nd Department of Psychiatry of Athens University Medical School at Attikon General Hospital during the period May 2008 – November 2009. All patients had a bipolar disorder type I diagnosis according to the DSM-IV criteria (American Psychiatric Association, 2000) and they were either attending the outpatient clinic or were admitted in the psychiatric inpatient unit. Outpatients were all euthymic, whereas inpatients were assessed close to their discharge after having responded to treatment while being at least partially remitted. Patients were excluded if they had any other current Axis I diagnosis or a serious neurological or medical condition as well as a history of substance or alcohol misuse in the past 6 months.

Thirty healthy controls with no psychiatric history matched for age and education were also included in the study. Exclusion criteria for controls were the same as for the patients. Every participant signed an informed consent form following detailed description of the study. The study was approved by the Ethics Committee of Attikon General Hospital.

Clinical assessment

Current and lifetime diagnostic status was confirmed with the Mini International Neuropsychiatric Interview.[15] Presence of dementia was excluded by the administration of the Mini Mental State Examination questionnaire.[16] Demographic data included age, gender, years of education, current and best-ever employment and marital status. Clinical assessment and symptom evaluation took place on the same day of cognitive testing via administration of the 17-item Hamilton Depression Rating Scale (HAMD-17)[17] and Young Mania Rating Scale (YMRS).[18] The cut-off point for depression was a HAMD17 total score ≥17 and YMRS total score ≤12 whereas for mania a YMRS total score ≥20. Information about patients' past psychiatric history, current treatment, age at onset, duration of illness, number and type of previous episodes and history of psychotic symptoms, was collected from the patients, primary caregivers and medical records.

Neuropsychological assessment

Patients were administered a series of tests from the Cambridge Neuropsychological Test Automated Battery (CANTAB) which is a computer-administrated set of tasks developed to assess specific components of cognition, especially those associated with frontal and medial temporal regions of the brain.[19] The tasks were given by the same qualified psychiatrist and in the same order to all participants.

Visuo-spatial memory and learning assessment

Spatial Recognition Memory (SRM): This memory task assesses the ability to remember the spatial location of visual stimuli. Five squares are presented in sequence at different locations on the screen, and then subjects are presented a pair of squares and asked to identify which is at a location where a square was previously presented. Percentage of correct responses is recorded.

Paired Associate Learning (PAL): This visuospatial memory task requires subjects to learn the location of specific visual patterns. Designs are presented in boxes on the screen at varying locations. The designs are then presented sequentially in the centre of the screen and subjects are instructed to indicate the box in which each design was initially presented. The task involves sequential stages of increasing difficulty. The total number of errors adjusted for the number of stages successfully completed ("total errors adjusted") is recorded.

Executive function assessment

Stockings of Cambridge (SOC): This executive function task investigates the ability of planning and problem solving. It is a modified version of the well-known Tower of London task and requires subjects to rearrange coloured balls in vertical columns to match a desired final arrangement in a specified minimum number of moves. Subjects are told to plan their sequence of moves before starting to move the balls shown on the monitor. The "total problems solved in minimum moves" variable is recorded as the basic measure of the subject's planning ability.

Intradimensional/Extradimensional Attentional Set Shifting (ID/ED): This test involves sequential stages of increasing difficulty and was designed to examine component executive function processes (rule discovery and reversal) evaluated in aggregate by the Wisconsin Card Sorting Test (WCST). It assesses the ability to maintain attention to different examples within a stimulus dimension and the ability to shift attention to a previously irrelevant stimulus dimension. The number of stages completed as well as the number of errors committed (adjusted for the number of stages successfully completed) are recorded.

Inhibitory control assessment

Stop Signal Test (SST): This is a test of response inhibition, a key dimension of executive function and gives a measure of an individual's ability to inhibit a prepotent response. Subjects are required to press the left or right button when they are shown a horizontal arrow pointing either to the left or to the right respectively but to suppress ("stop") their action if they hear an auditory signal (beep) which is presented at varying time intervals just after the visual stimulus. The time interval between visual and auditory signal at which the subjects successfully suppress their action on 50% of the trials ("stop signal reaction time", SSRT) is recorded.

Statistical analysis

Statistical analyses were carried out with SPSS version 22.0. The normality of the distribution of all variables was evaluated with the Shapiro-Wilk test. As most of the investigated variables were not normally distributed, medians and interquartile ranges were used in descriptives, and nonparametric tests were employed in comparisons between groups. Statistical significance was set at 0.05.

Comparison between patients and controls on neuropsychological measures was performed with Mann Whitney test. For the neurocognitive variables with a significant difference among patients and controls Spearman correlation analyses were performed with several clinical characteristics and HPA axis variables. Multiple linear regression analyses using a stepwise procedure were then performed with the specific neuropsychological measures as dependent variables.

The predictors considered were: duration of illness, number of depressive and manic episodes, history of psychotic symptoms, psychopathological state (depressed, elevated or remitted), basal cortisol, delta cortisol, and DST non-suppression as well as current use of antipsychotic and mood stabilizer medication.

All neurocognitive measures, with the exception of SOC that was normally distributed, were subjected to transformations as appropriate (PAL: square root transformation, IED: natural logarithm transformation and SST: inverse transformation).

Results

Subjects

Sixty Bipolar I patients and 30 healthy controls were included in the study. Patients and healthy controls did not statistically differ for age, education and gender distribution (table 1). The clinical characteristics and HPA axis indices of the subjects are shown in table 2. All patients were medicated with the vast majority receiving more than one psychotropic drug. At the time of testing 85% of the subjects were on antipsychotics, 90% on mood stabilizers (16% lithium, 54% valproate) and 45% on antidepressants.

Comparison between patients and controls on neurocognitive functioning

Patients showed significantly poorer performance in visuo-spatial associative learning (PAL), attentional set shifting (IED), planning (SOC) and inhibitory control (SST) than healthy controls, whereas their performance was similar to the control group at the spatial recognition memory task (SRM) (table 1).

Association of clinical variables with neurocognitive functioning

Longer duration of illness was associated with worse performance in PAL (rho=−0.328, p<0.05). Number of manic episodes showed a negative correlation with

Table 1. Comparison of demographic variables and neurocognitive performance between patients and controls

	Bipolar Patients (N=60)	Healthy Controls (N=30)	p
	Median (interquartile range)		
Demographic factors			
Gender (Men/Women)	23/37	10/20	n.s.
Age	44.5 (36.00–53.75)	44.5 (37.00–54.50)	n.s.
Education (years)	12	12	n.s.
Neurocognitive functioning			
Visuo-spatial memory			
SRM %	72.50 (60.00–80.00)	75.00 (63.75–91.25)	n.s.
PAL adj err	11.00 (4.25–25.75)	4.25 (3.00–11.00)	**p=0.021**
Executive functions			
SOC tot	6 (5.00–7.00)	8 (6.75–9.00)	**p<0.001**
IED adj err	23.50 (14.00–45.25)	16.50 (9.00–26.50)	**p=0.047**
Inhibitory control			
SST SSRT	216.13 (195.00–305.34)	185.48 (149.30–234.50)	**p=0.021**

SRM %, Spatial Recognition Memory percent correct; PAL adj err, Paired Associate Learning total errors adjusted; IED adj err, Intradimensional/Extradimensional Attentional Set Shifting total errors adjusted; SOC tot, Stockings of Cambridge total problems solved in minimum moves; SST SSRT, Stop Signal Test Stop Signal Reaction Time n.s., non significant

Table 2. Clinical characteristics and Biological parameters of bipolar patients.

Clinical characteristics	Median (IQR)	N (%)
Illness duration	16 (7.25–21.00)	
Age of onset	28 (20.25–35.75)	
HAMD-17 total score	11.5 (4.00–17.75)	
YMRS total score	6 (3.00–15.00)	
GAF score	45 (35–55)	
N. previous depressive episodes	4 (2–6)	
N. previous manic episodes	2 (1–4)	
N. admissions	2 (1–4)	
History of suicide attempts		31 (51.7%)
History of psychotic symptoms		35 (58.3%)
Biological Parameters		
Basal cortisol (μg/dl)	14 (10.75–17.70)	
Δ-cortisol (μg/dl)	10.93 (13.41–7.46)	
DST non-suppression		43 (71.7%)

Most variables showed skewed distributions therefore median and interquartile range (IQR) are given.
HAMD: Hamilton Depression Rating Scale, YMRS: Young Mania Rating Scale, GAF: Global Assessment of functioning, Δ cortisol: difference between basic and post-dexamethasone cortisol, DST: dexamethasone suppression test

IED (rho=−0.378 και p<0.01) and number of depressive episodes was associated with longer reaction time in SST (rho=−0.354 και p<0.01). Lastly, history of psychotic symptoms, current symptomatology and global functioning did not correlate with any cognitive task in our study (table 3).

Association of HPA axis variables with neurocognitive functioning

We examined the relation between neurocognitive perfomance and HPA axis functioning. Higher levels of basal cortisol were associated with worse performance in visuo-spatial associative learning (PAL) (rho=0.271, p<0.05), planning (SOC) (rho=−0.300, p<0.05) and SST (rho=0.276, p<0.05). No statistically significant correlation was found between Δ-cortisol or DST non-suppression and neurocognitive functioning (table 4).

Multiple regression analysis

As shown in Table 5 multiple regression analysis confirmed the correlation of poor performance in PAL with longer illness duration and higher basal cortisol and showed a protective effect of mood stabilizers. Number of previous manic episodes emerged as the only predictive factor for IED performance. Regarding SOC and SST besides gender and education no other clinical of HPA axis-related factor was correlated.

Discussion

The results of our study confirm and add to the rich literature on the neuropsychological deficits in BD in remission.[1,2,20,21] Bipolar patients showed poorer performance in neurocognitive tasks than healthy controls matched for age, gender and education. Specifically, they committed more errors in visuo-spatial paired associative memory and learning (PAL) and attentional set shifting (IED) tasks, displayed worse planning ability (SOC) and needed increased time intervals to suppress a prepotent response at the inhibitory control task (SST). On the contrary, in the simpler memory paradigm of spatial memory (SRM) the difference between the two groups was not statistically significant.

This is one the first studies to address the role of HPA axis on cognition in BD. We found that neurocognitive functioning was associated with basal cortisol as well

Table 3. Non-parametric correlations (Spearman's rho) between clinical variables and neurocognitive performance.

	Visual memory	Inhibitory control		Inhibitory control
	PAL adj err	SOC tot	ID/ED adj err	SST ssrt
Age	0.200	–0.095	0.234	0.118
Gender	0.259	–0.248	**0.297***	0.262
Education	**–0.298***	**–0.293***	**–0.279***	**–0.316***
Illness duration	**0.328***	–0.033	0.166	–0.211
N. depressive episodes	0.080	0.144	–0.003	**–0.354****
N. manic episodes	0.098	–0.188	**0.378****	0.052
HAMD total score	0.109	–0.103	–0.129	–0.096
YMRS total score	0.024	–0.099	0.201	0.050
GAF score	–0.017	0.232	–0.088	–0.106
History of psychotic symptoms	0.117	0.133	0.044	0.250

Figures in bold letters indicate statistical significance; * $p<0.05$; ** $p<0.01$
Other abbreviations as in table 1 and 2.
Gender (0=Women, 1=Men)

Table 4. Non-parametric correlations (Spearman's rho) between HPA axis variables and neurocognitive performance.

	Visual memory	Executive functions		Inhibitory control
	PAL adj err	SOC tot	ID/ED adj err	SST ssrt
Basal cortisol (μg/dl)	**0.271***	**–0.300***	–0.033	**0.276***
Δ-cortisol (μg/dl)	–0.014	–0.159	0.008	0.157
DST non-suppression	–0.257	–0.137	–0.002	0.242

Figures in bold letters indicate statistical significance; * $p<0.05$; ** $p<0.01$
Other abbreviations as in table 1 and 2.

as with various indices of illness severity and chronicity such as duration and number of manic episodes. Lastly, regarding the effect of medication, we found that current treatment with mood stabilizers may have a beneficial effect, especially on visuo-spatial associative learning.

Association of clinical variables with neurocognitive functioning

Many studies have reported a negative relationship between duration of illness and visuo-spatial and verbal memory.[12,22–25] However, the effect of illness duration on paired associative learning has been less explored so far.[12,26] We found that duration of illness negatively affected performance in PAL, indicating deterioration of visuo-spatial associative memory and learning over time in BD. A mechanism postulated to explain such findings is that, over time, there is an ongoing destructive process that affects primarily the hippocampus, probably related to the hypercortisolemia that accompanies the occurrence of each episode of depression or mania.[3]

In line with other studies showing a negative association between number of previous manic episodes and neurocognitive functioning[22,24,27] we found that number of previous episodes had a significant negative effect on attentional set shifting (IED), implying an increased tendency among patients to perseveration when called to make attentional switches.

We expected to find a negative correlation between mood symptomatology and neurocognitive functioning.[2,21] However, we observed only not statistically significant weak correlations of manic or depressive symptomatology probably because of the relatively mild affective symptoms in our patients (median HAMD-17 total score 11.5; median YMRS total score 6.0).

Presence of psychotic symptoms was not associated with neurocognitive performance. Negative effects of psychotic symptoms on cognition are described in the literature[28] but also absence of any effect.[29] A recent meta-analysis on this subject concluded that there is only a modest effect of history of psychosis on the severity of cognitive deficits in BD and that findings do not support a categorical distinction between psychotic and non-psychotic BD.[30]

Association of HPA axis variables with neurocognitive functioning

Higher basal cortisol levels significantly correlated with worse performance in visual associative memory (PAL), planning (SOC) and inhibitory control (SST) in our study, although the last two correlations were not confirmed in the regression analysis. There are no previous studies examining the relation between visual associative memory tasks and cortisol-related variables in BD, although such tasks are putative indices of the temporo-hippocampal memory system, which is known to be negatively affected by chronic exposure to high levels of glucocorticoids,[31–34] leading to the postulation that, in bipolar disorder hypercortisolemia, in the long-term, may result in toxicity to the hippocampus, decreased glucocorticoid receptor numbers and ultimately cell death and tissue loss in temporal lobe region.[3,35]

Similarly to our findings, studies on cognitive function measures other than visuospatial associative memory have shown that a correlation exists between neurocognition and HPA axis activity in mood disorders, although some negative results have also been reported. Thompson et al (2005)[12] observed a significant correlation between executive function and basal salivary cortisol in 63 euthymic bipolar patients; Watson et al (2006)[13] studied 17 euthymic bipolar patients and reported a significant correlation between patients' post-dexamethasone cortisol and impairment in working memory. Moreover, in unipolar depressed patients, Egeland et al (2005)[9] found a negative association between high morning cortisol levels and both executive functioning and post-encoding memory. Conversely, a recent study observed no association between various indices of HPA axis activity and neuropsychological measures in a sample of 65 currently depressed or euthymic bipolar patients.[14] It is worth mentioning, however, that researchers used a pattern recognition memory paradigm of visual memory which is a simpler task than the paired associate learning one in our study, which is representative of the kind of learning undertaken in everyday life.

Interestingly, the effect of basal cortisol on visuospatial associative memory in our study seemed to be distinct from psychopathology (symptom severity was not related to cortisol levels; data not shown). This might explain why we have not found any association between neurocognitive measures and delta cortisol or DST suppression, which are often related to current affective state. Our finding is in line with other recent studies in depressed unipolar and bipolar patients that have provided evidence that cortisol levels are dissociated from depression severity in their impact on cognitive function.[9,14,36,37]

Association of medication and neurocognitive functioning

The effect of medication on cognitive functioning in BD is considered one of the most important confounding factors in literature because it is a very complex issue, difficult to control for.[38] Patients are typically assessed while they are receiving a combination of psychotropic drugs like mood stabilizers, antipsychotics and antidepressants. Drugs exert their action on cognitive function at various levels some of which are mediated by their true therapeutic action (i.e. return to euthymia, prevention of new episodes), some are related to their side effects and others to their direct effect on cerebral areas important for cognitive functioning (i.e. neurotrophic action of lithium and valproate in the hippocampus). We found that current treatment with mood stabilizers was associated with better performance in visuo-spatial associative memory. This finding is in line with with preclinical studies showing a neuroprotective effect of lithium and valproate in the hippocampus.[39] Moreover, a significant increase in grey matter volume was reported after administration of lithium in bipolar patients.[40] Unfortunately, most evidence to date regarding the effect of antipsychotics and mood stabilizers comes from studies on other clinical populations (patients with schizophrenia and epilepsy) whereas data on BD is limited and controversial.[41,42] As for the impact of antipsychotic treatment on bipolar patients' neuropsychological function there is evidence pointing to worsening of cognitive performance probably related to antipsychotic-induced psychomotor retardation

which contrasts research findings showing cognitive improvement in schizophrenic patients.[38,43,44]

Limitations

Part of our bipolar sample did not fulfill stringent criteria for euthymia. Moreover, the associations reported in our study can be interpreted as indicating a progressive disease process leading to a deterioration of cognitive function. It is worth noting that the direction of causality cannot be determined. An unknown underlying factor might cause both illness progression and cognitive dysfunction. Alternatively, there might be a self-reinforcing process in which patients with a more severe course of illness develop cognitive impairment while at the same time patients with cognitive impairment may be more prone to suffer from a more severe and frequently recurring form of disease.

Conclusions

We recorded significant deficits in visual associative learning, attentional set shifting, planning and response inhibition in bipolar patients with respect to healthy controls replicating previous literature findings. However, this was one of the first studies to assess HPA axis function and provide evidence on the relation of basal cortisol with cognitive functioning and especially visual paired associative learning in BD. Moreover, we presented new data on the negative impact of duration of illness and number of previous manic episodes on neurocognitive performance. Lastly, regarding the effect of medication, we detected a beneficial effect of mood stabilizers on visual paired associative learning that warrants further investigation given its clinical relevance.

Παράμετροι λειτουργίας του άξονα υποθαλάμος-υπόφυση-επινεφρίδια (ΥΥΕ) και νευροψυχολογική εκτίμηση σε ασθενείς με διπολική διαταραχή

Κ. Τουρνικιώτη,[1] Δ. Δικαίος,[2] Μ. Αλεβιζάκη,[3] Ι. Μιχόπουλος,[1] Π. Φερεντίνος,[1] Ε. Πορίχη,[1] Κ.Ρ. Σολδάτος,[4] Α. Δουζένης[1]

[1]Β΄ Ψυχιατρική Κλινική, ΠΓΝ Αττικό, Εθνικό και Καποδιστριακό Πανεπιστήμιο Αθηνών, Ιατρική Σχολή,
[2]Α΄ Ψυχιατρική Κλινική, Αιγινήτειο Νοσοκομείο, Εθνικό και Καποδιστριακό Πανεπιστήμιο Αθηνών, Ιατρική Σχολή,
[3]Ενδοκρινολογική Μονάδα, Θεραπευτική Κλινική, Νοσοκομείο Αλεξάνδρα,
Εθνικό και Καποδιστριακό Πανεπιστήμιο Αθηνών, Ιατρική Σχολή,
[4]Μονάδα Φροντίδας Ψυχικής Υγείας, Ευγενίδειο, Εθνικό και Καποδιστριακό Πανεπιστήμιο Αθηνών, Ιατρική Σχολή, Αθήνα

Ψυχιατρική 2018, 29:199–208

Η διπολική συναισθηματική διαταραχή συνδέεται σε πολλές περιπτώσεις με ελλείμματα στις γνωσιακές λειτουργίες αλλά η αιτιολογία αυτών των ελλειμμάτων παραμένει σε μεγάλο βαθμό άγνωστη. Η παρούσα μελέτη εστίασε στην αξιολόγηση της επίδοσης διπολικών ασθενών σε διάφορες νευροψυχολογικές δοκιμασίες στο πλαίσιο του μοντέλου υπερδραστηριότητας του άξονα Υποθάλαμος-Υπόφυση-Επινεφρίδια (ΥΥΕ) καθώς και στις πιθανές συσχετίσεις της νευροψυχολογικής λειτουργικότητας με διάφορα κλινικά χαρακτηριστικά. Στη μελέτη συμμετείχαν 60 ασθενείς με κύρια διάγνωση διπολική διαταραχή (ΔΔ) τύπου Ι καθώς και 30 υγιείς μάρτυρες. Όλοι οι συμμετέχοντες υπεβλήθησαν σε μια σειρά από δοκιμασίες από τη νευροψυχολογική συστοιχία CANTAB προκειμένου να εκτιμηθεί η επίδοσή τους στη μνήμη, στις εκτελεστικές λειτουργίες και στον ανασταλτικό έλεγχο. Η τρέχουσα ψυχοπαθολογία αξιολογήθηκε μέσω των κλιμάκων Hamilton Depression Rating Scale (HAMD) και Young Mania Rating Scale (YMRS) για την κατάθλιψη και τη μα-

νία αντίστοιχα ενώ η εκτίμηση της συνολικής λειτουργικότητας πραγματοποιήθηκε με την κλίμακα Global Assessment of Functioning (GAF). Τέλος, σε όλους τους ασθενείς μετρήθηκαν τα βασικά επίπεδα κορτιζόλης καθώς και τα επίπεδα κορτιζόλης μετά από τη δοκιμασία καταστολής με χορήγηση δεξαμεθαζόνης. Βρέθηκαν στατιστικά σημαντικές διαφορές ανάμεσα σε ασθενείς και σε υγιείς μάρτυρες όσον αφορά στην οπτικο-χωρική συνειρμική μάθηση/μνήμη, την ικανότητα σχεδιασμού και γνωσιακής ευελιξίας καθώς και στον ανασταλτικό έλεγχο. Επιπρόσθετα, παρατηρήθηκε στατιστικά σημαντική αρνητική συσχέτιση ανάμεσα στα επίπεδα βασικής κορτιζόλης και την επίδοση στη δοκιμασία οπτικο-χωρικής συνειρμικής μάθησης/μνήμης. Αντίθετα, τα επίπεδα κορτιζόλης μετά από χορήγηση δεξαμεθαζόνης δεν σχετίστηκαν με τη νευροψυχολογική λειτουργικότητα. Η διάρκεια νόσου παρουσίασε αρνητική συσχέτιση με την επίδοση στην οπτικο-χωρική συνειρμική μάθηση/μνήμη. Επίσης, ο αριθμός προηγούμενων μανιακών επεισοδίων βρέθηκε να σχετίζεται με μειωμένη ικανότητα γνωσιακής ευελιξίας. Η βαθμολογία στις ψυχομετρικές κλίμακες για την κατάθλιψη και τη μανία και η παρουσία ψυχωτικών συμπτωμάτων στο ιστορικό δεν συσχετίστηκαν με την επίδοση στις νευροψυχολογικές δοκιμασίες που εξετάστηκαν. Τα αποτελέσματα της παρούσας μελέτης υποστηρίζουν την ύπαρξη γνωσιακών ελλειμμάτων στη ΔΔ και παρέχουν δεδομένα για τη σχέση των επιπέδων βασικής κορτιζόλης με τη νευροψυχολογική λειτουργικότητα και συγκεκριμένα με την επίδοση στην οπτικο-χωρική μάθηση/μνήμη. Επιπροσθέτως, επιβεβαιώνεται ότι δείκτες βαρύτητας και χρονιότητας όπως η διάρκεια της νόσου και ο αριθμός των προηγούμενων μανιακών επεισοδίων συσχετίζονται με χειρότερες επιδόσεις στις νευροψυχολογικές δοκιμασίες. Είναι γνωστό ότι τα γνωσιακά ελλείμματα στη ΔΔ αφορούν μεγάλο αριθμό ασθενών και επηρεάζουν δυσμενώς την ψυχοκοινωνική και επαγγελματική τους λειτουργικότητα. Ο ρόλος του άξονα ΥΥΕ χρειάζεται να μελετηθεί περαιτέρω ως προς την ανάπτυξη νευροψυχολογικής δυσλειτουργίας στη ΔΔ. Η αναγνώριση ωστόσο παραγόντων που σχετίζονται με τη γνωσιακή λειτουργικότητα, όπως τα βασικά επίπεδα κορτιζόλης και ο αριθμός μανιακών επεισοδίων, δύναται να συνεισφέρει στην ανάπτυξη κατάλληλων προληπτικών και θεραπευτικών παρεμβάσεων.

Λέξεις ευρετηρίου: Διπολική διαταραχή, Άξονας Υποθάλαμος-Υπόφυση-Επινεφρίδια, κορτιζόλη, νευροψυχολογική λειτουργικότητα, οπτική μνήμη, εκτελεστικές λειτουργίες.

References

1. Quraishi S, Frangou S. Neuropsychology of bipolar disorder: a review. *J Affect Disord* 2002, 72:209–226, doi: 10.1016/S0165-0327(02)00091-5
2. Goodwin GM, Martinez-Aran A, Glahn DC, Vieta E. Cognitive impairment in bipolar disorder: neurodevelopment or neurodegeneration? An ECNP expert meeting report. *Eur Neuropsychopharmacol* 2008, 18:787–793, doi:10.1016/j.euroneuro.2008.07.005
3. Sapolsky RM. Glucocorticoids and hippocampal atrophy in neuropsychiatric disorders. *Arch Gen Psychiatry* 2000, 57:925–935, doi:10.1001/archpsyc.57.10.925
4. McQuade R, Young AH. Future therapeutic targets in mood disorders: the glucocorticoid receptor. *Br J Psychiatry* 2000, 177:390–395, PMID: 11059990
5. Watson S, Gallagher P, Ritchie JC, Ferrier IN, Young AH. Hypothalamic-pituitary-adrenal axis function in patients with bipolar disorder. *Br J Psychiatry* 2004, 184:496–502, PMID: 15172943
6. Daban C, Vieta E, Mackin P, Young AH. Hypothalamic-pituitary-adrenal axis and bipolar disorder. *Psychiatr Clin North Am* 2005, 28:469–480, doi:10.1016/j.psc.2005.01.005
7. Bremner JD, Vythilingam M, Vermetten E, Anderson G, Newcomer JW, Charney DS. Effects of glucocorticoids on declarative memory function in major depression. *Biol Psychiatry* 2004, 55:811–815, doi:10.1016/j.biopsych.2003.10.020
8. McAllister-Williams RH, Ferrier IN, Young AH. Mood and neuropsychological function in depression: the role of corticosteroids and serotonin. *Psychol Med* 1998, 28:573–584, PMID: 9626714
9. Egeland J, Lund A, Landro NI, Rund BR, Sundet K, Asbjornsen A et al. Cortisol level predicts executive and memory function in depression, symptom level predicts psychomotor speed. *Acta Psychiatr Scand* 2005, 112:434-441, doi:10.1111/j.1600-0447.2005.00599.x
10. Lupien SJ, Gillin CJ, Hauger RL. Working memory is more sensitive than declarative memory to the acute effects of corticosteroids: a dose-response study in humans. *Behav Neurosci* 1999, 113:420–430, doi:10.1037/0735-7044.113.3.420
11. Young AH, Sahakian BJ, Robbins TW, Cowen PJ. The effects of chronic administration of hydrocortisone on cognitive function in normal male volunteers. *Psychopharmacology* (Berl) 1999, 145:260–266, PMID: 10494574
12. Thompson JM, Gallagher P, Hughes JH, Watson S, Gray JM, Ferrier IN et al. Neurocognitive impairment in euthymic patients with bipolar affective disorder. *Br J Psychiatry* 2005, 186:32–40, doi:10.1192/bjp.186.1.32
13. Watson S, Thompson JM, Ritchie JC, Nicol Ferrier I, Young AH. Neuropsychological impairment in bipolar disorder: the relationship with glucocorticoid receptor function. *Bipolar Disord* 2006, 8:85–90, doi:10.1111/j.1399-5618.2006.00280.x

14. van der Werf-Eldering MJ, Riemersma-van der Lek RF, Burger H, Holthausen EA, Aleman A, Nolen WA. Can variation in hypothalamic-pituitary-adrenal (HPA)-axis activity explain the relationship between depression and cognition in bipolar patients? *PLoS One* 2012, 7:e37119, doi:10.1371/journal.pone.0037119
15. Sheehan DV, Lecrubier Y, Sheehan KH, Amorim P, Janavs J, Weiller E et al. The Mini-International Neuropsychiatric Interview (MINI): the development and validation of a structured diagnostic psychiatric interview for DSM-IV and ICD-10. *J Clin Psychiatry* 1998, 59(Suppl 20):22–33;quiz 4-57, PMID: 9881538
16. Folstein MF, Folstein SE, McHugh PR. "Mini-mental state". A practical method for grading the cognitive state of patients for the clinician. *J Psychiatr Res* 1975, 12:189–198, PMID: 1202204
17. Hamilton M. A rating scale for depression. *J Neurol Neurosurg Psychiatry* 1960, 23:56–62, PMID: 14399272
18. Young RC, Biggs JT, Ziegler VE, Meyer DA. A rating scale for mania: reliability, validity and sensitivity. *Br J Psychiatry* 1978, 133:429–435, PMID: 728692
19. Robbins TW, James M, Owen AM, Sahakian BJ, McInnes L, Rabbitt P. Cambridge Neuropsychological Test Automated Battery (CANTAB): a factor analytic study of a large sample of normal elderly volunteers. *Dementia* 1994, 5:266–281, PMID: 7951684
20. Bora E, Yucel M, Pantelis C. Cognitive endophenotypes of bipolar disorder: a meta-analysis of neuropsychological deficits in euthymic patients and their first-degree relatives. *J Affect Disord* 2009, 113:1–20, doi:10.1016/j.jad.2008.06.009
21. Ferrier IN, Thompson JM. Cognitive impairment in bipolar affective disorder: implications for the bipolar diathesis. *Br J Psychiatry* 2002, 180:293–295, PMID: 11925348
22. Martinez-Aran A, Vieta E, Reinares M, Colom F, Torrent C, Sanchez-Moreno J et al. Cognitive function across manic or hypomanic, depressed, and euthymic states in bipolar disorder. *Am J Psychiatry* 2004, 161:262–270, doi: 10.1176/appi.ajp.161.2.262
23. Cavanagh JT, Van Beck M, Muir W, Blackwood DH. Case-control study of neurocognitive function in euthymic patients with bipolar disorder: an association with mania. *Br J Psychiatry* 2002, 180:320–326, PMID: 11925354
24. Clark L, Iversen SD, Goodwin GM. Sustained attention deficit in bipolar disorder. *Br J Psychiatry* 2002, 180:313–319, PMID: 11925353
25. Deckersbach T, Savage CR, Reilly-Harrington N, Clark L, Sachs G, Rauch SL. Episodic memory impairment in bipolar disorder and obsessive-compulsive disorder: the role of memory strategies. *Bipolar Disord* 2004, 6:233–244, doi:10.1111/j.1399-5618.2004.00118.x
26. Sweeney JA, Kmiec JA, Kupfer DJ. Neuropsychologic impairments in bipolar and unipolar mood disorders on the CANTAB neurocognitive battery. *Biol Psychiatry* 2000, 48:674–684, doi: 10.1016/S0006-3223(00)00910-0
27. van Gorp WG, Altshuler L, Theberge DC, Wilkins J, Dixon W. Cognitive impairment in euthymic bipolar patients with and without prior alcohol dependence. A preliminary study. *Arch Gen Psychiatry* 1998, 55:41–46, doi:10.1001/archpsyc.55.1.41
28. Savitz J, van der Merwe L, Stein DJ, Solms M, Ramesar R. Neuropsychological status of bipolar I disorder: impact of psychosis. *Br J Psychiatry* 2009, 194:243–251, doi:10.1192/bjp.bp.108.052001
29. Selva G, Salazar J, Balanza-Martinez V, Martinez-Aran A, Rubio C, Daban C, et al. Bipolar I patients with and without a history of psychotic symptoms: do they differ in their cognitive functioning? *J Psychiatr Res* 2007, 41:265–272, doi:10.1016/j.jpsychires.2006.03.007
30. Bora E, Yucel M, Pantelis C. Neurocognitive markers of psychosis in bipolar disorder: a meta-analytic study. *J Affect Disord* 2010, 127:1–9, doi:10.1016/j.jad.2010.02.117
31. Starkman MN, Gebarski SS, Berent S, Schteingart DE. Hippocampal formation volume, memory dysfunction, and cortisol levels in patients with Cushing's syndrome. *Biol Psychiatry* 1992, 32:756–765, doi: 10.1016/0006-3223(92)90079-F
32. Sheline YI. Hippocampal atrophy in major depression: a result of depression-induced neurotoxicity? *Mol Psychiatry* 1996, 1:298–299, PMID: 9118352
33. Lupien SJ, McEwen BS. The acute effects of corticosteroids on cognition: integration of animal and human model studies. *Brain Res Brain Res Rev* 1997, 24:1–27, doi: 10.1016/S0165-0173(97)00004-0
34. de Quervain DJ, Henke K, Aerni A, Treyer V, McGaugh JL, Berthold T et al. Glucocorticoid-induced impairment of declarative memory retrieval is associated with reduced blood flow in the medial temporal lobe. *Eur J Neurosci* 2003, 17:1296–1302, doi:10.1046/j.14609568.2003.02542.x
35. Altshuler LL. Bipolar disorder: are repeated episodes associated with neuroanatomic and cognitive changes? *Biol Psychiatry* 1993, 33:563–565, doi:10.1016/0006-3223(93)90093-S
36. Reppermund S, Zihl J, Lucae S, Horstmann S, Kloiber S, Holsboer F, Ising M. Persistent cognitive impairment in depression: the role of psychopathology and altered hypothalamic-pituitary-adrenocortical (HPA) system regulation. *Biol Psychiatry* 2007, 62:400–406, doi:10.1016/j.biopsych.2006.09.027
37. Michopoulos I, Zervas IM, Pantelis C, Tsaltas E, Papakosta VM, Boufidou F et al. Neuropsychological and hypothalamic-pituitary-axis function in female patients with melancholic and non-melancholic depression. *Eur Arch Psychiatry Clin Neurosci* 2008, 258:217–225, doi:10.1007/s00406-007-0781-8
38. Balanza-Martinez V, Selva G, Martinez-Aran A, Prickaerts J, Salazar J, Gonzalez-Pinto A et al. Neurocognition in bipolar disorders--a closer look at comorbidities and medications. *Eur J Pharmacol* 2010, 626:87–96, doi:10.1016/j.ejphar.2009.10.018
39. Chen PS, Peng GS, Li G, Yang S, Wu X, Wang CC et al. Valproate protects dopaminergic neurons in midbrain neuron/glia cultures by stimulating the release of neurotrophic factors from astrocytes. *Mol Psychiatry* 2006, 11:1116–1125, doi:10.1038/sj.mp.4001893
40. Moore GJ, Bebchuk JM, Wilds IB, Chen G, Manji HK. Lithium-induced increase in human brain grey matter. *Lancet* 2000, 356:1241–1242, doi:10.1016/S0140-6736(00)02793-8
41. Goldberg JF, Chengappa KN. Identifying and treating cognitive impairment in bipolar disorder. *Bipolar Disord* 2009, 11(Suppl 2):123–137, doi:10.1111/j.1399-5618.2009.00716.x
42. Pachet AK, Wisniewski AM. The effects of lithium on cognition: an updated review. *Psychopharmacology* (Berl) 2003, 170:225–234, doi:10.1007/s00213-003-1592-x
43. Donaldson S, Goldstein LH, Landau S, Raymont V, Frangou S. The Maudsley Bipolar Disorder Project: the effect of medication, family history, and duration of illness on IQ and memory in bipolar I disorder. *J Clin Psychiatry* 2003, 64:86–93, PMID: 12590629
44. Jamrozinski K, Gruber O, Kemmer C, Falkai P, Scherk H. Neurocognitive functions in euthymic bipolar patients. *Acta Psychiatr Scand* 2009, 119:365–374, doi:10.1111/j.1600-0447.2008.01320.x

Corresponding author: K. Tournikioti, e-mail: ktournikioti@yahoo.gr

Research article
Ερευνητική εργασία

Quality of life and depression in chronic sexually transmitted infections in UK and Greece: The use of WHOQOL-HIV/STI BREF

M. Ginieri-Coccossis,[1] E. Triantafillou,[1] N. Papanikolaou,[1] R. Baker,[2] C. Antoniou,[3] S.M. Skevington,[4] G.N. Christodoulou[5]

[1]1st Department of Psychiatry, University of Athens, Medical School, Eginition Hospital, Athens, Greece,
[2]Department of Medicine and Social Care Education, Leicester Medical School, UK,
[3]1st Dermatologic Clinic, Medical School, University of Athens, Hospital "A. Syggrou", Athens, Greece,
[4]Manchester Centre for Health Psychology, School of Psychological Sciences, University of Manchester, UK,
[5]Hellenic Psychiatric Association, Athens, Greece

Psychiatriki 2018, 29:209–219

This is a comparative study aiming to investigate quality of life (QoL) and depression in individuals diagnosed either with human immunodeficiency virus/acquired immune deficiency syndrome (HIV/AIDS), or genital warts (GW) and genital herpes (GH), in two healthcare settings, in the United Kingdom (UK) or in Greece (Gr). Using a matched-pairs design, two equalized patient samples with sexually transmitted infections (STI) were recruited: from UK (n=43) and from Greece (n=43). QoL was assessed with WHOQOL-HIV BREF for HIV patients and WHOQOL-STI BREF –a newly adapted instrument– for genital warts and genital herpes patients. Depressive symptomatology was measured by the Centre for Epidemiological Studies-Depression Scale (CES-D) along with sociodemographic data. Results indicate that in both country-healthcare settings, a high percentage of individuals diagnosed with any type of STI, reported considerable depressive symptomatology: 35.7% for UK and 41.5% for Greek participants respectively. Regarding QoL, participants in the Greek healthcare settings reported significantly lower scores in the environment domain, and even lower scores were reported by the GW/GH group, in comparison to HIV. Specifically, these groups indicated significantly lower values in the following WHOQOL-BREF environment facets: (i) physical safety and security, (ii) participation in and opportunities for recreation/leisure activities, (iii) home environment, (iv) accessibility and quality in health and social care, and (v) transport facilities. Regarding correlation of QoL and depression, regression analysis provided significant evidence for depression having a differential effect on WHOQOL-BREF QoL domains. Evidence of increased depressive symptomatology in both STI patient-cohorts may shed light into unmet healthcare needs that should be addressed by healthcare providers in UK and Greece respectively. Furthermore, all types of Greek STI participants reported lower QoL, particularly the GW/GH group, indicating important unmet QoL needs in the environment domain, such as health and social care accessibility and quality, or environmental and social

resources, all lowering everyday QoL. The present findings may provide guidelines for tailored mental health interventions alleviating depressive symptomatology in STI patients. Provision of targeted-interventions at healthcare and social-environmental levels will contribute to QoL/health improvement in STI patients.

Key words: Quality of life, depression, WHOQOL-HIV BREF, WHOQOL-STI BREF, chronic sexually transmitted infections (STI), HIV/AIDS.

Introduction

Chronic sexually transmitted infections (STI) may have a serious influence on the patients psychological functioning and overall quality of life (QoL). In general, different clinical groups provide evidence that Qol is poorer due to depression or negative feelings associated with patients' health condition.[1–6] Specifically, in all types of STI groups, evidence shows that QoL is significantly lower particularly for those with human immunodeficiency virus/acquired immune deficiency syndrome (HIV/AIDS), followed by patients with genital warts (GW) or genital herpes (GH).[7–9] These patient groups report QoL limitations similar to those with chronic and difficult-to-treat diseases.[10–12]

Concerning QoL measurement, several instruments may provide reliable assessment of patient differences or treatment outcomes using QoL as an index of therapeutic changes. Most instruments are either generic psychometric tools examining QoL as a multidimensional concept, suitable for healthy and clinical populations; or disease-specific tools measuring QoL in a particular clinical category focusing on specific areas of health and functioning. Regarding HIV, the World Health Organization (WHO) has developed the WHOQOL-Human Immunodeficiency Virus version (WHOQOL-HIV),[13] an instrument combining generic with disease-specific items. Similarly, based on WHOQOL-HIV instrument, the WHOQOL-STI version has been recently developed for patients with chronic viral sexually transmitted infections (STI), such as genital warts (GW) and genital herpes (GH). Both instruments include the generic WHOQOL-BREF items.[14–16] This is an instrument of cross-cultural validity providing multidimensional measurement of QoL in the domains of physical health, psychological health, social relationships and environment, promoting a dynamic interaction of environmental-cultural-social components with personal and subjective dimensions.[17–20]

Epidemiological data presented by the Joint United Nations Program on HIV/AIDS, show a world-wide increase evident in many countries.[21] In UK, according to Health Protection Agency, the proportion of people-living-with HIV/AIDS are estimated recently to be one in 650.[22–24] Additionally, there is an increase in GW cases of at least 1% since 2010–2011.[25] Herpes simplex virus (HSV) is the most common ulcerative STI in the UK, where GH cases have also risen consistently.[25]

In Greece, a dramatic 57% increase was reported by the Hellenic Centre for Disease Control and Prevention in 2010 and 2011.[26–27] Hopefully, HIV cases will show a decrease evident in 2015.[28]

The present study aims: (a) to compare QoL and depressive symptomatology in people-with-different-types of STI medically followed in UK or Greece, (b) to compare QoL and depressive symptoms across HIV and GW/GH groups, and (c) to examine the relationship between QoL, depressive symptomatology and sociodemographic characteristics. While considerable research has been conducted internationally regarding QoL among people-living-with-chronic-viral STI,[29–31] studies investigating QoL across different types of STI groups and between different European healthcare settings are scarse.[32–34]

Material and method

Eighty-six patients diagnosed with different types of STI were recruited in UK (n=43) and Greece (n=43) using a matched-pairs design. These groups were equalized in terms of diagnosis of disease (i.e., HIV/AIDS or GW/GH), gender (male/female) and age. All selected participants were not recent STI cases in order to eliminate announcement of diagnosis effects.

Settings for the collection of data

The procedures followed were in accordance with the Declaration of Helsinki, and written informed consent was obtained from all participants. UK partic-

ipants were recruited from the Royal United Hospital Trust, in Bath, and the Sexual Health Centre in Bristol. Greek participants were recruited from the University General Hospital "Attikon" and the "Andreas Syggros" Hospital of Cutaneous & Venereal Diseases. Ethical approval was obtained from (a) NHS South West Regional Ethics Committee, UK, and (b) Research Committee of the 1st Department of Psychiatry, University of Athens, Greece.

Instruments

1. WHOQOL-HIV BREF

The WHOQOL-HIV-BREF version was developed to assess QoL in people-living-with HIV/AIDS,[13,35–37] presenting sound psychometric properties,[38,39] and used in several countries.[39–42] Items are scored in six QoL domains: (i) physical health, (ii) psychological health, (iii) level of independence, (iv) social relationships, (v) environment, and (vi) spirituality/religion/personal beliefs. The WHOQOL-HIV-BREF comprises 26 core items taken from the generic WHOQOL-BREF and 5 specific HIV/AIDS items inquiring about: (i) symptoms of people-living-with HIV/AIDS, (ii) social inclusion, (iii) death and dying, (iv) fear of the future, and (v) forgiveness. Two of the core items provide assessment of overall quality of life/general health facet. Items are rated on a five-point Likert interval response scale and higher scores denote better QoL. The Greek version of WHOQOL-HIV-BREF consists of 35 items, including four additional items for culture-specific facets added in the WHOQOL-BREF validated version.[43]

2. WHOQOL-STI BREF

The WHOQOL-STI-BREF questionnaire is a new instrument developed by S. Skevington for patients with STI other than HIV/AIDS. It was constructed by adapting the WHOQOL-HIV, so that comparability was possible to be retained. The WHOQOL-STI-BREF examines the same six domains as the WHOQOL-HIV-BREF questionnaire. Both Greek versions of 35 items draw on the validated version of WHOQOL-BREF.[43] Psychometric properties of the Greek WHOQOL-HIV-BREF and WHOQOL-STI-BREF were investigated in a large STI sample, showing satisfactory values. For the present study, internal consistency-reliability was estimated by Cronbach's alpha coefficient and was found acceptable for most domains, ranging from >0.70 to 0.82.

3. Centre for Epidemiological Studies-Depression Scale – CES-D

The CES-D scale is a 20 items widely-used screening tool detecting symptoms of depression,[44] in non-clinical populations, developed by the Centre for Epidemiological Studies (CES), National Institute of Mental Health (USA). Scores of 16 and over indicate the presence of depressive symptoms. The Greek version is reliable and valid in clinical and normal control groups, demonstrating satisfactory psychometric properties.[45–46]

Statistical analysis

Continuous variables are presented with mean and standard deviation (SD). Quantitative variables are presented with absolute and relative frequencies. Student's t-test or nonparametric Mann-Whitney test was used to compare means between groups. Moreover, chi-squared tests were used to identify any relationship between two categorical variables. Differences in QoL domains according to country-healthcare-setting or type of STI were investigated using multiple linear regression analyses. In all QoL models, independent variables included: gender, age, education level, marital status and depression-CES-D total score. Regression coefficients and standard errors along with coefficient of determination (R2) were computed from the results of the linear regression analyses. Possible interactions were tested via the regression models. All reported p values are two-tailed. Statistical significance was set at $p<0.05$ and analyses were conducted using SPSS statistical software (version 19.0).

Results

Eighty-six STI patients participated in a matched-pairs study (43 from the UK and 43 from Greece) equalized in terms of type of STI disease (i.e., HIV/AIDS or GW/GH), gender and age (table 1). In each country-sample, 60.5% were men and 39.5% women, 65.1% with HIV (n=28), and 34.9% with GW/GH (n=15). Their mean age was 38 years, and the two country-samples were found similar (p>0.05) with SDs=11.68 and 11.98, respectively.

Table 1. Socio-demographic characteristics of UK and Greek STI samples (n=86).

	HIV/AIDS (N=28)	GW/GH (N=15)	TOTAL Gr (N=43)	HIV/AIDS (N=28)	GW/GH (N=15)	TOTAL UK (N=43)
	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)
Gender						
Male	21 (75.0)	5 (33.3)	26 (60.5)	21 (75.0)	5 (33.3)	26 (60.5)
Female	7 (25.0)	10 (66.7)	7 (39.5)	7 (25.0)	10 (66.7)	17 (39.5)
Married/living as married	6 (21.4)	4 (26.6)	10 (23.3)	13 (46.4)	3 (20.0)	16 (37.2)
Completed secondary/tertiary education	27 (96.4)	15 (100.0)	42 (97.7)	25 (89.2)	14 (95.3)	39 (90.7)
Age/years M (SD)	41 (11.12)	32 (10.54)	38 (11.68)	41 (11.47)	31 (10.80)	38 (11.98)

Note. UK: United Kingdom; STI: sexually transmitted infection; HIV: human immunodeficiency virus; AIDS: acquired immune deficiency syndrome; GW: genital warts; GH: genital herpes.

According to the median CD 4 count of white blood cell fighting infection, twenty-four patients (85.7%) in UK and twenty seven (96.4%) in Greece were asymptomatic. The median time since first HIV diagnosis-announcement ranged from 5–8 years in HIV and 4–5 years for GW/GH.

Regarding depressive symptoms, scores were high in all STI groups with no significant mean differences between UK and Greek participants or between HIV and GW/GH patient groups (as seen in the CES-D scores). Proportionally, in the UK, 33.3% of the GW/GH participants and 37.0% with HIV reported significant depressive symptomatology and around half (46.7%) of Greek participants with GW/GH and 38.5% with HIV respectively, reported experiencing substantial depressive symptomatology (table 2). Furthermore, in both country-samples, more women reported depressive symptomatology (UK 37.5% women, 34.6% men; Greece 50.0% women, 36.0% men). Also, 35.7% (N=15) of UK participants and 41.5% (N=17) of Greek participants recorded scores >16 on the CES-D, indicating the presence of significant self-assessed depressive symptomatology.

QoI mean comparisons were calculated according to disease type (HIV and GW/GH) and country-healthcare-setting (UK and Greece) (table 2). Lower scores on the environment domain and the overall QoL/general health facet were found for the Greek STI sample particularly for the GW/GH group compared to HIV.

Further analysis investigated differences across the eight (8) items-facets of the environment domain (table 3). Mann Whitney U analysis showed five (5) significant differences between UK and Greek samples with Greek participants reporting lower scores in: physical safety and security, participation in and opportunities for recreation and leisure, home environment, accessibility and quality in health and social care, and in transport. Furthermore, compared to HIV, the GW/GH group reported lower values in three (3) facets: financial resources, home environment and accessibility and quality in health and social care.

Multiple regression analysis was performed using the WHOQOL domains as dependent variables (tables 4 and 5). The results showed that the type of STI and country-healthcare-setting were both associated with the environment domain. Specifically, lower scores were found for the Greek sample compared with the UK, while higher scores were found for patients with HIV compared with GW/GH. No significant interaction of country-healthcare-setting with type of STI was found, indicating that the effect of type of STI was similar in both country-samples.

Additionally, linear regression indicated a significant effect of depression on all WHOQOL domains. Higher scores on level of independence and social relationships domains were associated with subjects

Table 2. CES-D depressive symptoms and WHOQOL–HIV/STI BREF QoL domains: Mean score differences between UK and Greek samples and between STI types.

	Gr	UK	HIV	GW/GH		
	M (SD)	M (SD)	p	M (SD)	M (SD)	p
CES-D Depression scale	15.0 (35.7)	24.0 (58.5)	0.591**	33.0 (62.3)	18.0 (60.0)	0.839**
WHOQOL Domains						
Physical health	74.6 (16.6)	72.3 (14.8)	0.511*	75.4 (16.4)	69.9 (13.8)	0.123*
Psychological health	66.3 (17.6)	61.9 (16.5)	0.233*	65.5 (18.6)	61.3 (13.8)	0.280*
Level of independence	78.3 (16.3)	76.4 (13.7)	0.551*	77.0 (16.8)	78.0 (11.1)	0.763*
Social relationships	68.9 (22.8)	66.4 (13.1)	0.531*	68.4 (19.2)	66.2 (17.4)	0.597*
Environment	71.5 (14.9)	58.6 (13.5)	<0.001*	68.0 (14.9)	59.7 (15.6)	0.018*
Spirituality/religion/personal beliefs	66.3 (22.2)	58.9 (22.1)	0.127*	61.9 (21.1)	63.8 (24.8)	0.711*
Overall QoL/general health	15.8 (2.8)	15.4 (2.7)	0.529*	16.1 (2.7)	14.7 (2.5)	0.015*

Note: *Student's t-test; **Pearson's x^2 test.

UK: United Kingdom; STI: sexually transmitted infection; HIV: human immunodeficiency virus; AIDS: acquired immune deficiency syndrome; GW: genital warts; GH: genital herpes; CES-D: Centre for Epidemiological Studies-Depression scale; WHOQOL:WHO Quality of life scale

Table 3. Environment Domain facets of WHOQOL-HIV/STI BREF: Mean scale score differences for STI types and for UK and Greek samples.

WHOQOL Environment Domain	HIV	GW/GH		UK	Greece	
	M (SD)	M (SD)	p*	M (SD)	M (SD)	p*
Physical safety and security	3.6 (0.8)	3.4 (0.8)	0.232	3.8 (0.8)	3.4 (0.8)	0.011
Physical environment	4.1 (0.8)	4.1 (0.7)	0.801	4.2 (0.9)	4.0 (0.7)	0.127
Financial resources	3.3 (1.0)	2.9 (0.8)	0.039	3.3 (1.0)	3.0 (0.9)	0.067
Opportunities for acquiring new information and skills	4.0 (0.7)	3.7 (0.7)	0.064	4.0 (0.7)	3.8 (0.8)	0.102
Participation in and opportunities for recreation and leisure	3.5 (0.9)	3.4 (1.0)	0.727	3.7 (1.0)	3.2 (0.7)	0.014
Home environment	4.0 (0.9)	3.4 (1.1)	0.032	4.0 (0.9)	3.5 (1.1)	0.014
Health and social care: accessibility and quality	3.9 (1.0)	3.2 (1.2)	0.008	4.3 (0.8)	3.0 (1.1)	<0.001
Transport	3.6 (0.9)	3.3 (1.1)	0.373	3.9 (0.9)	3.1 (0.9)	<0.001

Note: *Mann-Whitney test

with higher educational level. Furthermore, higher scores on social relationships were associated with those being married or living with partners, while lower scores on overall QoL/general health facet were related to women rather than men. The amount of variance explained from all models concerning WHOQOL domains, according to adjusted R^2, ranged from 0.25 to 0.61, while CES-D total score had the greatest effect according to standardized coefficients for all WHOQOL domains.

Table 4. Effects of sociodemographic variables and depressive symptomatology on QoL domains: Multiple linear regression models/regression coefficients ± standard error.

	WHOQOL–HIV/STI BREF DOMAINS			
	Physical Health	**Psychological Health**	**Level of Independence**	**Social Relationships**
	β±SE	**β±SE**	**β±SE**	**β±SE**
Country (Greece vs UK)	–0.88±2.79	–2.63±2.43	–1.97±2.96	–0.48±3.36
Type of STI (HIV/AIDS vs GW/GH)	0.03±3.24	–0.42±2.82	–2.45±3.43	0.55±3.91
Gender (women vs men)	–1.55±3.5	–4.7±3.05	0.74±3.71	2.83±4.22
Age (years)	0.27±0.16	–0.02±0.12	0.01±0.15	–0.03±0.17
Education (tertiary vs secondary/primary)	0.89±3.01	2.52±2.62	5.82±3.19*	7.4±3.63*
Marital status (Married/living as married vs other)	3.23±3.05	3.45±2.66	1.58±3.24	14.02±3.68***
CES-D total score	–0.81±0.12***	–1.12±0.11***	–0.7±0.13***	–0.86±0.15***
Adjusted R2	0.40	0.61	0.25	0.37

*p<0.05; **p<0.01; ***p<0.001

Table 5. Effects of sociodemographic variables and depressive symptomatology on QoL domains: Multiple linear regression models/regression coefficients ± standard error.

	WHOQOL-HIV/ STI BREF DOMAINS		
	Environment	**Spirituality/religion/ personal beliefs**	**Overall QoL/general health'**
	β±SE	**β±SE**	**β±SE**
Country (UK vs Greece)	–12.77±2.59***	–6.38±4.29	–0.12±0.5
Type of STI (HIV/AIDS vs. GW/GH)	5.21±2.61*	–5.84±5.01	0.7±0.58
Gender (women vs. men)	0.26±3.25	3.7±5.45	–1.4±0.62**
Age (years)	0.16±0.13	0.32±0.21	–0.01±0.03
Education (tertiary vs. secondary/ primary)	3.93±2.79	6.98±4.62	0.5±0.54
Marital status (Married/living as married vs other)	3.51±2.84	1.25±4.73	0.53±0.55
CES-D total score	–0.63±0.11***	–1.08±0.19***	–0.12±0.02***
Adjusted R2	0.47	0.30	0.34

*p<0.05; **p<0.01; ***p<0.001

Discussion

The present study aimed to investigate differences of QoL and depressive symptomatology between patients with HIV/AIDS and those with GW/GH, and across those followed medically in different country-healthcare-settings in UK and Greece. Comparisons regarding QoL and self-assessed depressive symptoms in country-samples were performed, using a

matched–pairs design equalizing for type of STI illness, sex and age.

The results provide important evidence for the presence of depressive symptomatology in these STI groups. As measured by the CES-D, both country-samples of HIV/AIDS and GW/GH subgroups of participants reported quite similar rates with 41.5% of Greek STI patients exceeding the criterion for depression (>16), and followed by a 35.7% by UK patients, rate that is much higher than in the general population.[7] Research findings suggest that there may be co-morbidity between chronic viral STI and depression.[7] Some researchers argue that people with self-reported depression could be more likely to have unprotected sex, with multiple partners, risking to contract a disease of STI type.[47–48] Such findings seem to argue for the co-presence of depression with other psychopathological manifestations, such as self-harming behaviors and self-defeating acting out instances, which may be a cover up of depressive symptomatology. It is important to investigate such issues since few detailed studies are conducted investigating cross-national comparisons of QoL in different types of STI groups.[32–34, 49]

Regarding QoL, the results of the present study provide a significantly specific difference between the two country-samples of STI patients raising the issue of patients' unmet needs in environmental-social and healthcare facilities. Specifically, the total of Greek STI participants reported lower QoL in five areas of the WHOQOL environment domain: (i) physical safety and security, (ii) participation in and opportunities for recreation/leisure activities, (iii) home environment, (iv) accessibility and quality in health and social care, and (v) transport. Low ratings in the above 5 facets may reflect patients' unmet needs about important aspects of their environment affecting everyday life, due to deficits in healthcare services, transport facilities, but also poor home conditions, and low safety in their neighborhood or lack of recreational resources. QoL deficits in the environment domain may relate to different factors including current limitations of economic resources in Greece.

Besides these differences in the environment domain, other WHOQOL domains presented minimum score variation between the two STI country-samples; this finding is in similar direction with other cross-cultural/national studies, as for example in reference to treatment impact with less variation found across different countries and with homogeneity within countries.[49]

It is important to take into consideration that QoL in participants with GW/GH seems to be equally or even more "vulnerable" than in HIV. GW/GH patients may be less clinically discussed and it is possible that their unmet Qol/health needs may not be directly recognized as in HIV patients who may receive more public and medical attention. In reference to sociodemographic characteristics, there is evidence that family status and gender need to be taken into consideration, since poorer Qol is reported by women participants and by people living without a partner, in the domains of level of independence and social relationships. Also, patients' higher educational level was found to exert a favorable effect in these domains.

In terms of QoL and depression, the findings provide evidence of depression being significantly associated with all WHOQOL domains in the total STI sample from UK and Greece. Such evidence is consistent with other studies, which indicate that depression may be associated with diminished health-related quality-of-life and health status.[50] Also, according to meta-analysis findings on the relationship between HIV infection and risk for depressive symptomatology, depression is one of the most prevalent problems among individuals living with HIV/AIDS, being significantly higher compared to healthy groups.[7]

Additionally, in a recent study, mood and emotion dysregulation in HIV patients may interact with HIV symptom severity to negatively impact certain aspects of QOL.[51] Given the profound impact that HIV or other STI types have on patients' QOL, our findings strengthen understanding interactions among different psychological and social-environmental variables and may contribute to the development of healthcare policies and client-centered interventions addressing mood problems and quality of life deficits in individuals with chronic viral STI.

Limitations of the study

QoL differences between HIV and GW/GH groups of participants were identified but were rather limited and possibly attributed to restricted sample sizes. However, implementing a matched-pairs design is strengthening the validity of findings regarding cross patient-groups and cross healthcare-setting comparisons. It would be valuable to replicate the study

recruiting larger STI samples extending investigation of QoL STI type, symptomatology and clinical setting.

The present results refer to groups of patients with HIV that were largely asymptomatic, and so the potential positive effect on patients' QoL needs to be acknowledged. Furthermore, the results refer to a population which is predominantly male in both countries. This may be due to recruitment availability, as for example women with GW/GH in Greece are more likely to visit a private gynecologist rather than a public hospital. Finally, the study participants were selected from hospitals in urban areas, not representing population from other regions.

Conclusion

A significant finding of the present study refers to the depressive symptomatology affecting QoL in both STI country-samples. Furthermore, the discriminant validity of WHOQOL-HIV/STI BREF environment domain was found strong in differentiating the two country-samples, with the Greek STI sample reporting poorer environment QoL. Also, STI groups with GW/GH patients seem to suffer lower QoL reporting unmet needs in several environmental dimensions, including healthcare services that need to be placed under healthcare policy consideration.

In view of these findings, long-term monitoring of depressive symptoms in chronic STI could be used to support medically and psychologically these patients. Social-environmental support and mental health services for individuals with STI and their families need to be considered along with specialized interventions anchored in the present STI healthcare services. On these premises, it is crucial to increase policy awareness at social and administrative levels.

Ποιότητα ζωής και κατάθλιψη σε χρόνια σεξουαλικώς μεταδιδόμενα νοσήματα στην Ελλάδα και στη Μ. Βρετανία: Εκτίμηση με το WHOQOL-HIV/STI BREF

Μ. Τζινιέρη-Κοκκώση,[1] Ε. Τριανταφύλλου,[1] Ν. Παπανικολάου,[1] R. Baker,[2] Χ. Αντωνίου,[3] S.M. Skevington,[4] Γ.Ν. Χριστοδούλου[5]

[1]Α΄ Ψυχιατρική Κλινική, Ιατρική Σχολή Πανεπιστημίου Αθηνών, Αιγινήτειο Νοσοκομείο, Αθήνα,
[2]Department of Medicine and Social Care Education, Leicester Medical School, UK,
[3]Α΄ Δερματολογική Κλινική, Ιατρική Σχολή Πανεπιστημίου Αθηνών, Νοσοκομείο «Α. Συγγρός», Αθήνα,
[4]Manchester Centre for Health Psychology, School of Psychological Sciences, University of Manchester, UK,
[5]Ελληνική Ψυχιατρική Εταιρεία, Αθήνα

Ψυχιατρική 2018, 29:209–219

Η παρούσα διαπολιτισμική μελέτη μεταξύ Ελλάδας και Ηνωμένου Βασιλείου της Μ. Βρετανίας αποσκοπεί στη διερεύνηση της εκτίμησης της ποιότητας ζωής και καταθλιπτικών συμπτωμάτων σε άτομα με σεξουαλικώς μεταδιδόμενα νοσήματα (STI), και συγκεκριμένα στη σύγκριση μεταξύ ατόμων που έχουν διαγνωστεί με τον ιό της ανθρώπινης ανοσοανεπάρκειας, δηλαδή το σύνδρομο της επίκτητης ανοσολογικής ανεπάρκειας (HIV/AIDS) και εκείνων με κονδυλώματα (GW) ή με έρπητα (GH) των γεννητικών οργάνων. Πραγματοποιήθηκαν διαπολιτισμικές συγκρίσεις κατά ζεύγη και χρησιμοποιήθηκαν δύο εξομοιωμένα δείγματα ασθενών από την Ελλάδα (n=43) και το Ηνωμένο Βασίλειο (n=43). Ως προς την εκτίμηση της ποιότητας ζωής χρησιμοποιήθηκαν: (α) WHOQOL-HIV BREF για ασθενείς με HIV/AIDS, και (β) WHOQOL-STI BREF, ένα νέο ερωτηματολόγιο

προσαρμοσμένο ειδικά για ασθενείς με κονδυλώματα ή έρπητα των γεννητικών οργάνων. Η καταθλιπτική συμπτωματολογία εκτιμήθηκε με την Κλίμακα του Κέντρου Επιδημιολογικών Ερευνών για την Κατάθλιψη (CES-D). Τα αποτελέσματα της μελέτης καταδεικνύουν ότι και στις δύο χώρες, ένα υψηλό ποσοστό των συμμετεχόντων ανέφεραν συμπτώματα κατάθλιψης: 41,5% από το δείγμα στην Ελλάδα και 35,7% από το Ηνωμένο Βασίλειο. Επίσης, οι συμμετέχοντες από την Ελλάδα ανέφεραν σημαντικά χαμηλότερα επίπεδα ποιότητας ζωής στη θεματική ενότητα του περιβάλλοντος, ιδιαίτερα οι ασθενείς με κονδυλώματα ή έρπητα των γεννητικών οργάνων. Συγκεκριμένα, στο ελληνικό δείγμα ασθενών, χαμηλότερες τιμές παρουσιάζονται σε πέντε υποενότητες του περιβάλλοντος των ερωτηματολογίων WHOQOL–HIV/STI BREF και αναφέρονται στα εξής θέματα: (α) ασφάλεια από εξωτερικούς κινδύνους και αίσθημα ασφάλειας, (β) δυνατότητες και συμμετοχή σε ψυχαγωγικές δραστηριότητες και ελεύθερος χρόνος, (γ) περιβάλλον κατοικίας, (δ) διαθεσιμότητα και ποιότητα υπηρεσιών υγείας και κοινωνικής πρόνοιας, και (ε) μέσα μεταφοράς. Χαμηλές βαθμολογίες στις συγκεκριμένες παραμέτρους φαίνεται να σηματοδοτούν μη καλυπτόμενες ανάγκες του ελληνικού δείγματος ασθενών όσον αφορά στις υπηρεσίες υγείας και κοινωνικής πρόνοιας, καθώς και την έλλειψη σημαντικών πόρων που σχετίζονται με σημαντικές πτυχές του περιβάλλοντος και επηρεάζουν αρνητικά την καθημερινή ζωή τους. Επίσης, η κατάθλιψη σχετίζεται αρνητικά με όλους τους τομείς της ποιότητας ζωής των WHOQOL–HIV/ STI BREF ερωτηματολογίων. Τα ευρήματα της μελέτης είναι ιδιαίτερα χρήσιμα και μπορεί να αξιοποιηθούν από τις υπηρεσίες υγείας στο πλαίσιο αντιμετώπισης καταθλιπτικών συμπτωμάτων και ελλειμμάτων στην ποιότητα ζωής ασθενών με σεξουαλικώς μεταδιδόμενα νοσήματα. Φαίνεται ότι είναι απαραίτητο ένα ολιστικής θεώρησης σύστημα υγείας με θεραπευτικές παρεμβάσεις ειδικά σχεδιασμένες για τη βελτίωση της ποιότητας ζωής και της σωματικής και ψυχικής υγείας του εν λόγω πληθυσμού.

Λέξεις ευρετηρίου: Ποιότητα ζωής, κατάθλιψη, WHOQOL-HIV BREF, WHOQOL-STI BREF, χρόνια σεξουαλικώς μεταδιδόμενα νοσήματα.

References

1. Raj R, Sreenivas V, Mehta M, Gupta S. Health-related quality of life in Indian patients with three viral sexually transmitted infections: herpes simplex virus-2, genital human papilloma virus and HIV. *Sex Transm Infect* 2011, 87:216–220, doi: 10.1136/sti.2010.043356
2. Skevington SM, Wright A. Changes in the quality of life of patients receiving antidepressant medication in primary care: Validation of the WHOQOL-100. *Br J Psychiatry* 2001, 178:261–267, PMID:11230038
3. Daly EJ, Trivedi MH, Wisniewski SR, Nierenberg AA, Gaynes BN, Warden D et al. Health-related quality of life in depression: A STAR*D report. *Ann Clin Psychiatry* 2010, 22:43–55, PMID: 20196982
4. Depression Alliance. *The inside story: The impact of depression on daily life*. http://ec.europa.eu/health/ph_determinants/life_style/mental/docs/insidestory.pdf, London, 2008
5. Pan A-W, Chung L, Chen T-J, Hsiung P-C, Rao D. Occupational competence, environmental support and quality of life for people with depression: A path analysis. *Am J Psychiatr Rehabil* 2011, 14:40–54, doi: 10.1080/15487768.2011.546282
6. Saarijδrvi S, Salminen JK, Toikka T, Raitasalo R. Health-related quality of life among patients with major depression. *Nord J Psychiatry* 2002, 56:261–264, doi: 10.1080/08039480260242741
7. Ciesla JA, Roberts JE. Meta-analysis of the relationship between HIV infection and risk for depressive disorders. *Am J Psychiatry* 2001, 158:725–730, doi: 10.1176/appi.ajp.158.5.725
8. Cox JT, Petry K-U, Rylander E, Roy M. Using imiquimod for genital warts in female patients. *J Womens Health* (Larchmt) 2004, 13:265–271, doi: 10.1089/154099904323016428
9. Dibble SL, Swanson JM. Gender differences for the predictors of depression in young adults with genital herpes. *Public Health Nurs* 2000, 17:187–194, doi: 10.1046/j.1525-1446.2000.00187.x
10. Casado A. Measurement of quality of life of HIV individuals: Perspectives & future directions. *Indian J Med Res* 2005, 122:282–284, PMID:16394316
11. Τριανταφύλλου ΕΣ, Οικονόμου ΜΠ, Χριστοδούλου ΓΝ. Ποιότητα Ζωής και Ψυχική Υγεία: Εννοιολογικές αναφορές και θεωρητικά μοντέλα. Στο: Κονταξάκης ΒΠ, Χαβάκη-Κονταξάκη ΜΙ, Χριστοδούλου ΓΝ (Σύντ). *Προληπτική Ψυχιατρική & Ψυχική Υγιεινή*. Εκδόσεις Βήτα, Αθήνα, 2005:577–591
12. Penedo FJ, Gonzalez JS, Dahn J R, Antoni M, Malow R, Costa P et al. Personality, quality of life and HAART adherence among men and women living with HIV/AIDS. *J Psychosom Res* 2003, 54:271–278, PMID: 12614837
13. The WHOQOL-HIV Group Initial steps to developing the World Health Organization's quality of life instrument (WHOQOL) mod-

ule for international assessment in HIV/AIDS. *AIDS Care* 2003, 15:347–357, doi: 10.1080/0954012031000105405

14. Bergner M. Quality of life, health status, and clinical research. Med Care 1989, 27(Suppl 3):148–156, PMID: 2646487
15. Calle DF. Quality of life: Concepts and definition. *J Pain Symptom Manage* 1994, 9:186–192, PMID: 8014530
16. Mast ME. Definition and measurement of quality of life in oncology nursing research: Review and theoretical implications. *Oncol Nurs Forum* 1995, 22:957–964, PMID: 7567613
17. The WHOQOL Group. The World Health Organisation Quality of Life Assessment (WHOQOL): Position paper from the World Health Organisation. *Soc Sci Med* 1995, 41:1403–1409, PMID: 8560308
18. The WHOQOL Group. *Measuring quality of life*. Department of Mental Health and Substance Abuse, World Health Organisation, Geneva, 1997
19. The WHOQOL Group. Development of the World Health Organization WHOQOL-BREF quality of life assessment. *Psychol Med* 1998, 28:551–558, PMID: 9626712
20. Τζινιέρη-Κοκκώση Μ. *Ποιότητα Ζωής: Προσέγγιση στη σημασία*. Τιμητικός Τόμος για τον καθηγητή Γ.Ν. Χριστοδούλου. Εκδόσεις Βήτα, Αθήνα, 2011: 861–867
21. UNAIDS. United Nations Programme on HIV/AIDS. *UNAIDS annual report 2009: Uniting the world against AIDS 2010* (Cited 26 August 2012) Available from http://data.unaids.org/pub/Report/2010/2009_annual_report_en.pdf
22. Health Protection Agency. *New HIV and AIDS diagnoses and deaths in the United Kingdom in 2011*. Health Protection Report: Weekly Report. HPA 2012a, 6(16) (Cited 26 August 2012) Available from http://www.hpa.org.uk/hpr/archives/2012/news1612.htm
23. Health Protection Agency. *HIV in the United Kingdom: 2012 report*. Health Protection Services, Colindale, London, 2012b.
24. Health Protection Agency (2012c). *Human papillomavirus (HPV) – cervical cancer and genital warts. HPA 2012c* (Cited 27 August 2 2012) Available from http://www.hpa.org.uk/web/HPAweb&Page&HPAwebAutoListName/Page/1191942128136
25. Health Protection Agency. *Table 1: Number and rates of new STI diagnoses in England, 2002 – 2011. HPA 2012d* (Cited 28 January 2013) Available from http://www.hpa.org.uk/webc/HPAwebFile/HPAweb_C/1215589015024
26. Hellenic Centre for Disease Control and Prevention. *UNGASS Country Progress Report 2010*: Greece. HCDCP, Greece, 2010
27. Hellenic Centre for Disease Control and Prevention. *HIV/AIDS surveillance report in Greece, 31-12-2011*. HIV/AIDS Surveillance in Greece (26). HCDCP 2011 (Cited 26 August 2012) Available from http://www.keelpno.gr/Portals/0/%CE%91%CF%81%CF%87%CE%B5%CE%AF%CE%B1/HIV/EPIDIMIOLOGIKO%20HIV_2011.pdf
28. Hellenic Centre for Disease Control and Prevention. Global AIDS Response Progress Report 2014, GREECE (Cited 31 December 2013) Available from http://www.unaids.org/sites/default/files/en/dataanalysis/knowyourresponse/countryprogressreports/2014countries/GRC_narrative_report_2014.pdf
29. Friedland J, Renwick R, McColl M. Coping and social support as determinants of quality of life in HIV/AIDS. *AIDS Care* 1996, 8:15–32, doi: 10.1080/09540129650125966
30. Kaplan RM, Anderson JP, Wu AW, Mathews WC, Kozin F, Orenstein D. The Quality of Well-Being Scale: Applications in AIDS, cystic fibrosis, and arthritis. *Med Care* 1989, 27 (Supplement: Advances in Health Status Assessment: Conference Proceedings):27–43, PMID: 2921885
31. Sınıcal M, Brisson M, Maunsell E, Ferenczy A, Franco EL, Ratnam S et al. Loss of quality of life associated with genital warts: Baseline analyses from a perspective study. *Sex Transm Infect* 2011, 87:209–215, doi: 10.1136/sti.2009.039982
32. Jelly CA. *Cross-cultural differences in patient perceptions and outpatient management of chronic HIV/AIDS-related pain* (Unpublished Master's thesis). Duke University, 2011
33. Reynolds NR, Sanzero Eller L, Nicholas PK, Corless IB, Kirksey K, Hamilton MJ et al. HIV illness representation as a predictor of self-care management and health outcomes: A multi-site, cross-cultural study. AIDS Behav 2009, 13:258–267, doi: 10.1007/s10461-007-9297-5
34. Skevington SM. Is quality of life poorer for older adults with HIV/AIDS? International evidence using the WHOQOL-HIV. *AIDS Care* 2012, 24:1219–1225, doi: 10.1080/09540121.2012.661838
35. O'Connell KA, Skevington SM. An international quality of life instrument to assess wellbeing in adults who are HIV-positive: A short form of the WHOQOL-HIV (31 items). *AIDS Behav* 2012, 16:452–460, doi: 10.1007/s10461-010-9863-0
36. O'Connell KA, Saxena S, Skevington SM for the WHOQOL-HIV Group. WHOQOL-HIV for quality of life assessment among people living with HIV and AIDS: Results from the field test. *AIDS Care* 2004, 16:882–889, doi: 10.1080/09540120412331290194
37. O'Connell KA, Skevington S M, Saxena S, the WHOQOL-HIV Group. Preliminary development of the World Health Organisation's quality of life HIV instrument (WHOQOL-HIV): Analysis of the pilot version. *Soc Sci Med* 2003, 57:1259–1275, PMID: 12899909
38. World Health Organization. *WHOQOL-HIV Instrument – Users Manual*. WHO, Geneva, 2002
39. Skevington SM, Lotfy M, O'Connell KA. The World Health Organization's WHOQOL-BREF quality of life assessment: Psychometric properties and results of the international field trial – A report from the WHOQOL Group. *Qual Life Res* 2004, 13:299–310, doi: 10.1023/B:QURE.0000018486.91360.00
40. Castro M, Passos S, Mannarino C. WHOQOL-HIV BREF reliability and scores in depressed and non-depressed HIV-positive patients in a specialized outpatient facility in Rio de Janeiro. *Eur Psychiatry* 2008, 23: 271, doi: 10.1016/j.eurpsy.2008.01.557
41. Kovacevic SB, Vurusic T, Duvancic K, Macek M. Quality of life of HIV-infected persons in Croatia. *Coll Antropol* 2006, 30(SUP2): 79–84, PMID: 17508479
42. Chandra PS, Gandhi C, Satishchandra P, Kamat A, Desai A, Ravi V et al. Quality of life in HIV subtype C infection among asymptomatic subjects and its association with CD4 counts and viral loads – a study from South India. *Qual Life Res* 2006, 15(10): 1597–1605, doi: 10.1007/s11136-006-9001-7
43. Ginieri-Coccossis M, Triantafillou E, Tomaras V, Soldatos C, Mavreas V, Christodoulou G. Psychometric properties of

WHOQOL-BREF in clinical and healthy Greek populations: Incorporating new culture-relevant items. *Psychiatriki* 2012, 23: 130–142, PMID: 22796911

44. Weissman MM, Sholomskas D, Pottenger M, Prusoff BA, Locke BZ. Assessing depressive symptoms in five psychiatric populations: A validation study. *Am J Epidemiol* 1977, 106:203–214, PMID: 900119

45. Fountoulakis K, Iacovides A, Kleanthous S, Samolis S, Kaprinis SG, Sitzoglou K et al. Reliability, validity and psychometric properties of the Greek translation of the Center for Epidemiological Studies-Depression (CES-D) scale. *BMC Psychiatry* 2001, 1:3, doi: 10.1186/1471-244X-1-3

46. Madianos M, Vaiidakis N, Tomaras V, Kapsali, A. The prevalence of depressive symptoms in the general population with the CES-D scale (in Greek). *Encephalos* 1983, 20:24–28

47. Mazzaferro KE, Murray PJ, Ness RB, Bass DC, Tyus N, Cook RL. Depression, stress, and social support as predictors of high-risk sexual behaviours and STI in young women. *J Adolesc Health* 2006, 39:601–603, doi: 10.1016/j.jadohealth.2006.02.004

48. Zhan W, Shaboltas AV, Skochilov RV, Kozlov AP, Krasnoselskikh TV, Abdala N. Depressive symptoms and unprotected sex in St. Petersburg, Russia. *J Psychom Res* 2012, 72:371–375, doi: 10.1016/j.jpsychores.2012.01.015

49. Duracinsky M, Lalanne C, Le Coeur S, Herrmann S, Berzins B, Armstrong AR et al. Psychometric validation of the PROQOL-HIV questionnaire, a new health related quality of life instrument – specific to HIV disease. *J Acquir Immune Defic Syndr* 2012, 59(5): 506–515, doi: 10.1097/QAI.0b013e31824be3f2

50. Willians P, Narciso L, Browne G, Roberts J, Weir R, Gafni A. The prevalence, correlates, and costs of depression in people living with HIV/AIDS in Ontario: implications for service directions. *AIDS Educ Prev* 2005, 17:119–130, doi: 10.1521/aeap.17.3.119.62903

51. Brandt CP, Jardin C, Sharp C, Lemaire C, Zvolensky ML. Main and interactive effects of emotion dysregulation and HIV symptom severity on quality of life among persons living with HIV/AIDS. *AIDS Care* 2017, 29:498–506 doi: 10.1080/09540121.2016.1220484

Corresponding author: M. Ginieri-Coccossis, 1st Department of Psychiatry, University of Athens, Medical School, Eginition Hospital, 74 Vas. Sofias Ave, GR-115 28 Athens, Greece, Tel: (+30) 210 72 89 121, 6944 546 499 e-mail: margkok@med.uoa.gr

Research article
Ερευνητική εργασία

Validation of the greek version of Young Schema Questionnaire-Short Form 3: Internal consistency reliability and validity

I.A. Malogiannis,[1,2] Aik. Aggeli,[2,3] D. Garoni,[1,2] Ch. Tzavara,[4] I. Michopoulos,[5] A. Pehlivanidis,[1] A. Kalantzi-Azizi,[3] G.N. Papadimitriou[1]

[1]1st Department of Psychiatry, Eginition Hospital, School of Medicine, University of Athens, Athens,
[2]Greek Society of Schema Therapy, Athens,
[3]Department of Psychology, University of Athens, Athens,
[4]Centre for Health Services Research, Department of Hygiene, Epidemiology and Medical Statistics, School of Medicine, University of Athens, Athens,
[5]2nd Department of Psychiatry, Attikon General Hospital, School of Medicine, University of Athens, Athens, Greece

Psychiatriki 2018, 29:220–230

Schema therapy (ST) is an integrative therapy, which combines elements of cognitive behavior therapy, attachment theory, object relations theory and emotional-focused models. Schema therapy is an effective treatment for patients with personality disorders and other chronic psychological disorders. Early Maladaptive Schemas (EMSs) are a main concept in schema theory referring to self-defeating, core themes or patterns. They develop as a result of traumatic or toxic childhood experiences and the frustration of the core emotional needs in childhood. To date 18 EMSs have been identified and grouped into five higher order structures, known as domains. For the evaluation of the EMSs, Young developed a self-report inventory, the Young Schema Questionnaire (YSQ). There are two forms of the YSQ, the Young Schema Questionnaire – Long Form 3 (YSQ-L3) a 232-item inventory and the Young Schema Questionnaire – Short form 3 (YSQ-S3), a 90-item inventory, which is a subset of the Long form. The aim of this study was to validate the Greek Version of the YSQ-S3. A non-clinical sample of 1,236 undergraduate students completed the YSQ-S3 and 124 patients with Axis-I, Axis II or comorbid diagnosis, completed the YSQ-L3. Moreover, both samples completed the second part of the Adults Self Report (ASR). Internal consistency reliability, discriminative, convergent and predictive validity were examined. The internal consistency reliability of the schema factors was satisfactory with a Cronbach's alpha coefficient of 0.70 or above, for all factors in both student's and clinical sample. The effect sizes were high for most of the scales, regarding the differences between clinical and non-clinical sample. Emotional Deprivation, Vulnerability to harm or Illness, Subjugation, Social Isolation/Alienation and Defectiveness/Shame had the highest effect sizes in the clinical sample and in the non-clinical sample according to whether they had ever visited a mental health specialist. This may suggest that these EMSs are more sen-

sitive and useful markers of psychological problems. In addition, patients with Axis II pathology scored significantly higher on Emotional Deprivation, Abandonment, Mistrust/Abuse, Social Isolation/Alienation compared to patients with only Axis I pathology. This finding is consistent with Schema theory, as these EMSs are associated with earlier in life traumatic experiences and insecure attachment and lie in the core of personality pathology. YSQ-S3 factors were significantly correlated with all ASR dimension and linear regression analysis showed that certain EMSs could predict Depressive and Anxiety problems. In total, the greek version of the YSQ-S3 showed good reliability and validity.

Key words: Early Maladaptive Schema, validity, internal consistency reliability, Young Schema Questionnaire.

Introduction

Schema therapy (ST) is an integrative therapy, which combines elements of cognitive behavior therapy, attachment theory, object relations theory and emotional-focused models.[1] Schema therapy is an effective treatment for patients with personality disorders and other chronic psychological disorders.[2–6] Young[7] integrated elements from attachment theory[8] and elaborated the concept of schema, shifting from the organizational and information processing function of schema,[9] to a definition that emphasizes the developmental origin and the early onset of schemas. He proposed that Early Maladaptive Schemas (EMSs) are broad, pervasive, trait-like, cognitive and emotional self-defeating patterns, regarding oneself and one's personality.[1,10] EMSs develop, as a result of the interaction between the individual's temperament and ongoing toxic childhood experiences, rather than a single traumatic event.[1,10] The frustration of the core emotional needs (secure attachment, autonomy, freedom to express needs and emotions, spontaneity and play, realistic limits and self-control) results to EMSs development.[10] To date Young et al.[1] have identified 18 EMSs grouped into five higher order structures known as domains.

Disconnection and Rejection: Abandonment/Instability, Mistrust/Abuse, Emotional Deprivation, Defectiveness/Shame, Social Isolation/Alienation.

Impaired Autonomy and Performance: Dependence/Incompetence, Vulnerability to Harm or Illness, Enmeshment/Undeveloped Self, Failure.

Impaired limits: Entitlement/Grandiosity, Insufficient Self-Control/Self-Discipline.

Other-Directedness: Subjugation, Self-Sacrifice, Approval-Seeking.

Over-Vigilance and Inhibition: Negativity/Pessimism, Emotional Inhibition, Unrelenting Standards/Hypercriticalness, Punitiveness.

For the evaluation of the EMSs, Young developed a self-report inventory, the Young Schema Questionnaire (YSQ).

Initially Young[10] proposed 16 EMS organized in five domains. Exploratory Factor Analyses (EFA) revealed 12 of the 16 factors (EMS), in a student sample, 15 of the 16 factors in a sample of 187 patients and three domains.[11]

The study was replicated in a larger clinical sample[12] of 433 patients and revealed four domains: disconnection, impaired autonomy, impaired limits and over-control.

In order to improve the efficiency of the YSQ, Young[13] developed a short version (Young Schema Questionnaire-Short Form, YSQ-S) comprised of a subset of 75 items of the original YSQ. Each YSQ-S factor was constructed from the five items with highest loadings on each of the 15 factors emerged in Schmidt et al[11] study; YSQ-L and YSQ-S were significantly correlated.[14,15]

Several other studies confirmed the factors proposed by Young in different languages and populations.[16–19]

Young et al[1] proposed three more EMSs (Approval Seeking, Negativity/Pessimism, Punitiveness), which

resulted to the proposed 18 EMSs grouped in the five domains as described today. The revised Young Schema Questionnaire-Long Form 3 (YSQ-L3)[20] consists of 232 items and the Young Schema Questionnaire-Short Form 3, (YSQ-S3),[21] consists of 90 items.

The YSQ-L exhibits good internal consistency (average alpha=0.90)[11] with no discernible differences in the pattern of alpha scores between the YSQ-L and the YSQ-S.[14,15,22] Alpha scores for the YSQ-S were also high for the different versions and in different populations.[18,23–25] YSQ also revealed adequate to high temporal stability.[26]

The YSQ has shown good convergent and predictive validity. EMSs have been correlated with several measures of depression and anxiety[11,18,19,24,25,27–29] and personality disorders.[23,29–33]

The discriminative power of the YSQ was good between patients with Axis-II and Axis-I diagnosis,[12] between female patients with eating disorders and a non-clinical group,[15,34–36] between depressed patients and healthy controls[37] and between patients with mood or anxiety disorders comorbid with Axis-II diagnoses and a student sample.[22]

The aim of our study was to validate the greek version of the YSQ-S3. In this paper we investigate the internal consistency and the validity of YSQ-S3 in a clinical and a large student sample. The investigation of the factor structure (first order and possible higher order/domains) in the same sample, is also part of the validation and the related manuscript is under preparation.[38]

Material and method

Participants

The non-clinical sample consisted of 1.236 undergraduate students (34.5% men and 65.5% women) with mean age 25.7 years (SD=2.7 years). Most of the participants lived with their parents (55.2%). Regarding their marital status 95.9% of them were single.

The clinical sample consisted of 124 patients (34,5% men and 65,5% women) with mean age 40.8 years (SD=12.0 years) from the Outpatient Units of two University Psychiatric Hospitals. From these patients 68 (54,8%) presented only Axis-I diagnosis, 18 (14,5%) presented only Axis-II diagnosis and 38 (30,7%) co-morbid Axis-I and Axis-II diagnosis.

Measurements

Young Schema Questionnaire-Short Form 3/ YSQ-S3:[21] The non-clinical sample completed the greek version of the YSQ-S3. This is a 90-item self-report measure to be rated by a 6-point Likert subscale ranging from "completely untrue" to "describes me perfectly".

Young Schema Questionnaire-Long Form 3/YSQ-L3[20]

The clinical sample completed the greek version of the YSQ-L3. This is a 232-item self-report measure to be rated by the same 6-point Likert subscale. The subsets of the 90 items, that construct the YSQ-S3, were extracted to obtain the YSQ-S scores, in order to conduct the discriminant analysis.

Translation procedure of the YSQ-L3 and YSQ-S3

Upon agreement, two bilingual professionals, speakers of Greek (i.e. target) and English (i.e. source), undertook independent forward translations into the target language. A reconciled version of the instrument was developed and a professional bilingual translator performed a backward translation of this reconciled version back into the original language. The back-translation and the original one, were compared and any discrepancies between them led to changes to the reconciled translation in the greek language. An expert committee reviewed this latest version and gave their feedback. At the next stage, the questionnaire was administered to a small group of patients who volunteered to take part in the cognitive debriefing phase, in order to assess clarity and comprehension of the questionnaire items. After this feedback, the final greek version was produced.

Adults Self Report/ASR[39]

The ASR is a self-report instrument that consists of two parts. The first part assesses psychosocial adaptive functioning. The second part, which

we used in this study, consists of 123 items. The questionnaire provides scores for the following syndrome scales: anxious/depressed, withdrawn, somatic complaints, thought problems, attention problems, aggressive behavior, rule-breaking behavior, and intrusive behavior. Also, provides scores for the following DSM-oriented scales: depressive problems, anxiety problems, somatic problems, avoidant personality problems, attention deficit/ hyperactivity problems (inattention and hyperactivity/impulsivity subscales), and antisocial personality problems. Items are rated on a 3-point scale: 0-Not True, 1-Somewhat or Sometimes True, 2-Very True or Often True. The instrument also includes two scales of internalizing and externalizing problems. The examination of the psychometric properties of the ASR in a Greek normative sample, supported the factor structure of the original model and justified the internal consistency of the total scale and sub-scales.[40]

Statistical analysis

Internal consistency reliability was determined by calculation of the Cronbach's α coefficient. Scales with reliabilities equal to or greater than 0.70, were considered acceptable.

Discriminative validity was examined, with the use of the known groups validation design (Devellis 2003).[41] Student's t-tests were conducted, in order to explore differences on YSQ-S3 scales between clinical and non-clinical samples and also between participants from the non-clinical sample, according to whether they had ever visited a mental health specialist. To give an indication of the aforementioned differences, effect sizes were also reported. Effect sizes of 0.2–0.5 are considered small, 0.51–0.81 moderate and over 0.8 is considered large.

Convergent validity was examined with the correlation coefficients (Pearson's r) between YSQ-S3 factors and both ASR and DSM-oriented ASR scales. Correlation coefficient between 0.1 and 0.3 are considered low, between 0.31 and 0.5 moderate and over 0.5 high.

To further examine predictive validity, multiple linear regression analysis was conducted with dependent the ASR variables presented Depressive and Anxiety problems, according to DSM-IV, and independent variables the EMSs, in order to investigate which of the EMSs had predictive ability for depression and anxiety. P values reported are two-tailed. Statistical significant level was set at .05 and analysis was conducted using SPSS 18.0 and AMOS (SPSS, Chicago, IL, USA) Statistical Software.

Results

Internal consistency reliability

Cronbach's a of the scales of YSQ-S3 for both samples are shown in table 1. All the scales exceeded the minimum reliability standard of 0.70 in both study samples. Cronbach's alpha ranged from 0.71 (Punitiveness) to 0.83 (Failure, Emotional Inhibition) for the sample of students and from 0.86 (Entitlement/Grandiosity) to 0.93 (Emotional deprivation, Defectiveness/Shame, Subjugation) for the clinical sample.

Discriminative validity

Mean scores of the scales of YSQ-S3 for both samples are shown in table 1. Mean scores of the scales of YSQ-S3 for the non-clinical sample according to the visit to a mental health specialist are shown in table 2. Higher scores in all the YSQ factors except for Unrelenting Standards/ Hypercriticalness Approval-Seeking/Recognition-Seeking and Entitlement were found in the clinical sample, showing good discriminative ability. Effect sizes were high for most of the scales. The highest effect sizes were found for Emotional Deprivation, Vulnerability to Harm or Illness, Subjugation, Social Isolation/Alienation and Defectiveness/ Shame. The same EMSs had the highest effect sizes in the non-clinical sample according to the question whether they had ever visited a specialist. When differences between patients with only Axis I pathology and patients with Axis II pathology were investigated it was found significantly greater scores on Emotional Deprivation ($p<0.001$), Abandonment ($p=0.025$), Mistrust/Abuse ($p=0.025$), Social Isolation/ Alienation ($p<0.001$) and total YSQ score ($p=0.045$) for patients with Axis II pathology.

Table 1. EMS Mean scores and Cronbach's a of students and clinical samples with effect sizes.

	Student's sample		Clinical sample			
	Mean (SD)	Cronbach's a	Mean (SD)	Cronbach's a	p	Effect size
Emotional deprivation	2.0 (1.0)	0.79	3.2 (1.4)	0.93	<0.001	1.22
Abandonment	2.4 (0.9)	0.76	3.1 (1.3)	0.92	<0.001	0.75
Mistrust/Abuse	2.3 (0.9)	0.75	3.1 (1.0)	0.91	<0.001	0.91
Social isolation/Alienation	1.9 (0.9)	0.76	3 (1.5)	0.92	<0.001	1.13
Defectiveness/Shame	1.6 (0.7)	0.79	2.4 (1.1)	0.93	<0.001	1.10
Failure	1.7 (0.7)	0.83	2.5 (1.3)	0.91	<0.001	1.07
Dependence/Incompetence	1.8 (0.7)	0.73	2.6 (1.2)	0.91	<0.001	1.08
Vulnerability to harm or illness	1.8 (0.8)	0.73	2.9 (1.2)	0.92	<0.001	1.20
Enmeshment/Undeveloped self	1.9 (0.8)	0.73	2.6 (1.2)	0.91	<0.001	0.83
Subjugation	1.9 (0.8)	0.75	3 (1.3)	0.93	<0.001	1.20
Self-sacrifice	3.1 (1.0)	0.77	3.4 (1.2)	0.92	<0.001	0.37
Emotional inhibition	2.3 (1.0)	0.83	3 (1.2)	0.89	<0.001	0.63
Unrelenting standards/ Hypercriticalness	3.1 (0.9)	0.76	3.2 (1.0)	0.90	0.804	0.02
Entitlement/Grandiosity	2.8 (0.9)	0.74	2.6 (0.9)	0.86	0.049	0.19
Insufficient Self-Control/Self-discipline	2.5 (0.9)	0.78	2.9 (1.2)	0.92	<0.001	0.42
Approval-Seeking/Recognition-Seeking	2.8 (1.0)	0.76	2.9 (1.0)	0.91	0.073	0.17
Negativity/Pessimism	2.3 (0.9)	0.77	3.2 (1.2)	0.92	<0.001	0.90
Punitiveness	2.4 (0.8)	0.71	3.1 (1.0)	0.90	<0.001	0.76

Convergent validity and Predictive ability

YSQ-S3 factors were significantly correlated with almost all ASR and DSM-oriented ASR dimensions indicating good convergent validity. In table 3 are shown the moderate and high correlation coefficients between YSQ-S3 factors and Depressive Problems, Anxiety Problems, Avoidant Personality Problems, Antisocial Personality Problems and Impulsivity scales of the DSM-IV oriented ASR dimensions. Abandonment, Dependence/Incompetence, Subjugation, Negativity/Pessimism were highly correlated (0.5–0.53) with Depressive Problems. Abandonment, Vulnerability to Harm or Illness and Negativity/Pessimism showed the stronger, although moderate (0.47–0.49) correlation with Anxiety Problems. Social Isolation, Defectiveness/Shame and Subjugation were highly correlated with Avoidant Personality Problems. Insufficient Self-Control/Self-Discipline showed the stronger, although moderate correlation with Antisocial Personality Problems (0.36) and the Impulsivity Subscale (0.40).

When multiple linear regression analysis was conducted with dependent the variables presented Depressive and Anxiety problems (table 4) according to DSM-IV and independent variables the EMSs, it was found that Abandonment, Social Isolation/Alienation, Defectiveness/Shame, Failure, Vulnerability to Harm or Illness, Enmeshment/ Undeveloped Self, Subjugation, Self-sacrifice, Insufficient Self-Control/Self-Discipline, Approval-

Table 2. EMS Mean scores according to whether they had ever visited a specialist, with effect sizes.

	Have you ever visited a specialist and/or been hospitalized			
	No	Yes		
	Mean (SD)	Mean (SD)	p	Effect size
Emotional Deprivation	1.92 (0.89)	2.32 (1.12)	<0.001	0.42
Abandonment	2.27 (0.87)	2.67 (1.07)	<0.001	0.44
Mistrust Abuse	2.2 (0.84)	2.47 (0.99)	<0.001	0.31
Social isolation/Alienation	1.86 (0.77)	2.25 (1.04)	<0.001	0.47
Defectiveness/Shame	1.49 (0.63)	1.79 (0.89)	<0.001	0.43
Failure	1.65 (0.72)	1.82 (0.81)	0.001	0.23
Dependence/Incompetence	1.7 (0.68)	1.99 (0.85)	<0.001	0.40
Vulnerability to harm or illness	1.77 (0.75)	2.11 (0.9)	<0.001	0.43
Enmeshment/Undeveloped self	1.86 (0.78)	2.14 (0.95)	<0.001	0.34
Subjugation	1.87 (0.74)	2.2 (1.02)	<0.001	0.41
Self-Sacrifice	3.05 (1)	3.14 (1.01)	0.205	0.09
Emotional Inhibition	2.28 (0.99)	2.5 (1.21)	0.003	0.21
Unrelenting standards/ Hypercriticalness	3.12 (0.91)	3.21 (1.01)	0.180	0.10
Entitlement/Grandiosity	2.75 (0.85)	2.95 (0.98)	0.001	0.23
Insufficient Self-Control/ Self-discipline	2.51 (0.89)	2.68 (0.92)	0.006	0.19
Approval-seeking/Recognition-seeking	2.74 (0.94)	2.91 (1.08)	0.011	0.17
Negativity/Pessimism	2.27 (0.91)	2.63 (1.03)	<0.001	0.38
Punitiveness	2.42 (0.81)	2.48 (0.91)	0.264	0.07

Seeking/Recognition-Seeking, Negativity/Pessimism and Punitiveness were independently associated and could predict depression. The amount of variance of Depressive problems that explained by the EMSs was 43.1%. Also, linear regression analysis showed that Abandonment, Defectiveness/Shame, Vulnerability to Harm or Illness, Self-Sacrifice, Unrelenting Standards/Hypercriticalness, Entitlement/Grandiosity, Negativity/Pessimism were predictive for Anxiety problems and the total variance explained by the EMSs according to adjusted R2 was 34.8%.

Discussion

The study examined the internal consistency and the validity of the Greek YSQ-S3. The internal consistency reliability of the schema factors in our study could be considered satisfactory with a Cronbach's alpha coefficient of 0.70 or above for all factors in both samples.

The schema factors discriminated well between non-clinical and clinical sample. Differences in all schema factors were statistically significant, except for Unrelenting Standards/Hypercriticalness,

Table 3. Pearson correlation coefficients between YSQ-S3 factors and DSM oriented ASR dimensions.

YSQ	Depressive Problems	Anxiety Problems	Avoidant Personality Problems	Antisocial Personality Problems	Impulsivity Subscale
Emotional Deprivation	0.43		0.43		
Abandonment	0.50	0.47	0.42		0.30
Mistrust/Abuse	0.36	0.34	0.41		
Social Isolation/Alienation	0.41		0.53	0.30	
Defectiveness/Shame	0.48		0.51	0.35	
Failure	0.48		0.43		
Dependence/Incompetence	0.51	0.32	0.43	0.35	0.30
Vulnerability to harm or illness	0.46	0.48	0.33	0.30	0.30
Enmeshment/Undeveloped self	0.44	0.34	0.38		
Subjugation	0.53	0.34	0.5		
Emotional Inhibition			0.47		
Entitlement/ Grandiosity				0.31	0.32
Insufficient Self-Control/ Self-discipline	0.37			0.36	0.40
Negativity/Pessimism	0.50	0.49	0.41		0.32
Total YSQ score	0.59	0.48	0.55		0.38

Entitlement and Approval-Seeking/Recognition-Seeking. This finding is consistent with previous studies on the discriminative validity of the YSQ.[23,25] Our student population resembles the sample of these studies; specific characteristics, such as high competitive, success oriented individuals, and narcissistic features of the new generation could explain the relatively high mean scores of the aforementioned EMSs.

An interesting finding is that the EMSs Emotional Deprivation, Vulnerability to Harm or Illness, Subjugation, Social Isolation/Alienation and Defectiveness/Shame had the highest effect sizes and discriminative ability between not only the clinical and non-clinical sample, but also between the non-clinical participants according to whether they had ever visited a mental health specialist. This may suggest that these EMSs are more sensitive and useful markers of psychological problems. Moreover, the EMSs Emotional Deprivation, Abandonment, Mistrust/Abuse, Social Isolation/Alienation had higher scores and better discriminated patients with comorbid personality diagnosis from patients with only Axis I diagnosis. This finding is consistent with Schema theory, as these EMSs are associated with earlier in life traumatic experiences and insecure attachment and lie in the core of personality pathology.[1]

The convergent validity analysis indicated that the 18 EMSs showed a reasonable pattern of associations and theoretically meaningful correlations, according to the literature between EMS and symptomatology, especially depression and anxiety[11,18,19,24,25,27–29] or personality problems,[23,29–33] as measured by the DSM-IV oriented subscales of the ASR.

The main strength of our study is the large sample size.

This study has also several limitations: (1) The cross-sectional design of the study did not allow the study of test-retest reliability. (2) The study of

Table 4. Results from multiple linear regression analyses for Depression and Anxiety problems with independent the variables presented the 18 EMSs.

	Depressive problems			Anxiety problems		
	β*	SE**	p	β*	SE	p
Emotional deprivation	0.20	0.15	0.174	–0.15	0.09	0.108
Abandonment	0.78	0.16	<0.001	0.80	0.10	<0.001
Mistrust/Abuse	–0.31	0.17	0.064	–0.08	0.10	0.453
Social isolation/Alienation	0.38	0.18	0.034	0.16	0.11	0.160
Defectiveness/Shame	0.52	0.24	0.028	–0.45	0.15	0.002
Failure	0.52	0.22	0.016	0.01	0.13	0.956
Dependence/Incompetence	0.38	0.24	0.109	0.11	0.15	0.437
Vulnerability to harm or illness	0.56	0.18	0.002	0.85	0.12	<0.001
Enmeshment/Undeveloped self	0.38	0.17	0.030	0.12	0.11	0.269
Subjugation	0.73	0.20	<0.001	–0.15	0.12	0.244
Self-Sacrifice	0.25	0.12	0.036	0.29	0.08	<0.001
Emotional Inhibition	0.06	0.12	0.654	0.04	0.08	0.631
Unrelenting Standards/ Hypercriticalness	–0.18	0.15	0.248	0.33	0.10	0.001
Entitlement/Grandiosity	–0.19	0.16	0.246	–0.25	0.10	0.014
Insufficient Self-Control/Self-discipline	0.58	0.15	<0.001	0.04	0.09	0.673
Approval-Seeking/Recognition-Seeking	–0.31	0.13	0.020	–0.15	0.08	0.083
Negativity/Pessimism	0.75	0.18	<0.001	0.65	0.11	<0.001
Punitiveness	–0.44	0.15	0.004	–0.09	0.10	0.353

*Regression coefficient; **Standard Error

convergent validity was based on an inventory (ASR) which assess clinical syndromes in general, instead of personality traits, as YSQ does. (3) The clinical sample completed the YSQ-L3, from which we extracted the items of the YSQ-S3. This process may have influenced the results due to the group format of the items of each EMS in the YSQ-L3. (4) The cross-sectional character of our study did not allow the estimation of predictive validity in different time points. Nevertheless, we can assume that EMS, as personality traits, exist before the emergence of Anxiety or Depressive problems.

In conclusion, the greek version of the YSQ-S3 showed good internal consistency reliability and validity.

Acknowledgments: The authors did not get any financial support or funding for this study.

The study was approved by the Human Rights and Ethical Committee (84/5-3-2009) of the 1st Department of Psychiatry, Eginition Hospital, School of Medicine, University of Athens, Athens, Greece. No animals have been used in this study.

Preliminary data of this study were presented at The International Society of Schema Therapy (ISST) Congress in Istanbul, June 2014.

The authors would like to thank Professor Ioannis Zervas for his supervision on the whole project of validation of the greek version of the YSQ-S3 and for his precious comments on the method, the results and the discussion of this paper.

Στάθμιση της ελληνικής έκδοσης του Young Schema Questionnaire-Short Form 3 (YSQ-S3): Αξιοπιστία εσωτερικής συνάφειας και εγκυρότητα

Ι.Α. Μαλογιάννης,[1,2] Αικ. Αγγελή,[2,3] Ντ. Γαρώνη,[1,2] Χ. Τζαβάρα,[4] Ι. Μιχόπουλος,[5] Α. Πεχλιβανίδης,[1] Α. Καλαντζή-Αζίζι,[3], Γ.Ν. Παπαδημητρίου[1]

[1]Α΄ Ψυχιατρική Κλινική, Αιγινήτειο Νοσοκομείο, Ιατρική Σχολή, Εθνικό και Καποδιστριακό Πανεπιστήμιο Αθηνών,
[2]Ελληνική Εταιρεία Θεραπείας Σχημάτων, Αθήνα,
[3]Τμήμα Ψυχολογίας, Εθνικό και Καποδιστριακό Πανεπιστήμιο Αθηνών,
[4]Κέντρο Μελετών Υπηρεσιών Υγείας, Τμήμα Υγιεινής, Επιδημιολογίας και Ιατρικής Στατιστικής, Ιατρική Σχολή, Εθνικό και Καποδιστριακό Πανεπιστήμιο Αθηνών,
[5]Β΄ Ψυχιατρική Κλινική, Αττικόν Νοσοκομείο, Ιατρική Σχολή, Εθνικό και Καποδιστριακό Πανεπιστήμιο Αθηνών, Αθήνα

Ψυχιατρική 2018, 29:220–230

Η Θεραπεία Σχημάτων είναι ένα συνδυαστικό μοντέλο ψυχοθεραπείας, το οποίο ενσωματώνει στοιχεία από τη γνωσιακή συμπεριφοριστική θεραπεία, τη θεωρία δεσμού, τη θεωρία των αντικειμενοτρόπων σχέσεων και από μοντέλα εστιασμένα στο συναίσθημα. Εμφανίζει σημαντική αποτελεσματικότητα στη θεραπεία των διαταραχών προσωπικότητας, καθώς και άλλων χρόνιων συναισθηματικών δυσκολιών. Κεντρική εννοιολογική δομή της Θεραπείας Σχημάτων αποτελούν τα Πρώιμα Δυσλειτουργικά Σχήματα (ΠΔΣ). Πρόκειται για αυτο-ηττώμενα πυρηνικά θέματα ή μοτίβα, τα οποία προκύπτουν ως αποτέλεσμα μη εκπλήρωσης πυρηνικών συναισθηματικών αναγκών της παιδικής ηλικίας. Έχουν περιγραφεί 18 ΠΔΣ, τα οποία ομαδοποιούνται σε 5 κατηγορίες. Τα ΠΔΣ αξιολογούνται με το Ερωτηματολόγιο Σχημάτων του Young στη σύντομη μορφή του [Young Schema Questionnaire Short form 3 (YSQ-S3)], αποτελούμενο από 90 ερωτήσεις, και στην εκτεταμένη μορφή του [Young Schema Questionnaire – Long form 3 (YSQ-L3)], αποτελούμενο από 232 ερωτήσεις. Σκοπός της παρούσας εργασίας ήταν η μελέτη της αξιοπιστίας εσωτερικής συνοχής και της εγκυρότητας της ελληνικής έκδοσης του YSQ-S3. Ένα μη κλινικό δείγμα 1.236 προπτυχιακών φοιτητών συμπλήρωσε το YSQ-S3 και 124 ασθενείς με διαγνώσεις στον Άξονα Ι, στον Άξονα ΙΙ ή και στους δύο, συμπλήρωσαν το YSQ-L3. Επιπλέον, και τα δυο δείγματα συμπλήρωσαν το δεύτερο μέρος της Κλίμακας Αυτοαναφοράς Ενηλίκων [Adults Self Report (ASR)]. Η αξιοπιστία της εσωτερικής συνοχής των σχημάτων ως παραγόντων ήταν ικανοποιητική, με τον συντελεστή Cronbach's alpha να κυμαίνεται από 0,70 και άνω για όλους τους παράγοντες τόσο στο δείγμα των σπουδαστών όσο και στο κλινικό δείγμα. Τα μεγέθη επίδρασης ήταν υψηλά για τις περισσότερες κλίμακες όσον αφορά στη διάκριση μεταξύ κλινικού δείγματος και σπουδαστών. Τα ΠΔΣ Συναισθηματική Στέρηση, Ευαλωτότητα σε Βλάβη ή Ασθένεια, Υποταγή, Κοινωνική Απομόνωση/Αποξένωση και Μειονεξία/Ντροπή είχαν υψηλότερα μεγέθη επίδρασης τόσο στο κλινικό δείγμα όσο και στο δείγμα των σπουδαστών, ανάλογα με το αν είχαν επισκεφθεί ποτέ κάποιον επαγγελματία ψυχικής υγείας. Το γεγονός αυτό πιθανώς υποδεικνύει τα συγκεκριμένα ΠΔΣ ως πιο ευαίσθητους δείκτες ανίχνευσης ψυχολογικών προβλημάτων. Επιπρόσθετα, στο κλινικό δείγμα οι ασθενείς με διάγνωση στον Άξονα ΙΙ είχαν σημαντικά υψηλότερη βαθμολογία στα ΠΔΣ Συναισθηματική Στέρηση, Εγκατάλειψη, Κοινωνική Απομόνωση/Αποξένωση, Καχυποψία/Κακοποίηση σε σχέση με τους ασθενείς που είχαν διάγνωση μόνο στον Άξονα Ι. Το εύρημα αυτό είναι σύμφωνο με τη θεωρία σχημάτων, καθώς αυτά τα ΠΔΣ σχετίζονται κυρίως με πρώιμες τραυματικές εμπειρίες της παιδικής ηλικίας και δημιουργία ανασφαλούς δεσμού και αποτελούν το υπόβαθρο ανάπτυξης παθολο-

γίας προσωπικότητας. Οι παράγοντες του YSQ-S3 συσχετίστηκαν σημαντικά με όλες τις διαστάσεις του ASR και η ανάλυση γραμμικής παλινδρόμησης έδειξε ότι συγκεκριμένα ΠΔΣ μπορούσαν να προβλέψουν προβλήματα Άγχους και Κατάθλιψης. Συνολικά, η ελληνική εκδοχή του YSQ-S3 έδειξε καλή αξιοπιστία και εγκυρότητα.

Λέξεις ευρετηρίου: Πρώιμο Δυσλειτουργικό Σχήμα, εγκυρότητα, αξιοπιστία εσωτερικής συνάφειας, Ερωτηματολόγιο Σχημάτων του Young.

References

1. Young JE, Klosko JS, Weishaar ME. *Schema therapy: A practitioner's guide*. Guilford Press, New York, 2003
2. Bamelis LL, Evers SM, Spinhoven P, Arntz A. Results of a multicenter randomized controlled trial of the clinical effectiveness of schema therapy for personality disorders. *Am J Psychiatry* 2014, 171:305–322, doi: 10.1176/appi.ajp.2013.12040518
3. Farrell JM, Shaw IA, Webber MA. A schema-focused approach to group psychotherapy for outpatients with borderline personality disorder: a randomized controlled trial. *J Behav Ther Exp Psychiatry* 2009, 40:317–328, doi: 10.1016/j.jbtep.2009.01.002
4. Giesen-Bloo J, van Dyck R, Spinhoven P, van Tilburg W, Dirksen C, van Asselt T, et al. Outpatient psychotherapy for borderline personality disorder: randomized trial of schema-focused therapy vs transference-focused psychotherapy. *Arch Gen Psychiatry* 2006, 63: 649–658, doi:10.1001/archpsyc.63.6.649
5. Malogiannis IA, Arntz A, Spyropoulou A, Tsartsara E, Aggeli A, Karveli S, et al. Schema therapy for patients with chronic depression: A single case series study. *J Behav Ther Exp Psychiatry* 2014, 45:319–329, doi: 10.1016/j.jbtep.2014.02.003
6. Nadort M, Arntz A, Smit JH, Giesen-Bloo J, Eikelenboom M, Spinhoven P et al. Implementation of outpatient schema therapy for borderline personality disorder with versus without crisis support by the therapist outside office hours: A randomized trial. *Behav Res Ther* 2009, 47:961–973, doi:10.1016/j.brat.2009.07.013
7. Young JE. *Cognitive therapy for personality disorders: A schema-focused approach*. Professional Resource Exchange, Florida, 1990
8. Bowlby J. *A secure base: Parent-child attachment and healthy human development*. Basic Books, New York, 1988
9. Beck AT, Rush AJ, Shaw BF, Emery G. *Cognitive therapy of depression*. Guildford Press, New York, 1979
10. Young JE, Brown G. Young schema questionnaire. In: Young JE (ed) *Cognitive therapy for personality disorders: A schema-focused approach* (2nd ed) Professional Resource Exchange, Florida, 1994
11. Schmidt NB, Joiner TE, Young JE, Telch MJ. The Schema Questionnaire: Investigation of psychometric properties and the hierarchical structure of a measure of maladaptive schemas. *Cognit Ther Research* 1995, 19:295–321, doi:10.1007/BF02230402
12. Lee CW, Taylor G, Dunn J. Factor structure of the Schema Questionnaire in a large clinical sample. *Cognit Ther Research* 1999, 23:441-451, doi:10.1023/A:1018712202933
13. Young JE. *Young schema questionnaire short form*. New York: Cognitive Therapy Center, New York, 1998
14. Stopa L, Thorne P, Waters A, Preston J. Are the short and long forms of the young schema questionnaire comparable and how well does each version predict psycho- pathology scores? *J Cognit Psychother Intern Quarterly* 2001,125:253–272
15. Waller G, Meyer C, Ohanian V. Psychometric properties of the long and short versions of the Young Schema-Questionnaire: Core beliefs among bulimic and comparison women. *Cognit Ther Research* 2001, 25:137–147, doi:10.1023/A:1026487018110
16. Hoffart A, Sexton H, Hedley LM, Wang CE, Holthe H, Haugum JA et al. The structure of maladaptive schemas: A confirmatory factor analysis and a psychometric evaluation of factor-derived scales. *Cognit Ther Research* 2005, 29:627–644, doi:10.1007/s10608-005-9630-0
17. Rijkeboer MM, van den Bergh H. Multiple group confirmatory factor analysis of the Young Schema-Questionnaire in a Dutch clinical versus non-clinical population. *Cognit Ther Research* 2006, 30:263–278, doi: 10.1007/s10608-006-9051-8
18. Baranoff J, Oei TPS, Kwon SM, Cho S. Factor structure and internal consistency of the young schema questionnaire (short form). J Affect Disord 2006, 93:133–140, doi: 10.1016/j.jad.2006.03.003
19. Calvete E, Estevez A, Lopez de Arroyabe E, Ruiz P.The Schema Questionnaire-Short Form; structure and relationship with automatic thoughts and symptoms of affective disorders. *Eur J Psychologic Assessm* 2005, 21:90–99, doi: 10.1027/1015-5759.21.2.90
20. Young JE, Brown G. *Young Schema Questionnaire Long Form 3* (*YSQ-L3*). Schema Therapy Institute, New York, 2003
21. Young JE. *Young Schema Questionnaire Short Form* (*YSQ-S3*) 3rd ed. Schema Therapy Institute, New York, 2005
22. Oei TP, Baranoff J. Young Schema Questionnaire: Review of psychometric and measurement issues. *Austr J Psychol* 2007, 59:78–86, doi: 10.1080/00049530601148397
23. Saariaho T, Saariaho A, Karila I, Joukamaa M. The psychometric properties of the Finnish Young Schema Questionnaire in chronic pain patients and a non-clinical sample. *J Behav Ther Exp Psychiatry* 2009, 40:158–168, doi: 10.1016/j.jbtep.2008.07.005
24. Hawke LD, Provencher MD. The Canadian French Young Schema Questionnaire: Confirmatory factor analysis and validation in clinical and nonclinical samples. *Can J Behaviour Sci* 2012, 44:40–49, doi: 10.1037/a0026197
25. Soygut G, Karaosmanoglu A, Cakir Z. Assessment of early maladaptive schemas: A psychometric study of the Turkish

Young Schema Questionnaire-Short Form-3. *Turk J Psychiatry* 2009, 20:75–84, PMID: 19306129

26. Rijkeboer MM, van den Bergh H, van den Bout J. Stability and discriminative power of the Young Schema-Questionnaire in a Dutch clinical versus non-clinical population. *J Behav Ther Exp Psychiatry* 2005, 36:129–144, doi.org/10.1016/j.jbtep.2004.08.005
27. Welburn K, Coristine M, Dagg P, Pontefract A, Jordan S. The Schema Questionnaire Short Form: Factor analysis and relationship between schemas and symptoms. *Cognit Ther Research* 2002, 26:519–530, doi: 10.1023/A:1016231902020
28. Harris AE, Curtin L. Parental perceptions, early maladaptive schemas, and depressive symptoms in young adults. *Cognit Ther Research* 2002, 26:405–416, doi:10.1023/A:1016085112981
29. Glaser B, Campbell LF, Calhoun GB, Bates JM, Petrocelli JV. The Early Maladaptive Schema Questionnaire-Short Form: A construct validity study. *Measurem Evaluat Counsell Developm* 2002, 35:2–13
30. Kriston L, Schafer J, von Wolff A, Harter M, Holzel, LP. The latent factor structure of Young's early maladaptive schemas: are schemas organized into domains? *J Clin Psychol* 2012, 68:684–698, doi: 10.1002/jclp.21846
31. Ball SA, Cecero J J. Addicted patients with personality disorders: traits, schemas, and presenting problems. *J Pers Disord* 2001, 15:72–83, doi: 10.1521/pedi.15.1.72.18642
32. Nordahl HM, Nysaeter TE. Schema therapy for patients with borderline personality disorder: a single case series. *J Behav Ther Exp Psychiatry* 2005, 36:254–264, doi: 10.1016/j.jbtep.2005.05.007
33. Petrocelli JV, Glaser BA, Calhoun GB, Campbell LF. Early maladaptive schemas of personality disorder subtypes. *J Pers Disord* 2001, 15:546–559, doi:10.1521/pedi.15.6.546.19189
34. Thimm JC. Mediation of early maladaptive schemas between perceptions of parental rearing style and personality disorder symptoms. *J Behav Ther Exp Psychiatry* 2010, 41:52–59, doi: 10.1016/j.jbtep.2009.10.001
35. Leung N, Waller G, Thomas G. Core beliefs in anorexic and bulimic women. *J Nerv Ment Dis* 1999, 187:736–741, doi: 10.1097/00005053-199912000-00005
36. Waller G, Ohanian V, Meyer C, Osman S. Cognitive content among bulimic women: The role of core beliefs. *Intern J Eat Disord* 2000, 28:235–241, doi: 10.1002/1098-108X(200009)28:2<235:AID-EAT15>3.0.CO;2-1
37. Waller G, Shah R, Ohanian V, Elliott P. Core beliefs in bulimia nervosa and depression:The discriminant validity of Young's Schema-Questionnaire. *Behav Ther* 2001, 32:139–153, doi: 10.1016/S0005-7894(01)80049-6
38. Malogiannis I, Aggeli Aik, Garoni D, Tzavara Ch, Michopoulos I, Pehlivanidis A et al. *Confirmatory Factor Analysis of the Young Schema Questionnaire-Short Form 3 (YSQ-S3) in a clinical and a large non-clinical sample*. Manuscript under preparation, 2017
39. Achenbach TM, Rescorla LA. *Manual for the ASEBA Adult Forms & Profiles*. Burlinghton, University of Vermont Research Center for Children, Youth, and Families, 2003
40. Tsaousis I. *Factor Structure and Psychometric Properties of the ASEBA Adult Self-Report Form for Ages 18–59 in the Greek Language*. Paper presented at 16th European Congress on Personality, 10–14 July 2010, Trieste
41. DeVellis RF. *Scale development: Theory and applications*. 4th ed. Thousand Oaks, CA: Sage Publications, 2017:96

Corresponding author: I.A. Malogiannis, 18 Panos street, GR-105 55 Athens, Greece, Tel: (+30) 6945 898 082
e-mail: ioannis.malogiannis@gmail.com

Research article
Ερευνητική εργασία

Mental health and psychosocial factors in young refugees, immigrants and Greeks: A retrospective study

K. Triantafyllou, I. Othiti, G. Xylouris, V. Moulla, V. Ntre, P. Kovani, I. Gertsou, D. Anagnostopoulos

Department of Child Psychiatry, General Pediatric Hospital of Athens "Agia Sofia", Medical School, National and Kapodistrian University of Athens, Athens, Greece

Psychiatriki 2018, 29:231–239

Since 1989, Greece has accepted thousands of economic immigrants and more recently, since 2010, has been transformed to a host country for refugees mainly from countries at war. Refugees experience a number of serious traumas, i.e. death of family member or a close friend, physical, emotional or sexual abuse, and at the same time have to confront poverty, hostility and racism during and after the settlement in the host country. On the other hand, economic immigrants have mainly to face adaption difficulties in a host country including racism, poverty, different culture, bureaucracy. The aim of the current retrospective study was to examine the differences in psychopathology between immigrants, refugees and natives. We examined differences in psychiatric diagnoses and factors influencing their health status between four groups: (i) 90 files of children whose families referred to the Department of Child and Adolescent Psychiatry (DeCAP), University of Athens, during 2005–2009, (ii) 216 files of children whose families seek for help during 2010–2014. Immigrants who referred to the DeCAP during the first period were mainly economic immigrants, whereas immigrants of the second period were mainly refugees from countries in conflict. These data were matched with age and sex with 151 files of natives who referred to the DeCAP during the aforementioned decade: (iii) 72 Greek families who seek for help during 2005–2009, and (iv) 79 Greek families who seek for help during 2010–2014. The Greek comparison group consisted of children and adolescents whose parents were both Greek. Investigating the differences in psychiatric diagnoses (F) and factors influencing health status (Z) between the groups, young refugees received a greater number of Z compared to Greeks (2010–2014). The proportion of refugees who had at least two Z was greater than that of immigrants and Greeks 2010–20014. Regarding the psychiatric diagnoses, Greek sample after 2010 received a greater proportion of psychiatric diagnoses than refugees. These results highlight that refugee families seek for help mainly not for psychiatric reasons. This could reflect their different needs or their difficulty to have access in public health services comparing to immigrants and natives.

Key words: Refugees, immigrants, Greeks, children, adolescents, psychopathology.

Introduction

Migration has been a major issue of concern in Europe. Since 1989, Greece has been transformed into a host country for immigrants and refugees, accepting hundreds of thousand economic immigrants coming from Balkans and East Europe. Since 2010, the immigration has increased by a high influx of refugees from Middle East and Asia.[1] Given this change of immigration, from economic immigrants mainly to refugees, the current study aims to examine differences in psychopathology in children and adolescents r immigrants/refugees before and after 2010. During that time (2009) Greece was consumed by a socio-economic crisis due to the international financial crisis.[2,3]

Immigration involves a number of stressful events for youth and their families during the process of immigration and even after the settlement.[4,5] Immigrants who deliberately remove to another country, seeking for a new job, in order to improve their life, may differ from refugees. Economic immigrants have mainly to face their adaption in a host country including bureaucracy, different culture, poverty, racism. On the other hand, it is known that refugees experience serious and multiple traumas. In addition to these traumatic events, refugees have to confront poverty, hostility and racism during and after the settlement. It has been suggested that individual, social and family factors have an impact on well being of unaccompanied minors as well as on children and adolescents who have immigrated with their families. The exposure of children and adolescents to violent events is associated with a range of psychosocial problems in child and adolescent refugees.[6]

This study aimed to examine the differences in psychopathology between the two groups of immigrants: (i) those who referred to the Department of Child and Adolescent Psychiatry (DeCAP), National & Kapodistrian University of Athens General Pediatric Hospital of Athens "Agia Sofia" during 2005–2009, and (ii) those who seek for help during 2010–2014. Immigrants who referred to the DeCAP during the first period were mainly economic immigrants,[7] whereas immigrants of the second period were mainly refugees from countries in conflict. It was examined whether the two groups differed in psychiatric diagnoses and factors influencing their health status. Additionally, it was examined whether there were differences between the two groups (immigrants and refugees) and Greeks (2005–2009 and 2010–2014 groups).

Material and method

The present study was retrospective. Files of 306 out of 1182 immigrants were recruited from the records of the DeCAP. Ninety (29.4%) and 216 (70.6%) child and adolescent immigrants came from the period 2005–2009 and 2010–2014, respectively. These data were matched for age and sex with 151 files of natives who referred to the clinic during the aforementioned decade: Seventy two Greek families who seek for help during 2005–2009 and 79 Greek families who seek for help during 2010–2014. The Greek comparison group consisted of children and adolescents whose parents were both Greek.

Measures

Data collected from the patient files included: demographic characteristics (table 1) and psychiatric diagnosis. For the purposes of this study, two child psychiatrists independently reviewed the files in order to re-examine and confirm the initial diagnosis, based on the ICD-10 diagnostic criteria.[8] The diagnoses (F-axis which consists of clinical syndromes) and the factors influencing their health status of the patients (Z-axis) were grouped in categories that are presented in tables 2 & 3 of results section. The total number of F and Z given for each case were also calculated.

Statistical analysis

Changes of total number of F, Z during two periods between Greeks and refugees/immigrants were evaluated using repeated measurements analysis of variance (ANOVA). The ranks were used in analysis of variance due to the skewed distribution of the variables. Estimating equations were used to assess changes in the categorically defined outcomes between the two time periods. Chi-square tests and

Table 1. Sample characteristics.

	Years			
	Total sample	2005–2009	2010–2014	
	N (%)	N (%)	N (%)	p
Age				
0–5	137 (30.0)	56 (34.6)	81 (27.6)	0.196[ii]
6–12	256 (56.1)	82 (50.6)	174 (59.2)	
13–17	63 (13.8)	24 (14.8)	39 (13.3)	
Sex				
Boys	259 (56.7)	88 (54.3)	171 (58.0)	0.452[ii]
Girls	198 (43.3)	74 (45.7)	124 (42.0)	
Country of origin[i]				
Greece	10 (4.5)	7 (12.7)	3 (1.8)	0.021[iii]
Balkans	114 (51.8)	25 (45.5)	89 (53.9)	
Eastern Europe	24 (10.9)	6 (10.9)	18 (10.9)	
Africa	14 (6.4)	3 (5.5)	11 (6.7)	
Middle East	40 (18.2)	7 (12.7)	33 (20)	
Other	18 (8.2)	7 (12.7)	11 (6.7)	
Group				
Refugees	306 (67.0)	90 (55.6)	216 (73.2)	<0.001[ii]
Greeks	151 (33.0)	72 (44.4)	79 (26.8)	

i. concerns only the group of refuges; ii. Pearson's x^2 test; iii. Fisher's exact test

Fisher's exact tests were used for the comparison of proportions. P-values reported are two-tailed. Statistical significance was set at 0.05 and analysis was conducted using STATA 11.0.

Results

A total of 457 participants were analyzed (162 from 2005–2009 and 295 from 2010–2014). Examining the refugees' country of origin, it was found a statistically significant greater proportion of those being from Middle East in years 2010–2014 as compared to years 2005–2009 (see table 1).

Regarding the differences between immigrants and refugees (table 2), the proportion of refugees with psychiatric diagnosis (F-axis) was statistically significant lower than that of immigrants, that is, 42.1% of refugees had no psychiatric diagnosis compared to 30% of immigrants. Refugees (13.9%) had received statistically significant fewer diagnoses related to F40–48 (neurotic, stress-related and somatoform disorders). When we compared refugees with Greeks (2010–2014), refugees had received statistically significant fewer psychiatric diagnoses, that is, 42.1% of refugees had no psychiatric diagnosis compared to 12.7% of Greeks. Greeks (2010–2014) had statistically significant greater proportion of F80-F82-F85 (specific developmental disorders) and F81 (specific developmental disorders of scholastic skills) (27.8% and 27.8% respectively) and showed more comorbidity (F80-F82-F85, 7.6%). The total number of received psychiatric diagnoses was greater in Greeks at years 2010–2014.

Regarding the differences between refugees and immigrants in the Z-axis (table 3), refugees had statistically significant greater number of Z, that is, 33.8% of refugees did not receive Z compared to

Table 2. Percentage of participants with psychiatric diagnoses (F axis) for refugees, immigrants and Greeks according to the two different time periods.

		Immigrants	Refugees	Greeks	Greeks
		2005–2009	2010–2014	2005–2009	2010–2014
Psychiatric diagnosis	**F-axis**	**N (%)**	**N (%)**	**N (%)**	**N (%)**
None		27 (30.0)	91 (42.1)*	15 (20.8)	10 (12.7)**
Mental retardation	F70–79	9 (10.0)	14 (6.5)	4 (5.6)	5 (6.3)
Specific developmental disorders	F80, 82, 85	11 (12.2)	18 (8.3)**	9 (12.5)	22 (27.8)
Specific developmental disorders of scholastic skills	F81	5 (5.6)**	17 (7.9)**	13 (18.1)	22 (27.8)
Pervasive developmental disorders	F84	2 (2.2)	11 (5.1)	5 (6.9)	4 (5.1)
Behavioural disorders	F90, F91	5 (5.6)	6 (2.8)	2 (2.8)	2 (2.5)
Emotional disorders	F92, 93, 94, 98	7 (7.8)	16 (7.4)	11 (15.3)	7 (8.9)
Tic disorders	F95	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Neurotic, stress-related and somatoform disorders	F40–48	21 (23.3)	30 (13.9)*	11 (15.3)	5 (6.3)
Manic episode	F30	0 (0.0)	2 (0.9)	0 (0.0)	0 (0.0)
Schizophrenia	F20	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Eating disorders	F50	0 (0.0)	1 (0.5)	0 (0.0)	0 (0.0)
Mild depressive episode	F32	3 (3.3)	8 (3.7)	2 (2.8)	2 (2.5)
Mental and behavioural disorders due to use of alcohol	F10	0 (0.0)	2 (0.9)	0 (0.0)	0 (0.0)
	F comorbidity				
None		78 (86.7)	191 (88.4)**	61 (84.7)	60 (75.9)
Mental retardation	F70–79	1 (1.1)	1 (0.5)	0 (0.0)	0 (0.0)
Specific developmental disorders	F80, 82, 85	2 (2.2)	4 (1.9)**	4 (5.6)	6 (7.6)
Specific developmental disorders of scholastic skills	F81	4 (4.4)	9 (4.2)	2 (2.8)	3 (3.8)
Pervasive developmental disorders	F84	1 (1.1)	0 (0.0)	0 (0.0)	1 (1.3)
Behavioural disorders	F90, F91	0 (0.0)	4 (1.9)	1 (1.4)	2 (2.5)
Emotional disorders	F92, 93, 94, 98	2 (2.2)	3 (1.4)	2 (2.8)	3 (3.8)
Tic disorders	F95	1 (1.1)	0 (0.0)	0 (0.0)	0 (0.0)
Neurotic, stress-related and somatoform disorders	F40–48	1 (1.1)	4 (1.9)	2 (2.8)	4 (5.1)
Manic episode	F30	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Schizophrenia	F20	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Eating disorders	F50	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Mild depressive episode	F32	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Mental and behavioural disorders due to use of alcohol	F10	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
F total number, median (IQR)		1 (0–1)	1 (0–1)	1 (1–1)	1 (1–1)**

*p-value<0.05 for the comparison between the two time periods for the same group; ** p-value<0.05 for the comparison between Greeks and refugees for the same time period

Table 3. Percentage of participants with factors influencing health status and contact with health services (Z axis) for refugees, immigrants and Greeks according to the two different time periods.

		Immigrants	Refugees	Greeks	Greeks
		2005–2009	2010–2014	2005–2009	2010–2014
	Z-axis	N (%)	N (%)	N (%)	N (%)
None		37 (41.1)	73 (33.8)**	37 (51.4)	55 (69.6)
Observation for suspected mental and behavioural disorders	Z03.2	2 (2.2)	1 (0.5)	0 (0.0)	0 (0.0)
General psychiatric examination, requested by authority	Z04.6	12 (13.3)**	64 (29.6)*	3 (4.2)	5 (6.3)**
Problems related to education and literacy	Z55	2 (2.2)	2 (0.9)	1 (1.4)	0 (0.0)
Problems related to housing and economic circumstances	Z59	0 (0.0)	6 (2.8)	0 (0.0)	0 (0.0)
Problems related to social environment	Z60	3 (3.3)	10 (4.6)	0 (0.0)	1 (1.3)
Problems related to negative life events in childhood	Z61	4 (4.4)	11 (5.1)	4 (5.6)	2 (2.5)
Other problems related to upbringing	Z62	9 (10)	19 (8.8)	6 (8.3)	4 (5.1)
Problems related to primary support group, including family circumstances	Z63	9 (10)	13 (6)	13 (18.1)	9 (11.4)
Problems related to certain psychosocial circumstances	Z64,65	2 (2.2)	0 (0.0)	0 (0.0)	0 (0.0)
Persons encountering health services for other counseling and medical advice	Z71	2 (2.2)	5 (2.3)	3 (4.2)	1 (1.3)
Problems relating to lifestyle	Z72	0 (0.0)	1 (0.5)	0 (0.0)	0 (0.0)
Family history of mental and behavioural disorders	Z81	6 (6.7)	5 (2.3)	5 (6.9)	0 (0.0)
Personal history of malignant neoplasm	Z85	0 (0.0)	1 (0.5)	0 (0.0)	1 (1.3)
Personal history of other diseases	Z86, 87	2 (2.2)	4 (1.9)	0 (0.0)	1 (1.3)
Personal history of risk-factors, not elsewhere classified	Z91	0 (0.0)	1 (0.5)	0 (0.0)	0 (0.0)
	2nd Z				
None		58 (64.4)	105 (48.6)*	55 (76.4)	67 (84.8)**
Observation for suspected mental and behavioural disorders	Z03.2	0 (0.0)	1 (0.5)	0 (0.0)	0 (0.0)
General psychiatric examination, requested by authority	Z04.6	0 (0.0)	2 (0.9)	0 (0.0)	0 (0.0)
Problems related to education and literacy	Z55	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Problems related to housing and economic circumstances	Z59	5 (5.6)	3 (1.4)	0 (0.0)	0 (0.0)
Problems related to social environment	Z60	1 (1.1)	9 (4.2)	1 (1.4)	0 (0.0)
Problems related to negative life events in childhood	Z61	5 (5.6)	30 (13.9)*	3 (4.2)	4 (5.1)**

Continues

Table 3. Percentage of participants with factors influencing health status and contact with health services (Z axis) for refugees, immigrants and Greeks according to the two different time periods *(Continued)*.

		Immigrants	Refugees	Greeks	Greeks
		2005–2009	2010–2014	2005–2009	2010–2014
	Z-axis	N (%)	N (%)	N (%)	N (%)
Other problems related to upbringing	Z62	12 (13.3)	19 (8.8)	2 (2.8)	0 (0.0)**
Problems related to primary support group, including family circumstances	Z63	6 (6.7)	21 (9.7)	6 (8.3)	6 (7.6)
Problems related to certain psychosocial circumstances	Z64,65	1 (1.1)	8 (3.7)	0 (0.0)	0 (0.0)
Persons encountering health services for other counselling and medical advice	Z71	1 (1.1)	5 (2.3)	1 (1.4)	0 (0.0)
Problems relating to lifestyle	Z72	0 (0.0)	2 (0.9)	1 (1.4)	0 (0.0)
Family history of mental and behavioural disorders	Z81	1 (1.1)	8 (3.7)	2 (2.8)	2 (2.5)
Personal history of malignant neoplasm	Z85	0 (0.0)	1 (0.5)	0 (0.0)	0 (0.0)
Personal history of other diseases	Z86, 87	0 (0.0)	2 (0.9)	1 (1.4)	0 (0.0)
Personal history of risk –factors, not elsewhere classified	Z91	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)
Z total number, median (IQR)		1 (0–2)	2 (0–3)*	0 (0–1)**	0 (0–1)**

*p-value<0.05 for the comparison between the two time periods for the same group; ** p-value<0.05 for the comparison between Greeks and refugees for the same time period

41.1% of immigrants. In particular, Z04.6 (general psychiatric examination, requested by authority) and Z61 (problems related to negative life events in childhood) as a second Z were statistically significant increased (29.6% and 13.9% respectively) compared to of those of immigrants (13.3% and 5.6% respectively). When we compare refugees with Greeks (2010–2014), refugees received more frequently Z, that is, 33.8% of refugees did not receive Z compared to 69.6 of Greeks. Additionally, Z04.6 was statistically higher in refugees compared to Greeks (29.6% and 6.3% respectively). Moreover, Z61 and Z62 (other problems related to upbringing) as second Zs were higher in refugees (13.9% and 8.8% respectively). Refugees received more than one Z per case compared to immigrants and Greeks. Comparing immigrants and Greeks (2005–2009), it was shown that Z04.06 was more frequent in immigrants (13.3% and 4.2%) and the total number of Z was greater in immigrants.

Discussion

This study showed that a significantly greater proportion of refugees who originated from Middle East referred to the DeCAP during 2010–2014, compared to the previous period. This finding is consistent with the current situation in Greece. According to the EU border agency Frontex,[9] in 2010, 9 out of 10 immigrants illegally entered Europe via Greece. Since 2008, Greece is the main host country for African and Asian refugee population. A total of 113,844 immigrants entered Greece during 2011, versus 76,697 during 2010.[10] According to Hellenic Police, the statistical data of illegal immigration 2006 to 2014 show a steady influx of illegal immigrants 50,000–100,000, whereas there was a significant increase in the number of refugees who entered to Greece (i.e. during 2006, 2007, 2011, 2013, a number of 299, 234, 1522 and 8,517 Syrian refugees arrived to Greece respectively).[11]

The results showed that refugees received a greater number of factors influencing health status (Z) compared to Greeks (2010–2014), and the proportion of refugees who had at least two Z was greater than immigrants and Greeks (2010–2014). It is common that refugees are recognized as one of the most vulnerable groups. They have to face multiple stressful events, unhealthy environmental conditions and disrupted access to health care.[12] It seems that after 2010, the majority of refugees who have referred to the DeCAP, seek for help mainly because of factors that related to health status and their social environment. On the other hand, it appears that Greek sample after 2010, receives a greater proportion of psychiatric diagnoses than refugees and this is consistent with studies that suggest the impact of economic crisis on child and adolescent mental health.[2]

Investigating the differences in psychiatric diagnoses between the groups, refugees had received fewer diagnoses related to neurotic, stress-related and somatoform disorders than immigrants. Pre-immigration trauma appears as a complex factor for the post immigration youth mental health, highlighting the role of collective trauma which may serve sometimes as a protective factor.[13] On the other hand, young refugees consist a group which is at risk for stress related difficulties as they experience trauma, forced migration, and stressors related to settlement, these difficulties may not be clinically evident because of their low rate mental health service access.[14] Refugees had also fewer diagnoses related to specific developmental disorders and specific developmental disorders of scholastic skills in comparison with Greeks (2010–2014). Additionally, refugees received less frequently diagnoses related to specific developmental disorders as comorbidity than Greeks at years 2010–2014. Mental health problems may be not their priority, their main concern is to ensure a stable living condition, food and to get a distinct future perspective. Additionally, their access may be disrupted by the restrictions in mental health services; refugees arrived to Greece in a period that mental health services deal with the negative consequences of economic crisis. Consistent to these interpretations are finding in Australia; despite multiple access points for mental health services, young refugees did not use frequently those services, even though the prevalence of refugees' mental health problems was high.[15]

In terms of the particular factors influencing health status (Z-axis), refugees received more often general psychiatric examination, requested by authority than immigrants and Greeks, whereas immigrants were more likely to get the aforementioned examination than Greeks (2005–2009). It appears that refugees have mainly access in mental health services because of their obligatory health examination process upon their arrival into Greece. Child and adolescent refugees face more problems related to negative life events than immigrants and Greeks. Additionally, the results showed that they had more problems related to upbringing than Greeks.

A number of limitations should be taken into consideration. Because of the retrospective study's design, we depended on the availability and accuracy of the medical records. Nevertheless, two child psychiatrists reviewed the files in order to re-examine the initial diagnoses and maximize the accuracy of the medical records. The results cannot be generalized since the data derived only from one health service. Nevertheless, the study was carried out at the DeCAP that belongs to the main pediatric hospital of Greece. An additional limitation refers to the language differences. Refugees who spoke English (even in an elementary level) communicate with child psychiatrists. This might lead to fewer diagnoses, since less information could be elicited. Interpreters were invited only when parents did not speak English. Overall, we examined psychiatric and psychosocial diagnoses in young immigrants and refugees in two time periods for Greece. Refugees after 2010 seek for help mainly because of social factors and factors related to their health status. These results highlight that refugee families seek for help not for psychiatric reasons which could reflect their different needs or their difficulty to have access in public health services comparing to immigrants and natives.

Ψυχική υγεία και ψυχοκοινωνικοί παράγοντες σε νεαρούς πρόσφυγες, μετανάστες και Έλληνες: Αναδρομική μελέτη

Κ. Τριανταφύλλου, Ι. Οθείτη, Γ. Ξυλούρης, Β. Μουλλά, Β. Ντρέ, Π. Κοβάνη, Ι. Γκέρτσου, Δ. Αναγνωστόπουλος

Παιδοψυχιατρική Κλινική, Γενικό Νοσοκομείο Παίδων «Η Αγία Σοφία», Ιατρική Σχολή, Εθνικό και Καποδιστριακό Πανεπιστήμιο Αθηνών, Αθήνα

Ψυχιατρική 2018, 29:231–239

Από το 1989, η Ελλάδα έχει δεχτεί χιλιάδες οικονομικούς μετανάστες, ενώ από το 2010 έχει γίνει χώρα υποδοχής προσφύγων από χώρες οι οποίες βρίσκονται σε κατάσταση πολέμου. Οι πρόσφυγες συχνά βιώνουν τραυματικά γεγονότα (π.χ. θάνατο μέλους της οικογένειας ή φιλικού προσώπου σωματική, συναισθηματική ή σεξουαλική κακοποίηση) και ταυτόχρονα προσπαθούν να διαχειριστούν τη φτώχεια, την επιθετικότητα ή τον ρατσισμό κατά τη διάρκεια του ταξιδιού αλλά και μετά την εγκατάστασή τους στη χώρα υποδοχής. Από την άλλη πλευρά, οι οικονομικοί μετανάστες αντιμετωπίζουν κυρίως τις σοβαρές δυσκολίες προσαρμογής στη χώρα υποδοχής, συμπεριλαμβανομένων του ρατσισμού, της φτώχειας, του διαφορετικού πολιτισμού και της γραφειοκρατίας. Ο στόχος της παρούσας αναδρομικής μελέτης μέσω αρχείων ήταν να διερευνηθούν οι διαφορές στην ψυχοπαθολογία μεταξύ μεταναστών, προσφύγων και Ελλήνων. Εξετάσαμε τις διαφορές στις ψυχιατρικές διαγνώσεις και στους παράγοντες που επηρεάζουν την κατάσταση της υγείας σε 4 ομάδες: (i) 90 φακέλους παιδιών μεταναστών τα οποία παραπέμφθηκαν στην Παιδοψυχιατρική Κλινική του Πανεπιστημίου Αθηνών, Νοσοκομείο Παίδων «Η Αγία Σοφία» κατά την περίοδο 2005–2009, (ii) 216 φακέλους παιδιών προσφύγων τα οποία προσήλθαν στην κλινική κατά την περίοδο 2010–2014. Τα παιδιά μεταναστών τα οποία παραπέμφθηκαν στην κλινική κατά την πρώτη περίοδο (2005–2009) προέρχονταν κυρίως από οικογένειες, οι οποίες ήταν οικονομικοί μετανάστες, ενώ τα παιδιά της δεύτερης περιόδου (2010–2014) ήταν πρόσφυγες από χώρες σε εμπόλεμη κατάσταση. Τα δεδομένα αυτά συγκρίθηκαν με 151 φακέλους παιδιών Ελλήνων αντίστοιχης ηλικίας και φύλου, των οποίων οι γονείς απευθύνθηκαν στην κλινική κατά τις αντίστοιχες περιόδους. Ειδικότερα, (iii) 72 φακέλους παιδιών Ελλήνων που απευθύνθηκαν στην κλινική κατά την πρώτη περίοδο, και (iv) 79 κατά τη δεύτερη περίοδο. Εξετάζοντας τους φακέλους των παιδιών αναφορικά με τις ψυχιατρικές διαγνώσεις (F) και τους παράγοντες οι οποίοι επηρεάζουν την κατάσταση της υγείας (Z), τα παιδιά πρόσφυγες έλαβαν μεγαλύτερο αριθμό Z σε σύγκριση με τους Έλληνες της περιόδου 2010–2014. Η αναλογία των προσφύγων που είχε λάβει τουλάχιστον δύο Z ήταν στατιστικά σημαντικά μεγαλύτερη από εκείνη των μεταναστών και των Ελλήνων (2010–2014). Αναφορικά με τις ψυχιατρικές διαγνώσεις, οι Έλληνες (2010–2014) έλαβαν περισσότερες διαγνώσεις συγκριτικά με τους πρόσφυγες. Τα αποτελέσματα της παρούσας έρευνας επισημαίνουν την στάση των προσφύγων, οι οποίοι δεν απευθύνονται στις υπηρεσίες κυρίως για ψυχιατρικούς λόγους, υπογραμμίζοντας τις διαφορετικές υπάρχουσες ανάγκες τους ή την πιθανή δυσκολία τους να έχουν πρόσβαση σε μια υπηρεσία ψυχικής υγείας συγκριτικά με τους μετανάστες και τους γηγενείς.

Λέξεις ευρετηρίου: Πρόσφυγες, μετανάστες, Έλληνες, παιδιά, έφηβοι, ψυχοπαθολογία.

References

1. Kotzamanis V, Karkouli. Migration flows into Greece over the last decade, 2016. Demo News 26. Available from http://www.tovima.gr/files/1/2016/04/metanaroes.pdf
2. Anagnostopoulos DC, Soumaki E. The state of child and adolescent psychiatry in Greece during the international financial crisis: a brief report. *Eur Child Adolesc Psychiatry* 2013, 22: 131–34, doi: 10.1007/s00787-013-0377-y.
3. Kolaitis G, Giannakopoulos G. Greek financial crisis and child mental health. *Lancet* 2015, 386: 335. Available from http://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736(15)61402-7.pdf
4. Hebebrand J, Anagnostopoulos D, Eliez S, Linse H, Pejovic-Milovancevic M, Klasen H. A first assessment of the needs of young refugees arriving in Europe: what mental health professionals need to know. *Eur Child Adolesc Psychiatry* 2016, 25: 1–6, doi: 10.1007/s00787-015-0807-0
5. Anagnostopoulos D, Heberbrand J, Eliez S, Doyle M, Klasen H, Crommen S et al. European Society of Child and Adolescent Psychiatry: position statement on mental health of child and adolescent refugees. *Eur Child Adolesc Psychiatry* 2016, 25:673–676, doi: 10.1007/s00787-016-0882-x
6. Fazel M, Reed RV, Panter-Brick C, Stein A. Mental health of displaced and refugee children resettled in high-income countries: risk and protective factors. *Lancet* 2012, 379:266–282, doi: 10.1016/S0140-6736(11)60051-2
7. Anagnostopoulos DC, Vlassopoulou M, Rotsika V, Pehlivanidou H, Legaki L, Rogakou E et al. Psychopathology and mental health service utilization by immigrants' children and their families. *Transcult Psychiatry* 2004, 41:465–486, doi: 10.1177/1363461504047930
8. World Health Organization. *ICD-10 classification of mental and behavioural disorders: Clinical descriptions and diagnostics guidelines*. World Health Organization, Geneva, 1992
9. Frontex. *Frontex deploys rapid border intervention teams to Greece* (Cited 15 November 2015). Available from http://frontex.europa.eu/news/frontex-deploys-rapid-border-intervention-teams-to-greece-PWDQKZ
10. Anagnostopoulos DC, Triantafyllou K, Xylouris G, Bakatsellos J, Giannakopoulos G. Migration mental health issues in Europe: the case of Greece. *Eur Child Adolesc Psychiatry* 2016, 25: 119–122, doi: 10.1007/s00787-015-0806-1
11. Hellenic Police (2016) *Statistical data of illegal immigration*. (Cited12 February 2017) Available from http://www.astynomia.gr/index.php?option=ozo_content&lang=%27..%27&perform=view&id=55858&Itemid=1240&lang=
12. Finney-Lamb C, Smith M. Problems Refugees Face When Accessing Health Services. NSW. *Publ Health Bull* 2002, 13: 161–163, doi: 10.1071/NB02065
13. Guruge S, Butt H. A scoping review of mental health issues and concerns among immigrant and refugee youth in Canada: looking back, moving forward. *Can J Publ Health* 2015, 106:72–78, doi: 10.17269/cjph.106.4588
14. Paxton GA, Smith N, Win AK, Mulholland N, Hood S. *Refugee status report. A report on how refugee children and young people in Victoria are faring*. Melbourne, Australia: Victorian Government, Department of Education and Early Childhood Development 201. Available from http://www.myan.org.au/file/file/useful%20resources/refugee-status-report.pdf
15. Australian Bureau of Statistics. *Mental health of young people, 2007*. (Cited19 July 2010) Available from http://www.abs.gov.au/AUSSTATS/abs@.nsf/Latestproducts/4840.0.55.001Main%20Features82007?opendocument&tabname´OSummary&prodno´O4840.0.55.001&issue´O2007&num´O&view´O

Corresponding author: K. Triantafyllou, Tel: (+30) 213 2013 258
e-mail: ptriantafillou@hotmail.com

Research article
Ερευνητική εργασία

Measuring authoritarianism in a Greek health care setting

Aik. Arvaniti, M. Livaditis, E. Kalamara, Th. Vorvolakos, A. Serdari, M. Samakouri

Department of Psychiatry, Medical School, Democritus University of Thrace, Thrace, Greece

Psychiatriki 2018, 29:240–248

Few studies have investigated the level of authoritarianism in the area of health. Staff with authoritarian personality may put in danger the quality of health services, especially towards stigmatized groups, such as the mentally ill and HIV positive people or the minority ethnic communities. Authoritarianism Scale (AS) by P. Heaven, is an instrument focusing on the multi-faced nature of authoritarianism and authoritarian behaviors. The aim of this study is to assess the psychometric properties of the Greek Authoritarianism Scale (AS) and to explore authoritarian attitudes of people employed in health services, in Greece. Initially, 600 individuals (health employees and medical students) were enrolled and completed AS. Additionally, 33 postgraduate students completed AS twice, in an interval of 30 days. In order to assess the psychometric properties of AS explanatory factor analysis was performed, which resulted in a 20-items scale and revealed five (5) factors: "Leadership", "Verbal hostility", "Military way of thinking", "Fear-Suspiciousness", "Achievement Motivation". Cronbach's alpha value overall was satisfactory (0.79), while values for every factor separately ranged from 0.55 to 0.76 showing moderate to satisfactory reliability. AS's test-retest reliability was high: ICC showed high to excellent agreement of AS total and factor scores between the two time points. Women and older people were less authoritarian while youngers, students and staff with primary education showed more authoritarianism. Psychiatric staff presents the lowest AS total score comparing to the other specialties. Significant differences in all categories of the sample arose in "Achievement Motivation". Greek version of AS, as evaluated in a Greek health staff sample, revealed interesting differences among participated subgroups and had overall satisfactory reliability. The influence of Authoritarianism on the major issues of our days, such as immigration flows, social and financial crisis, leads to the need of the existence of reliable measures of its assessment.

Key words: Authoritarianism scale, authoritarian personality, health staff.

Introduction

"Authoritarian Personality" is a complex and multifaced syndrome. Authoritarian people tend to: (a) comport with imposed conventional rules (conventionalism) and comply with the authorities who enforce them (authoritarian submission), (b) bring into focus those who do not agree with or violate the imposed norms and behave hard towards them (authoritarian aggression), (c) be opposed to compassion

and idealism (anti-intraception), (d) have superstitious beliefs and think or act rigidly (superstition and stereotypy), (e) behave in a way which states power and toughness, (f) be characterized by destructiveness and cynicism, (g) project their hidden motives or underlying personality characteristics to inferior minority groups (projectivity).[1]

Extensive research on authoritarian behavior and its dimensions, initiated in mid '60s, resulted to the construction of up to 37 scales, suggesting the variety of ways in which authoritarianism could be conceptualized.[2] One of the widely used and validated scales is the "Revised F Scale" or AS scale (Authoritarianism Scale) by P. Heaven[3] (1985), an instrument focusing on the multi-faced nature of authoritarianism.

Focusing on the area of health, staff with authoritarian personality may put in danger the quality of health services, especially towards stigmatized groups, such as the mentally ill and HIV positive people or the minority ethnic communities. Doctor's level of authoritarianism strongly correlates with their tendency to be rejective towards mentally ill patients.[4,5] Attitudes like opposing to social integration, rejection and prejudice towards the vulnerable groups should be a subject of intervention not only during university years but also as a continuing training of health staff.

We carried out this study in Alexandroupolis, a town in North Eastern Greece. The aim of the study is to assess AS's psychometric properties in a Greek Health Care Setting.

Method

Participants

The study consisted of two different samples.

I. The main sample of the study was selected from the University General Hospital of Alexandroupolis. On a predefined day, (i) 480 employees on shift in 11 randomly selected sectors of hospital, and (ii) 300 students of the Medical School, Democritus University of Thrace, which is linked to the above hospital, being present at the hospital, were contacted and informed about the aim of the study. Response rates were 75.2% and 79.6% for the health employees and medical students respectively, resulting in a sample of 600 people (361 employees and 239 medical students).

II. A second sample was selected among postgraduate students of "Social Psychiatry" course of the Democritus University of Thrace used in order to assess test retest reliability. A total of 33 students were selected and the difference with the above samples was that the answers were not anonymous. The students had to complete again the questionnaire 30 days later so to assess the test retest reliability of AS. Response rate was 100%.

The study was approved by the Ethical Committee of the University General Hospital of Alexandroupolis.

Material

Every participant received the following questionnaires:

1. A demographic characteristics form

The form included the following variables: sex, age, level of education (university, technological, secondary, and primary), occupation (doctor, nurse, other staff, student).

2. The Authoritarianism Scale (AS)

AS is an instrument designed to measure authoritarianism. A 20-item short version was yielded from an originally 35-item scale after its factor structure had been explored. The validity and reliability of AS scale have been supported by Heaven[3] (1985): (I) The whole scale internal consistency is 0.79, (II) The total score, being the sum of each item, ranges from 20 to 100; a higher score is indicative of a higher degree of authoritarianism, (III) The scale revealed four factors: (a) Dominance/Leadership, (b) Achievement motivation, (c) Interpersonal conflict, (d) Verbal hostility.

The answers to each item are given on a five point Likert scale: (1=almost never, 2=seldom, 3=occasionally, 4=often, 5=almost always). Six items are reversely scored.

For the purposes of the present study the scale was translated and back translated into Greek. A pilot survey was also performed indicating that the phrasing of the items 4, 5, 6, 24, 25, 28, 29, 30 and 31 needed to be reformatted appropriately in order to be more understandable and to be answered easier. The responses to these answers were also rephrased accordingly (1=I totally disagree, 2=probably disagree, 3=occasionally, 4=probably agree, 5=I agree).

Statistical analysis

Descriptive analysis of the samples was conducted, using means ± SDs for continuous variables and percentages for categorical variables.

The internal consistency of AS and its factors was checked using Cronbach's alpha reliability coefficient.

Explanatory factor analysis was applied. Data were assessed if appropriate for factor analysis by: (a) means of Pearson's Correlation, in order to test the relationship between each item with every other single item separately, (b) Item-rest Correlation, in order to test the relationship between each item with the rest of the items, and (c) KMO criterion (Kaiser-Mayer-Olkin), in order to examine the appropriateness of data for factor analysis. The number of factors extracted were decided by means of eigenvalue greater than one (>1) and Screeplot criterion. The items which loaded less than 0.4 (<0.4) in each factor were excluded.

Regarding test-retest reliability, correlations of each item of AS between the 1st and 2nd administration were examined using Spearman correlation coefficient and kappa coefficient. Mean values of items and of factors and total scores were compared between 1st and 2nd administration using Wilcoxon signed-rank test or t-test for paired data respectively. Correlations of AS total and factor scores between the 1st and 2nd administration were examined using Pearson correlation coefficient and Intra-Class Correlation Coefficient (ICC).

T-tests and ANOVA were used to test for differences in normally distributed continuous variables between two or more groups respectively. For multiple comparisons, Bonferroni correction was applied.

Statistical analysis was carried out using STATA 11.0 statistical package.

Results

Description of the samples

The majority of the main sample (n=600) were women (64.5%) (table 1). The mean age was 32±11 years, with age distribution being similar for both sexes (t=1.73, p=0.08). Around 60% of the sample was university graduates. As far as occupation is concerned, 41% of the sample was students. Analysis of the employee sample indicated that 58 (9.9%) worked in the psychiatric services.

Table 1. Demographic characteristics of the University General Hospital sample.

Demographic characteristics	means±SD	N (N=600)	(%)
Sex			
Men		206	35.5
Women		375	64.5
Age (years)	31.9±10.9		
≤30		297	51.7
>30		278	48.3
Levels of education			
Primary		16	2.7
Secondary		104	17.8
Technological		120	20.5
University		345	59
Occupation			
Student		239	40.8
Doctors		76	13.0
Nurses		130	22.2
Other Staff		141	24

Mean age of the post graduate students (test-retest sample) was 33±13 years, with 90.9% (n=30) of it being women. All subjects had education more than 12 years, with 78.8% of them being university graduates. The postgraduate students of "Social Psychiatry" sample differed to the University General Hospital sample in sex and educational status, but not in age.

Internal consistency of AS

Using the short form of 20 items and the factors proposed by the bibliography, only factor 1 ("Dominance/Leadership") exceeded the minimum 0.50 for Cronbach's alpha. Cronbach's alpha for the remaining factors ranged from 0.43–0.47, so the short form of AS showed low reliability to measure authoritarian attitudes

Factor analysis

Explanatory factor analysis in the initial complete form (35 items) was then run. Items 6, 7, 9, 10, 17, 20, 22, 24, 29 and 32 were excluded because they had low Item-rest Correlation (<0.20). Item 8 was also excluded because of its very low Pearson's Correlation almost with all items (r=0.20 or less).

Explanatory factor analysis was performed for the remained 24 items. Using eigenvalues (>1) and Scree plot criterion (figure 1) solutions with 6, 5, and 4 factors were checked and the 5 factors solution was finally selected.

The analysis resulted in a version with 20 items ("AS 20 revised") and 5 factors that explains 51% of the total variation:

Factor 1: "Leadership".

Factor 2: "Verbal hostility".

Factor 3: "Military way of thinking".

Factor 4: "Fear-Suspiciousness".

Factor 5: "Achievement motivation.

The results of explanatory analysis with each item loading on its own factor are shown on table 2.

Internal consistency of the revised form of AS ("AS-20 revised")

Cronbach's alpha value overall was satisfactory (0.79), while values for every factor separately ranged from 0.55 to 0.76 showing moderate to satisfactory reliability: (a) "Leadership": 0.76, (b) "Verbal hostility": 0.61, (c) "Military way of thinking": 0.60, (d) "Fear-suspiciousness": 0.55, (e) "Achievement motivation": 0.61.

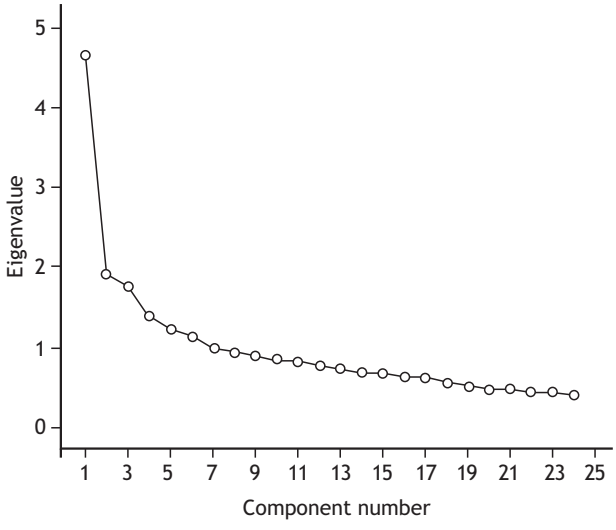

Figure 1. Scree Plot for factor analysis run on the AS on the 24 items.

Test-Retest Reliability of the revised form of AS (AS-20 revised)

Correlations of AS items between the first and second administration of the questionnaires ranged from high to excellent in most occasions (18 in 20 items). Kappa coefficient was moderate only for 2 items (item 16: kappa coefficient =0.57, and item 31: kappa coefficient=0.41). Mean item values did not differ statistically significant between the two time points, except in item 5, where mean values at 1st time point was statistically significant higher than at the 2nd (3.12±1.58 vs 2.79±1.49, t=2.34, p=0.03). Mean values of 2nd factor scores were statistically significant higher at the 2nd occasion compared to the first (17.2±2.5 vs 17.8±3.0, t=2.12, p=0.04). No statistically significant differences between total and remaining factor scores between time points were observed.

ICC showed high to excellent agreement of AS total (0.98) and factor scores (0.86–0.93) between the two-time points.

AS-20 revised & demographics

Regarding AS overall, women were less authoritarian than men and younger people more authoritarian than older people. There were statistically significant differences for AS total score and occupation: students were more authoritarian than other staff and nurses.

Men have higher scores in "Leadership", "Verbal hostility" & "Achievement motivation" than women.

Younger participants (<30) present higher scores in "Leadership" and in "Achievement motivation" than older ones.

Participants with university education had higher scores in "Achievement motivation" and primary educated had higher scores in "Military way of thinking" and "Fear-Suspiciousness".

Students and doctors have higher scores in "Leadership" and "Achievement motivation" than the other groups, while doctors present the lower score in "Fear-suspiciousness" (table 3).

Regarding the year of studies in Medical School: there are significant differences in "Military" scores between students of 1st year and students of 6th year (mean score=8.9±3.1 and mean score=7.6±2.6 respectively, p=0.009).

Table 2. Explanatory analysis with each item loading on its own factor.

AS Item	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
1	0.73				
2	0.66				
3	0.67				
4			0.81		
5			0.62		
11	0.66				
15	0.45				
16	0.47				
18			0.73		
19					0.71
21					0.58
23					0.79
25				0.81	
26	0.60				
27	0.42				
28				0.81	
30		0.45			
31		0.66			
33		0.75			
34		0.69			

Psychiatric stuff presents the lowest AS total score comparing with the other specialties (t=3.19, p=0.002).

Discussion

The dimensions of authoritarianism, derived by a population related to health services and health studying, consist of five factors yielded by explanatory factor analysis: "Leadership", "Verbal hostility", "Military way of thinking", "Fear-Suspiciousness" and "Achievement motivation". These dimensions are consistent with the conceptual definition of the scale and with the multi-faced authoritarianism syndrome as well. Therefore, it could be considered that there are strong indications of satisfactory structural validity of the scale.

Regarding some differences in the number and structure of factors revealed between the original and the present study, possible explanations may be attributed to: (a) the different social-cultural conditions between the Australian and Greek population, affecting some forms of behavioural expressions, (b) the distance in decades which might has influenced certain attitudes, (c) the difference in main samples (random sample of 224 residents in original Heaven's paper,[3] 600 employees in health area and students in the present study).

According to: (a) Cronbach's alpha value of total AS and of each factor separately, and (b) Test-retest reliability, the revised 20-item short form of AS showed moderate to excellent reliability.

Table 3. AS-20 revised and demographic characteristics.

	Sex			Age		
	Men (N=206)	**Women (N=375)**	**t, p**	**≤30 (N=297)**	**>30 (N=278)**	**t, p**
AS Total	60.3±9.7	57.7±9.4	t=3.41 p=0.001	60.0±9.8	57.0±9.2	t=3.68 p<0.001
F1	25.4±5.0	23.9±5.2	t=3.13, p=0.002	25.1±5.4	23.7±4.9	t=3.2 p=0.001
F2	11.1±3.0	10.5±2.9	t=2.34 p=0.02	10.7±3.1	10.6±2.9	t=0.45 p=0.66
F3	8.4±3.0	8.0±2.7	t=1.54 p=0.12	8.3±2.9	8.0±2.8	t=0.93 p=0.35
F4	4.4±1.9	4.5±1.7	t=1.05 p=0.30	4.4±1.7	4.6±1.8	t=1.13 p=0.26
F5	11.1±2.5	10.5±2.6	t=2.68 p=0.008	11.4±2.3	10.0±2.6	t=7.0 p<0.001

	Education					Occupation				
	Univers. (N=345)	**Technol. (N=104)**	**Secondar. (N=120)**	**Primary (N=16)**	**F, p**	**Doctor (N=76)**	**Nurse (N=130)**	**Student (N=239)**	**Other Staff (N=141)**	**F, p**
AS Total	57.1±9.7	56.9±9.1	57.4±8.9	55.8±11.2	F=0.01 p=0.9995	58.0±9.8	57.3±8.8 (*)	60.7±9.8 (*)(**)	56.4±9.5 (**)	F=6.89 P<0.001
F1	24.2±5.2	23.9±4.8	23.2±5.0	20.5±5.9	F=2.55 p=0.06	24.6±5.	23.8±4.9 (*)	25.5±5.3 (*)(**)	23.0±4.9 (**)	F=7.86 p<0.001
F2	10.3±3.3	10.8±2.3	10.6±2.8	9.9±4.1	F=0.77 p=0.51	10.5±3.5	10.8±2.5	10.8±3.1	10.4±2.9	F=0.69 p=0.56
F3	7.5±2.9 (*)	7.8±2.5 (*)	8.5±2.6 (*)	10.6±3.1 (*)	F=7.54 p<0.001	7.6±3.0	8.2±2.6	8.2±2.9	8.3±2.8	F=1.15 p=0.33
F4	4.0±1.7 (*)(**)	4.7±1.7	4.8±1.8 (*)	5.5±2.3 (**)	F=5.15 p=0.002	4.0±1.7 (*)(**)	4.7±1.7 (*)	4.4±1.7	4.7±1.9 (**)	F=3.70 p=0.001
F5	10.8±2.6 (*)	9.9±2.5	9.7±2.5 (*)	9.9±2.2	F=4.05 p=0.008	11.1±2.4 (**)	9.7±2.4 (*)(**)	11.6±2.2 (*)	9.9±2.7 (*)(**)	F=24.8 p<0.001

F1=Leadership, F2=Verbal Hostility, F3=Military Way of Thinking, F4=Fear-Suspiciousness, F5=Achievement Motivation
(*), (**)=p<0.05 with Bonferroni Correction

In our study we found that AS-20 revised scale shows the highest total scores in men, younger ones and students. Women are presented less likely than men to hold authoritarian attitudes. This finding confirms the social stereotype according to which men have to defend strongly their beliefs and to be committed to their targets but it is not consistent with a major part of psychological bibliography.

According to psychological studies authoritarianism is often found of wide extend among women who experience more psychological pressure associated with gender inequality.[6,7]

Students and young people found to be more authoritarian than other subgroups of occupation and of older people as well. According to sociologists, the process of growing older drives people to adopt traditional lifestyles, specifically, getting married and having children, and thus may lead to more traditional and authoritarian attitudes. This is not in accordance with our finding regarding age. Generally, the youngest adults present the lowest levels of attitude stability and this is apparent in our study; regarding the year of studies in Medical School, 1st year students have a significant difference in "Military way of thinking" scores comparing to the students of 6th year: the latter subgroup presented lower authoritarianism. This vulnerable tendency to authoritarianism may be susceptible to education and opposite interventions.[8] Here it must be said that 79% of those aged <30 were students. So, it is not clear whether the statistically significant differences which were found could be attributed to the profession per se or to the age.

Primary educated participants scored higher in "Military way of thinking" & "Fear-Suspiciousness" than the other subgroups, while the "other staff" scored higher in "Fear-suspiciousness". The "other staff" is the only category of employment which includes people with compulsory education. The factors "Fear-suspiciousness" and "Military way of thinking" refer to the prejudice and superstition which are the main features of the "authoritarian personality syndrome". Perhaps the most widely accepted and recurrent finding in this area is the relationship between low educational level and authoritarianism. Higher education makes people more open-minded and less conservative by exposing them to new ideas and information and by forcing them to interact with diverse individuals.[9–11]

Significant differences in all categories of the sample arose in "Achievement Motivation": men, younger, university educated and students had higher scores than the other subgroups. Achievement motivation can be defined as "the attainment for success or the avoidance of failure".[12] Perhaps doctors and medical students could not cope with so many years of study and training without "motivation" and could not survive the tough competition without "achievement".[13]

Psychiatric staff presents the lowest AS total score comparing to the other specialties. The mental health professionals, who participated in this study, work in a Social Psychiatry network. Their way of working focused on patient's needs and staff's participation in activities to improve community attitudes possibly release them from prejudices and fears and reinforce them to adopt less authoritarian attitudes.

The subgroups of this study scored differently in the various dimensions of authoritarianism. None of them had statistically significant higher scores in all factors comparing to the other groups. It is possible that the authoritarianism which a group expresses is not identical to the authoritarianism of a different group, because of the large number of authoritarianism dimensions.

The influence of Authoritarianism on the major issues of our days, such as immigration flows, social and financial crisis, leads to the need of the existence of reliable measures of its assessment.

The present study has some limitations: (a) the sample is not representative of a hospital's staff due to the fact that the sample collection was not stratified, (b) there is not any other Greek valid measure which could be used as a "gold standard", c) predictors like social economic and religious factors were not included.

Conclusions

In the present study, (a) the psychometric properties of AS were assessed, and (b) the authoritarian attitudes of a Greek sample, comprising staff occupied in a University General Hospital and medical students, were recorded using the aforementioned scale. This Greek version of AS (AS-20 revised scale), showed satisfactory reliability properties overall but further research and refining is needed in order to assess its psychometric properties in the general population.

Μέτρηση της αυταρχικότητας σε προσωπικό υγείας στην Ελλάδα

Αικ. Αρβανίτη, Μ. Λειβαδίτης, Ε. Καλαμάρα, Θ. Βορβολάκος, Α. Σερντάρη, Μ. Σαμακουρή

Πανεπιστημιακή Ψυχιατρική Κλινική, Ιατρική Σχολή, Δημοκρίτειο Πανεπιστήμιο Θράκης, Θράκη

Ψυχιατρική 2018, 29:240–248

Ελάχιστες μελέτες στη διεθνή βιβλιογραφία έχουν ασχοληθεί με το θέμα της αυταρχικότητας στον χώρο της υγείας. Το προσωπικό με αυταρχική προσωπικότητα μπορεί να θέσει σε κίνδυνο την ποιότητα των υπηρεσιών υγείας – ιδίως προς τις στιγματισμένες ομάδες, όπως είναι οι ψυχικά ασθενείς, οι οροθετικοί στον ιό HIV ασθενείς ή οι εκείνοι που ανήκουν σε εθνοτικές μειονότητες. Η κλίμακα αυταρχικότητας AS (Authoritarianism Scale by P. Heaven) είναι ένα εργαλείο που επικεντρώνεται στην πολύπλευρη φύση της αυταρχικότητας και των αυταρχικών συμπεριφορών. Σκοπός της παρούσας μελέτης είναι η αξιολόγηση των ψυχομετρικών ιδιοτήτων της AS και η διερεύνηση των αυταρχικών στάσεων των ατόμων που απασχολούνται στον τομέα των υπηρεσιών υγείας και των φοιτητών ιατρικής στην Ελλάδα. Αρχικά, 600 άτομα (361 υγειονομικοί υπάλληλοι και 239 φοιτητές ιατρικής) συμπλήρωσαν την AS. Επιπλέον, 33 μεταπτυχιακοί φοιτητές ολοκλήρωσαν την AS δύο φορές σε διάστημα 30 ημερών. Προκειμένου να εκτιμηθούν οι ψυχομετρικές ιδιότητες της κλίμακας AS διενεργήθηκε διερευνητική παραγοντική ανάλυση η οποία οδήγησε σε μια κλίμακα 20 ερωτήσεων-θεμάτων και ανέδειξε πέντε (5) παράγοντες: «Ηγεσία», «Λεκτική επιθετικότητα», «Στρατιωτικός τρόπος σκέψης», «Φόβος - Καχυποψία», «Επίτευξη κινήτρου - Στοχοπροσήλωση». Ο δείκτης εσωτερικής συνοχής Cronbach alpha κυμάνθηκε από 0,55 έως 0,79 για τους πέντε παράγοντες της AS και για τη συνολική κλίμακα. Σύμφωνα με τη μέθοδο εξέτασης-επανεξέτασης (Test-Retest) η AS είχε πολύ καλή αξιοπιστία στον επαναληπτικό έλεγχο. Οι γυναίκες και οι ηλικιωμένοι ήταν λιγότερο αυταρχικοί, ενώ οι νεότεροι, οι φοιτητές και το προσωπικό με υποχρεωτική εκπαίδευση εμφάνιζαν μεγαλύτερη τάση για αυταρχικότητα. Το ψυχιατρικό προσωπικό είχε τις μικρότερες βαθμολογίες στην κλίμακα αυταρχικότητας σε σχέση με το προσωπικό άλλων ειδικοτήτων. Ο παράγοντας της AS για τον οποίο παρατηρήθηκαν στατιστικά σημαντικά διαφορές μεταξύ όλων των υποομάδων είναι ο παράγοντας «Επίτευξη κινήτρου - Στοχοπροσήλωση». Η ελληνική έκδοση της AS, όπως εκτιμήθηκε σε δείγμα ελληνικού υγειονομικού προσωπικού, αποκάλυψε ενδιαφέρουσες διαφορές μεταξύ των συμμετεχουσών υποομάδων και είχε συνολικά ικανοποιητική αξιοπιστία. Η επιρροή της αυταρχικότητας στα μεγάλα ζητήματα της εποχής μας, όπως οι μεταναστευτικές ροές, η κοινωνική και οικονομική κρίση, οδηγεί στην ανάγκη ύπαρξης αξιόπιστων μέτρων αξιολόγησής της.

Λέξεις ευρετηρίου: Κλίμακα αυταρχικότητας, αυταρχική προσωπικότητα, προσωπικό υγείας.

References

1. Adorno TW, Frenkel-Brunswik E, Levinson DJ, Stanford RN. *The authoritarian personality*. Harper & Brothers, New York, 1950
2. Ray J. Alternatives to the F scale in the measurement of authoritarianism: a catalog. *J Soc Psychol* 1984, 122:105–119, doi: 10.1080/00224545.1984.9713464
3. Heaven PCL. Construction and validation of a measure of authoritarian personality. *J Pers Assess* 1985, 49:545–55, doi: 10.1207/s15327752jpa4905_17
4. Pestell R, Ball R. Authoritarianism among medicine and law students. *Aust N Z J Psychiatry* 1991, 25:265–269, doi: 10.3109/00048679109077744

5. Ralph W, Hood Jr. Cognitive and affective rejection of mentally ill persons as a function of dogmatism. *Psychologic Rep* 1974, 35:453–459, doi: 10.2466/pr0.1974.35.1.543
6. Brandt MJ, Henry PJ. Gender inequality and gender differences in authoritarianism. *Pers Soc Psychol Bull* 2012, 38:1301–1315, doi: 10.1177/0146167212449871
7. Peterson BE, Zurbriggen EL. Gender, sexuality, and the authoritarian personality. *J Pers* 2010, 78:1801–1826, doi: 10.1111/j.1467–6494.2010.00670.x
8. Duane A, Krosnick J. Ageing, cohorts, and the stability of sociopolitical orientations over the lifespan. *Am Sociol* 1991, 97: 169–195, doi: 10.1086/229744
9. Andersen R. Evans J. *Social-Political Context and Authoritarian Attitudes: Evidence from Seven European Countries*. Working Paper, Crest. (Cited October 28, 2016). Available from http://citeseerx.ist.psu.edu/viewdoc/download?rep=rep1&type=pdf&doi=10.1.1.194.5112
10. Middendorp CP, Meleon JD. The authoritarianism of the working class revisited. *Eur J Pol Res* 1990, 18:257–267, doi: 10.1111/j.1475-6765.1990.tb00232.x
11. Stubager R. Education effects on authoritarian-libertarian values: a question of socialization. *Br J Sociol* 2008, 59:327–50, doi: 10.1111/j.1468-4446.2008.00196.x
12. Eliot A, Church M. (). A Hierarchical Model of Approach and Avoidance Achievement Motivation. *J Pers Soc Psychol* 1997, 72:218–232,doi: 10.1037/0022-3514.72.1.218
13. Yousefy A, Ghassemi G, Firouznia S. Motivation and academic achievement in medical students. *J Educ Health Promot* 2012. 1:4, doi: 10.4103/2277-9531.94412

Corresponding author: Aik. Arvaniti, Tel: (+30) 25510 77391, 6948 271 662
e-mail: aarvanit@med.duth.gr

Special article
Ειδικό άρθρο

The DSM-ICD diagnostic approach as an essential bridge between the patient and the "big data"

G.B. Mitropoulos

5th Department, Psychiatric Hospital of Attika, Athens, Greece

Psychiatriki 2018, 29:249–256

The use of diagnostic manuals in psychiatry is generally necessitated by the lack of tests that would corroborate psychiatric diagnosis. Criticism towards the today prevailing DSM-ICD diagnosis traditionally regards among others such problems as hyponarrativity, biologism, "death of phenomenology", and a questionably valid over-fragmentation of diagnosis. Lately, and especially after the appearance of the 5th edition of DSM (2013), criticism focuses at such issues as lack of validity, having failed to adopt a dimensional model, not adequately relying on genetics and neurobiology, and impeding, rather than facilitating, research into the etiology of mental disorders, the DSM becoming an "epistemic prison". The former problems seem to derive from the fact that the operationalist criteria are often uncritically adopted as the ultimate authority in diagnosis, instead of being merely guides, as intended originally and explicitely; the latter problems have been made more evident since the emergence of the American RDoC research initiative, which not only points to an alternative, more valid classification of mental disorders, but also aspires to signal a move of psychiatry towards precision medicine, having as its main dogma that mental disorders are disorders of brain circuits, which are expressed as complex syndromes. In this paper, the historical and epistemological context of the emergence of DSM is examined; its achievement in terms of diagnostic reliability as well as clinical utility is not negligible, especially taken into consideration the climate of virtual diagnostic arbitrariness which characterized the (American) psychiatry before 1980, with obvious consequences for the authority of the specialty. Then, the potential of the new era of genetics, neurobiology and analysis of the "big data" for generating a novel approach to psychiatric diagnosis and classification is put into consideration, while it remains unknown in what way the findings of RDoC could lead and be translated into a new classification system. Moreover, the particularity of the psychiatric object, the clinical significance of the categorical approach to diagnosis, as well as the need for a "irreducible psychological level of explanation" are discussed. In our view, today, the DSM–ICD diagnosis lies between two different and potentially opposing demands and tendencies: on the one hand, the demand for the individual, subjective and phenomenological particularity of the mentally ill to be taken into consideration (a demand that sometimes underestimates the need for clinical communication); on the other hand, the (largely future) vision for more and more analysis of biological data in the name of a yet to be clarified personalized therapy (the very notion of diagnosis becoming potentially redundant). Finally, considering the particularity of the psychiatric object, we conclude that

the DSM-ICD approach, with its categorical diagnoses and its descriptive operational criteria, despite its inherent imperfections and inadequacies, continues to have a place in psychiatry as an essential bridge/interface between clinic and research data, as a common clinical language, and as an epistemic hub; and that prerequisites for diagnostic validity should be sought both in the cells of RDoC and in those theoretical approaches which examine human subjectivity as such, included phenomenology and psychoanalysis.

Key words: Diagnosis, DSM, categorical, big data, phenomenology, subjectivity.

Psychiatry's reliance on diagnostic manuals places it in a unique position among medical specialties and stems from the absence of useful diagnostic tests.[1] DSM and chapter V of the ICD are the prevailing diagnostic classifications today and, despite individual differences, share a common philosophy and character.[2] Here, the focus will be on the former classification, because its latest edition (DSM-5) is the most recent, and is the one that has provoked the greatest controversy. However, the discussion presented here may also of interest in view of the oncoming 11th revision of the ICD.

1. DSM-III and the need for communication

Common to all DSM editions is a categorical character of diagnosis: the various disorders are more or less distinct clinical syndromes which can be empirically described. However, it was the third edition (1980) of the manual that revolutionized psychiatric diagnosis both in America and internationally. DSM-III (as well as its successors) differed from its predecessors mainly in two ways: first, it was a-theoritical as regards the etiology of the disorders (especially avoiding the psychoanalytical etiological hypotheses which informed much of DSM-I and II) and, second, diagnoses did not rely on general, albeit representative, descriptions of clinical syndromes, but on clear diagnostic criteria.[3]

If DSM-I was a response to post-war statistical needs, DSM-III was born of the need for diagnostic reliability, that is the need for a common diagnostic language, which would be understood and used by everyone, in clinical practice, in medical education, in research and in epidemiology; in short, it was born of the need for communication. At the same time, DSM-III had the explicit goal to conform to the principles of evidence-based medicine, which at the time was still a movement in its first steps. It should be reminded that, according to its explicit goals, the evidence-based medical model "de-emphasizes intuition, unsystematic clinical experience, and pathophysiologic rationale as sufficient grounds for clinical decision making and stresses the examination of evidence from clinical research".[4]

During the 1970s American psychiatry was undergoing a serious "crisis of legitimization", which is reflected in the rise of the anti-psychiatric movement.[5] Studies conducted at that time showed that American psychiatrists not only tended to diagnose schizophrenia more easily than their British colleagues,[6] but that they could also not distinguish diagnostically pseudo-patients from schizophrenic patients.[7] The unreliability of American psychiatry is generally attributed to the complete domination of post-war psychiatry by (the American version of) psychoanalysis, as well as Adolf Mayer's biopsychosocial model, which resulted to a limited interest in accurate diagnosis and nosology among psychiatrists.[8,9] It should be noted that nothing of the kind ever took place in European psychiatry.

The new diagnostic manual would eventually appear in 1980, and its emphasis would be on description, the givens of observation and reliability. At the same time, and under the influence of the neopositivist philosophy of science, it would render psychiatric diagnosis operationalist.[10,11] DSM-III succeeded completely in restoring the authority of psychiatry as a medical specialty. Similarly, it achieved the goal of reliability, of a common language and of communication between clinicians. During the last 37 years, DSM has been an invaluably useful tool: its diagnostic categories facilitate diagnosis, clinical decisions, research on the treatment of mental disorders, medical training, epidemiology, as well as the evaluation of such mat-

ters as treatment efficacy, clinical course, remission, relapse and prognosis of mental disorders.[12] At the same time, DSM has received extensive criticism, the most salient points of which I will try to summarize.

2. Death of phenomenology, hyponarrativity and clinical prototypes

The intention of the architects of DSM-III (and the following editions) was to create a set of diagnostic criteria which would be merely "guides" to clinical diagnosis, which in any case is based on "clinical judgement" and requires "clinical training and experience".[3,13,14] Nevertheless, what actually happened, in the words of Nancy Andreasen, a distinguished member of the DSM-III task force, is that, after 1980, DSM "was universally and uncritically accepted as the ultimate authority in psychopathology and diagnosis"[8] and its descriptions ended up being used, not as abstractions, but as descriptions complete and sufficient in themselves. This resulted, among other things, in what Andreasen diagnosed as "the death of phenomenology" in America: research in psychopathology "is a dying (or dead) enterprise", medical students are taught a poor version of the clinical picture, and psychiatric history taking is limited to a dry checking of symptoms and signs.[8]

Besides that, many commentators accuse DSM of what they call "hyponarrativity". The term was coined in 2006 by psychiatrist John Z. Sadler, and means that, for the manual, signs and symptoms of a mental disorder can be assessed empirically and independently of the subjective experience of the patient, of the circumstances of his life, and of the personal meaning the patient ascribes to them as well as to his symptoms.[15] With the publication of DSM-5 in 2013, the discussion about hyponarrativity was exacerbated, as the manual's new edition was accused (exaggeratedly, in my opinion) that, by removing the bereavement exclusion from the diagnosis of major depression, it virtually abolishes the fundamental distinction between mourning and depression.[16–18]

Finally, a further criticism is that the DSM polythetic diagnostic criteria differ greatly from the way a clinician actually thinks when making a diagnosis: in reality, diagnosis as a mental process consists not in checking symptoms in a list, but in comparing between the particular case which is being examined and clinical prototypes, that is representative exemplars in the sense of Gestalt, which are invariably formed and acquired mentally and enriched continually with growing experience.[19,20] In this sense, and –I would say– fortunately, the way we diagnose in practice is never so "hyponarrative" as the DSM operationalism would have us believe. Nevertheless, the "loss of subjectivity and interpersonal context" of the patient (with which Castiglioni & Laudisa charge DSM) is not only a, so to speak, side-effect of operationalist diagnosis, but bears upon the philosophy evidence-based itself, to the extent that it considers the patient's subjectivity as "a disturbance factor to be eliminated in order to purify scientific analysis of mental disorders".[18]

3. Reliability and validity. Categorical and dimensional diagnosis

It has been said that the major weakness of DSM is its lack of validity.[21] To begin with, we ought to acknowledge that many DSM categories do display some construct validity.[2] It is nevertheless a fact that, as Allen Frances, architect of the DSM-IV, has remarked, "the DSM is necessarily more about forging a common language than finding a truth" (quoted in Haslam 2013).[22]

No-one denies that diagnostic reliability is of paramount importance, at least to clinical practice. Reliability does not guarantee validity; nevertheless, reliability is a pre-condition for validity.[22] Moreover, as Jeffrey Bedrick points out, "any diagnostic system has to abstract away the particular experiences of patients and form idealizations if its goal is to develop a shared framework for understanding and treating the individuals encountering the same condition".[23] Any diagnostic system thus aims to form a common conception of psychopathology, to function as a common means of communication and, be accepted by clinicians and researchers of varying theoretical orientations.[3] These goals are probably more likely to be achieved with diagnostic criteria which are clear and operationalist.[22] Finally, categorical diagnoses may be uncertain in terms of validity, but still be clinically useful.[12]

Despite all that, it is still a fact that the clearly descriptive and atheoretical approach of DSM had a number of side-effects: splitting of diagnosis, questionable grouping of disorders, proliferation of diagnostic categories, emergence of diagnoses of doubtful validity,[24,25] inflation of the vexing problem of comorbidity.[2] Even more importantly, it was proved that the consensual neo-Kraepelinian descriptions of syndromes not only failed to serve as an adequate basis for etiological research, but to a great extent they also became an unintended "epistemic prison" for clinical and translational researchers.[2]

Relevant to this subject is the trade-off between categorical and dimensional diagnosis. Although today most psychiatrists would generally agree on the usefulness of a dimensional model, there is much less agreement on exactly which dimensions should be used in diagnosis.[26] DSM-5 (much like DSM-IV), while acknowledging the (theoretical) necessity of a dimensional diagnosis, eventually retained its categorical character, since the proposal of alternative dimensional definitions was eventually considered to be "immature scientifically",[14] even in the domain of personality disorders.[26]

4. The RDoC as an alternative research paradigm

As a consequence of the above developments, the American NIMH prioritizes research which is not based on DSM diagnostic criteria. This rationale that justifies this policy is that "diagnostic categories based on clinical consensus fail to align with findings emerging from clinical neuroscience and genetics".[27] Holding as a fundamental tenet that "mental illnesses are brain disorders expressed as complex cognitive, emotional, and social behavioral syndromes",[28] the NIMH has since 2010 adopted the Research Domain Criteria (RDoC) initiative as its research framework. At present, "RDoC is not a diagnostic system, it's merely a framework for organizing research";[29] its explicit goal is, however, "to ultimately provide a framework for classification based on empirical data from genetics and neuroscience".[27] According to its initiators, the primary focus for RDoC is on neural circuitry, with levels of analysis progressing in one of two directions: upwards from measures of circuitry function to clinically relevant variation, or downwards to the genetic and molecular/cellular factors that ultimately influence such function.[27]

It is more than obvious that RDoC, over which there is considerable enthusiasm, focus on biology and observable behavior to a degree unthinkable for DSM, which has been traditionally accused of biologism, behaviorism or even a "decisive denial of the psychic reality" of the patient.[25] The vision of the architects of RDoC is clearly that, in the near future, psychiatry will not treat clinical syndromes, but characteristics or traits of individual patients identified through data mining across genomic, physiologic, imaging, and clinical levels;[29] a vision which most probably relegates to limbo the, very real in the view of many psychiatrists, need for an "irreducible psychological level of explanation".[30] Of course, no-one knows today in which way the RDoC findings will be able to lead and translate into a new classification system. Despite and beyond this uncertainty, RDoC seems to mark or to promise a shift of psychiatry towards the socalled "precision medicine".[29]

5. Precision psychiatry and the potential bypass of diagnosis

There is a partial overlap between the terms "precision medicine", "personalized medicine" and "systems medicine", all of which fall under the umbrella of what is called "big data approach". All these approaches generally try to identify statistical genotype-phenotype associations using large datasets and drawing on omics-based technologies, such as proteomics and metabolomics. They focus on the use of information technologies in medicine without depending on a detailed understanding of biological mechanisms.[31,32] This approach has been considered to be analogous to Amazon's recommendation engine, which utilizes a huge database of past purchasing behavior to predict which items individuals might want to purchase in the future.[31]

It seems that this approach, being a top-down modelling, considers the human body more or less as a "black box", the knowledge of the internal workings of which is rendered abundant vis-à-vis the information derived by big data analysis.[31] Such a neglect of the mechanical science of Galileo

and Harvey is a development of considerable importance not only for medicine but also for the philosophy of science in general. We may be heading towards a totally different conception or even a complete bypass of what we traditionally call "diagnosis".[33,34] Of course, the vision of precision medicine largely remains a future one. In oncology, however, clinical decisions already rely, at least partly, on computer algorithms.[35]

6. DSM as an essential bridge/hub between opposing approaches

As I see it, the landscape concerning psychiatric diagnosis today is roughly the following:

On the one hand, there is the requirement for a diagnosis which takes into consideration as much as possible the individual, subjective and phenomenological particularity of the mentally ill; sometimes, this requirement is expressed in a way which seems to underestimate the need for a common diagnostic language and communication between clinicians. On the other hand, there is the requirement for an approach of mental disorders which would increasingly rely on computational analysis of huge amounts of biological (genetic, neuroscientific) data; no doubt a future vision, the relation of which to diagnosis, clinical practice and clinical meaning[36] remains to be determined. Between these different and possibly contradictory exigencies and tendencies, DSM, with its categorical diagnoses and descriptive operationalistic criteria, despite its innate imperfections and inadequacies, seems to be a necessary bridge and, at the same time, the only means to define "clearly and distinctly" (to recall an old philosophical requirement) the ground and the object of psychiatry as a clinical medical specialty (figure 1).

Psychiatry as a medical specialty has its own, very particular, phenomenologically defined object[37] and, as a result, occupies an intermediate, albeit dominant, position between a psychoanalysis sensitive to the slightest subjective vibrations and a soulless analysis of neuroscientific data. Psychiatry draws valuable information both from theory and research; in order, however, for psychiatry to accomplish its very special clinical mission, psychiatric diagnosis must necessarily be made also in the way that is the most natural to human perception and cognition: namely, the categorical. The mistake of the past is that DSM was used to a great extent as the sole diagnostic truth. Maybe now that its authority, as well as categorical diagnosis as such, are greatly disputed, it is the right moment to redefine its role. DSM (in its present and future editions, and similarly ICD), far from being a law, a doctrine, or a "bible" of diagnosis, can and ought to be:

- A bridge or interface between clinic and research,[36] as well as psychiatric and psychoanalytical clinical practice
- A common diagnostic language, which will not preclude the special use of other languages/classifications[38]
- An epistemic hub,[24] which will mediate between different theoretical approaches of mental disorders (see also Adan-Manes & Ramos-Gorostiza 2014).[39]

No-one seriously doubts the need for clinical communication, and many believe that "a dichotomy between science and practice is false"[40] and that the notion of "utility" is not distinct from that of "predictive validity", but overlaps with it.[41] The scientific requirement for diagnostic validity is nevertheless a strong one. Mario Maj puts it elegantly:

Neurobiological mechanisms are likely to be involved in most or all mental disorders, but the level at which the psychopathological identity of these disorders emerges may be higher than that of the brain machinery, and the elucidation of the higher-order (e.g., psychological, cultural) processes which intervene may be crucial.[41]

Given the particularity of the psychiatric object, the presuppositions for diagnostic validity should no doubt be sought for in the cells of RDoC, but also in those theoretical approaches that examine human subjectivity as such, including phenomenology and psychoanalysis.

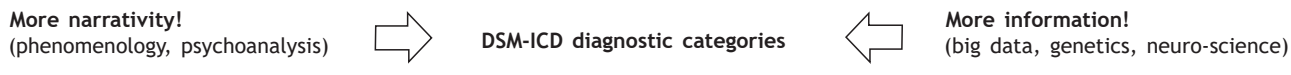

Figure 1. DSM-ICD as a bridge between opposing exigencies.

Η κατά DSM-ICD διάγνωση ως αναγκαία γέφυρα μεταξύ ασθενούς και "big data"

Γ.Β. Μητρόπουλος

5ο ΨΤΕ, Ψυχιατρικό Νοσοκομείο Αττικής, Αθήνα

Ψυχιατρική 2018, 29:249–256

Η χρήση διαγνωστικών εγχειριδίων στην ψυχιατρική επιβάλλεται από την έλλειψη εξετάσεων που να επιβεβαιώνουν την ψυχιατρική διάγνωση. Η διάγνωση κατά DSM-ICD, που είναι σήμερα η επικρατέστερη, έχει δεχτεί σημαντική κριτική, η οποία παραδοσιακά αφορά σε ζητήματα όπως, μεταξύ άλλων, η υποαφηγηματικότητα, ο βιολογισμός, ο «θάνατος της φαινομενολογίας» και η αμφίβολης εγκυρότητας υπερκατάτμηση της διάγνωσης. Τελευταία, και ιδίως μετά την 5η έκδοση του DSM (2013), η κριτική αυτή εστιάζει κυρίως σε ζητήματα όπως η έλλειψη εγκυρότητας, η μη-υιοθέτηση ενός διαστασιακού μοντέλου, στο γεγονός ότι το DSM δεν βασίζεται επαρκώς στη γενετική και τη νευροβιολογία, και στο ότι παρεμποδίζει μάλλον, παρά προάγει, την έρευνα πάνω στην αιτιολογία των ψυχικών παθήσεων, αποτελώντας μία «επιστημική φυλακή». Από τα παραπάνω ζητήματα, τα μεν μοιάζουν να απορρέουν από το γεγονός ότι τα οπερασιοναλιστικά (operationalist) διαγνωστικά κριτήρια συχνά υιοθετούνται κατά τρόπον άκριτο ως απόλυτη αυθεντία στη διάγνωση, αντί να αποτελούν απλώς οδηγούς, σύμφωνα με τη ρητή πρόθεση των δημιουργών τους· τα δε έχουν αναδειχθεί ιδιαιτέρως μετά την εμφάνιση του αμερικανικού ερευνητικού προγράμματος RDoC, το οποίο όχι μόνο δείχνει προς την κατεύθυνση μιας εναλλακτικής, περισσότερο έγκυρης, ταξινόμησης των ψυχικών διαταραχών, αλλά επίσης φιλοδοξεί να σημάνει τη μετατόπιση της ψυχιατρικής προς την λεγόμενη ιατρική ακριβείας, έχοντας ως βασικό δόγμα ότι οι ψυχικές διαταραχές είναι διαταραχές εγκεφαλικών κυκλωμάτων, οι οποίες εκφράζονται ως σύνθετα σύνδρομα. Σε αυτό το άρθρο, εξετάζεται καταρχάς το ιστορικό και επιστημολογικό πλαίσιο της εμφάνισης του DSM· τα επιτεύγματά του, όσον αφορά στη διαγνωστική αξιοπιστία (reliability) και την κλινική χρησιμότητα (utility), δεν υπήρξαν αμελητέα, ιδίως εάν λάβουμε υπόψη το κλίμα της οιονεί διαγνωστικής αυθαιρεσίας που χαρακτήριζε την προ του 1980 (αμερικανική) ψυχιατρική, με τις όποιες ευνόητες συνέπειες για το κύρος της ειδικότητας. Στη συνέχεια τίθεται υπό συζήτηση η δυνατότητα της νέας εποχής της γενετικής, της νευροβιολογίας και της ανάλυσης των «μεγάλων δεδομένων» (big data) να οδηγήσει σε μια νέα προσέγγιση της ψυχιατρικής διάγνωσης και ταξινόμησης, ενώ παραμένει προς το παρόν άγνωστο με ποιον τρόπο τα ευρήματά του RDoC θα μπορέσουν να οδηγήσουν και να μεταφραστούν σε ένα νέο ταξινομητικό σύστημα. Επιπλέον, γίνεται αναφορά στην ιδιαιτερότητα του ψυχιατρικού αντικειμένου, στην κλινική σημασία του κατηγορικού χαρακτήρα της διάγνωσης, καθώς και στην ανάγκη για ένα «μη αναγώγιμο ψυχολογικό επίπεδο εξήγησης». Κατά την άποψή μας, η διάγνωση κατά DSM-ICD βρίσκεται σήμερα μεταξύ δύο διαφορετικών και ενδεχομένως αντίθετων απαιτήσεων και τάσεων: αφενός της απαίτησης να λαμβάνεται υπ' όψη η ατομική, υποκειμενική και φαινομενολογική ιδιαιτερότητα του ψυχικά ασθενή (απαίτηση που ενίοτε υποτιμά την ανάγκη για κλινική επικοινωνία)· αφετέρου, του (εν πολλοίς μελλοντικού) οράματος για περισσότερη ανάλυση μεγαλύτερων βάσεων βιολογικών δεδομένων στο όνομα μιας αδιευκρίνιστης ακόμα εξατομίκευσης της θεραπείας (με την ίδια την έννοια της διάγνωσης να καθίσταται ενδεχομένως πλεονάζουσα). Τέλος, δεδομένης της ιδιαιτερότητας του ψυχιατρικού αντικειμένου, καταλήγουμε στο συμπέρασμα ότι η προσέγγιση των DSM–ICD, με τις κατηγορικές διαγνώσεις και τα περιγραφικά οπερασιοναλιστικά κριτήρια, παρά τις εγγενείς ατέλειες και ανεπάρκειες, εξακολουθεί να έχει θέση στην ψυχιατρική ως αναγκαία γέφυρα/διεπιφάνεια (interface) μεταξύ κλινικής και ερευνητικών δεδομένων, ως κοινή κλινική γλώσ-

σα, και ως επιστημικός κόμβος· και ότι οι προϋποθέσεις διαγνωστικής εγκυρότητας θα πρέπει να αναζητηθούν τόσο στα κελιά του RDoC, όσο και στις θεωρητικές προσεγγίσεις που εξετάζουν την ανθρώπινη υποκειμενικότητα ως τέτοια, συμπεριλαμβανομένης της φαινομενολογίας και της ψυχανάλυσης.

Λέξεις ευρετηρίου: Διάγνωση, DSM, κατηγορικός, big data, υποκειμενικότητα, φαινομενολογία.

References

1. Pearce S. DSM-5 and the rise of the diagnostic checklist. *J Med Ethics* 2014, 40:515–516, doi: 10.1136/medethics-2013–101933
2. Lilienfield SO, Treadway MT. Clashing Diagnostic Approaches. *Annu Rev Clin Psychol* 2016, 12: 435–463, doi: 10.1146/annurev-clinpsy-021815-093122
3. American Psychiatric Association. Diagnostic and statistical manual of mental disorders, 3rd ed (DSM-III), American Psychiatric Association, Washington DC, 1980, doi: 10.1017/s0033291700054088
4. Guyatt G, Cairns J, Churchill D et al. Evidence-based medicine. A new approach to teaching the practice of medicine. *JAMA* 1992, 268:2420–2425, doi: 10.1001/jama.1992.03490170092032
5. Mayes R, Horwitz AV. DSM-III and the revolution in the classification of mental illness. *J Hist Behav Sci* 2005, 41:249–267, doi: 10.1002/jhbs.20103
6. Kendell RE, Cooper JE, Gourlay AJ, Copeland JR, Sharpe L, Gurland BJ. Diagnostic criteria of American and British psychiatrists. *Arch Gen Psychiatry* 1971, 25: 123–130, doi: 10.1001/archpsyc.1971.01750140027006
7. Rosenhan DL. On being sane in insane places. *Clin Soc Work J* 1974, 2:237–256, doi: 10.1126/science.179.4070.250
8. Andreasen NC. DSM and the death of phenomenology in America: an example of unintended consequences. *Schiz bull* 2006, 33:108–112, doi: 10.1093/schbul/sbl054
9. Escobar JI, Marin H. Present and future of Classification Systems for Mental Disorders. In: Sadock BJ, Sadock VA, Ruiz P (eds) *Kaplan & Sadock's Comprehensive Textbook of Psychiatry*. Wolters Kluwer, Philadelphia, 2017: (Kindle edition)
10. Aragona M. Neopositivism and the DSM psychiatric classification. An epistemological history. Part 1: Theoretical comparison. *Hist Psychiatry* 2013, 24:166–179, doi: 10.1177/ 0957154x12450142
11. Schwartz MA, Wiggins OP. Logical empiricism and psychiatric classification. *Compr Psychiatry* 1986, 27:101–114, doi: 10.1016/0010-440x(86)90019-2
12. Kendell R, Jablensky A. Distinguishing between the validity and utility of psychiatric diagnoses. *Am J Psychiatry* 2003, 160:4–12, doi: 10.1176/appi.ajp.160.1.4
13. American Psychiatric Association. Diagnostic and statistical manual of mental disorders: DSM-IV, American Psychiatric Association, Washington DC, 1994, doi: 10.1007/springerreference_179660
14. American Psychiatric Association. Diagnostic and statistical manual of mental disorders (DSM-5®), American Psychiatric Association, Washington DC, 2013, doi: 10.1108/rr-10-2013-0256
15. Tekin Ş. Self-insight in the time of mood disorders: After the diagnosis, beyond the treatment. *Philosophy, Psychiatry, & Psychology* 2014, 21:139–155, doi: 10.1353/ppp.2014.0019
16. Tekin Ş. Against hyponarrating grief: Incompatible research and treatment interests in the DSM-5. In: Demazeux S, Singy P (eds) The DSM-5 in Perspective. Springer, London, 2015: 179–197, doi: 10.1007/978-94-017-9765-8
17. Tekin Ş, Mosko M. Hyponarrativity and Context-Specific Limitations of the DSM-5. Public Affairs Quarterly 2015 (cited 10 September 2017). Available from https://philpapers.org/rec/TEKHAC
18. Castiglioni M, Laudisa F. Toward psychiatry as a 'human'science of mind. The case of depressive disorders in DSM-5. *Front psychol* 2014, 5:1–12, doi: 10.3389/fpsyg.2014.01517
19. Parnas J. Differential diagnosis and current polythetic classification. *World Psychiatry* 2015, 14: 284–287, doi: 10.1002/wps.20239
20. Westen D. Prototype diagnosis of psychiatric syndromes. *World Psychiatry* 2012, 11:16–21, doi: 10.1016/j.wpsyc.2012.01.004
21. Research Domain Criteria. Wikipedia, The Free Encyclopedia 2017 (cited 12 September 2017). Available from: https://en.wikipedia.org/wiki/Research_Domain_Criteria#cite_note-RDoCmatrix-8
22. Haslam N. Reliability, validity, and the mixed blessings of operationalism. In: Fulford KWM, Davies M et al (eds) *The Oxford handbook of philosophy and psychiatry*, Oxford, OUP, 2013:987-1002, doi: 10.1093/oxfordhb/9780199579563.001.0001
23. Bedrick J. Diagnosis and the individual. Philosophy, Psychiatry, & Psychology 2014, 21:157–159, doi: 10.1353/ppp.2014.0020
24. Tsou JY. DSM-5 and psychiatry's second revolution: Descriptive vs. theoretical approaches to psychiatric classification. In: Demazeux S, Singy P (eds) *The DSM-5 in Perspective*. Springer, London, 2015: 43–62, doi: 10.1007/978-94-017-9765-8
25. Bercherie P. Pourquoi le DSM? L'obsolescence des fondements du diagnostic psychiatrique. *L' information psychiatrique* 2010, 86:635–640, doi: 10.3917/inpsy.8607.0635
26. Aragona M. Epistemological reflections about the crisis of the DSM-5 and the revolutionary potential of the RDoC project. Dialogues in Philosophy. *Mental Neuro Sciences* 2014, 7:11–20 (cited 16 September 2017) Available from http://www.crossing-dialogues.com/Ms-A14-08.htm
27. Insel T. *Post by Former NIMH Director Thomas Insel: Transforming Diagnosis 2013* (cited 11 September 2017) Available from: https://www.nimh.nih.gov/about/directors/thomas-insel/blog/2013/transforming-diagnosis.shtml
28. *The National Institute of Mental Health Strategic Plan*. The National Institute of Mental Health 2015 (cited 14 September

2017) Available from: https://www.nimh.nih.gov/about/strategic-planning-reports/introduction.shtml

29. Insel TR, The NIMH research domain criteria (RDoC) project: precision medicine for psychiatry. *Am J Psychiatry* 2014, 171:395–397, doi: 10.1176/appi.ajp.2014.14020138
30. Stier M, Schoene-Seifert B, Róther M, Muders S. The philosophy of psychiatry and biologism. *Front Psychol* 2014, 5:1032, doi: 10.3389/fpsyg.2014.01032
31. Fischer T, Brothers K, Erdmann P, Langanke M. Clinical decision-making and secondary findings in systems medicine. *BMC Medical Ethics* 2016, 17:32, doi: 10.1186/s12910-016-0113-5
32. Alyass A, Turcotte M, Meyre D. From big data analysis to personalized medicine for all: challenges and opportunities. *BMC Medical Genomics* 2015, 8:33, doi: 10.1186/s12920-015-0108-y
33. Finn ES, Constable TR. Individual variation in functional brain connectivity: implications for personalized approaches to psychiatric disease. Dialogues *Clin Neurosci* 2016, 18:277. Available from: https://www.dialogues-cns.org/contents-18-3/dialoguesclinneurosci-18-277
34. Croft P et al. The science of clinical practice: disease diagnosis or patient prognosis? Evidence about "what is likely to happen" should shape clinical practice. *BMC Medicine* 2015, 13: 20, doi: 10.1186/s12916-014-0265-4
35. Doyle-Lindrud S. Watson will see you now: a supercomputer to help clinicians make informed treatment decisions. *Clin J Oncol Nurs* 2015, 19:31–32, doi: 10.1188/15.cjon.31–32
36. First MB. Preserving the clinician-researcher interface in the age of RDoC: the continuing need for DSM-5/ICD-11 characterization of study populations. *World Psychiatry* 2014, 13: 53–54, doi: 10.1002/wps.20107
37. Parnas J, Sass LA, Zahavi D. Rediscovering psychopathology: the epistemology and phenomenology of the psychiatric object. *Schiz Bull* 2012, 39:270–277, doi: 10.1093/schbul/sbs153
38. Fulford KWM. The Next Hundred Years: Watching our Ps and Qs. In: Fulford KWM, Davies M et al. (eds) *The Oxford handbook of philosophy and psychiatry*. Oxford University Press, Oxford, 2013:1–11, doi: 10.1093/oxfordhb/9780199579563.001.0001
39. Adan-Manes J, Ramos-Gorostiza P. Should definitions for mental disorders include explicit theoretical elements? *Psychopathology* 2014, 47:158–166, doi: 10.1159/000351741
40. Reed GM, First MB, Medina-Mora ME, Gureje O, Pike KM, Saxena S. Draft diagnostic guidelines for ICD-11 mental and behavioural disorders available for review and comment. *World Psychiatry* 2016, 15:112–113, doi: 10.1002/wps.20322
41. Maj M. The need for a conceptual framework in psychiatry acknowledging complexity while avoiding defeatism. *World Psychiatry* 2016, 15:1–2, doi: 10.1002/wps.20291

Corresponding author: G.B. Mitropoulos, 6 Adonidos street, GR-145 64 Athens, Greece, Tel: (+30) 6944 181 286
e-mail: geobmitro@yahoo.gr

Review
Ανασκόπηση

Psychoanalytic psychotherapy in times of social crisis: The impact on therapeutic relationship

Eu. Soumaki,[1] D.C. Anagnostopoulos[2]

[1]The "Spyros Doxiadis" Diagnostic & Therapeutic Unit for Children,
[2]Department of Child Psychiatry, Medical School, National and Kapodistrian University of Athens,
Children's Hospital of Athens "Agia Sofia", Athens, Greece

Psychiatriki 2018, 29:257–263

Discussion on defining therapy factors develops along two lines: one focusing on the interpretation and another focusing on the relationship. Changes in the socio-economic circumstances, cultural particularities, dismissal of institutions, constant negation, lack of boundaries, confusion of roles, various family secrets revealed due to "collapses," major conflicts, violence and aggression filling the individual as part of both the internal and the external reality – all are known risk factors causing the individual to experience trauma either due the nature of the received stimuli/threats or due to the loss of the enabling/supportive environment. Also, this situation affects the analyst's psychic structure as well. The analyst will have to strike a balance between their own internal objects, which under the circumstances activate the analyst's own suppressed conflicts, and the multiple intense projections of the analysand. First of all, the internal struggles taking place in the analyst's psychism regarding their own griefs, frustrations, and conflicts concerning their adjustment to the current reality, as well as individual griefs relating to their narcissistic doubts and the projections of omnipotence they receive. The question is whether the analyst will go through a destabilization process, being overwhelmed by psychic stimuli in multiple levels, or react with "manic defences" resulting, perhaps, in the prevalence of anti-psychoanalytic dynamics on the transference - countertransference axis. A second line of thought involves the internal struggles taking place in the psychic structure of the analysand, and often the "meeting" of the latter with the analyst through the "parallel process." Finally, we think about the multiple – due to psychic tensions – instances of enacting (or acting out) and the setting being put to the test in terms of frequency, fees, difficulty of symbolic processing, and aggressiveness towards the interpretations and demands of the analyst as object introjected to the superego and requiring "compliance" to certain standards, the setting principles. We refer to the internal processes resulting from conflicts in the therapists' psychic structure as regards their own internal objects, life experiences, frustrations in relation to the parent/authority, adolescent conflicts with the system, political views, life philosophy, and sense of fairness. Issues are more complex in the therapy of children and adolescents. Their mental condition is affected by that of their parents. When it is hard for

the therapist to become an object of identification and idealization, since all institutions around them have been undermined, confirming the adolescent's guilt-ridden fantasy aggression? How, then, will the therapeutic process move forward when models crumble; when parents are being proved weak and unable to receive the aggressiveness of the independence-gaining process; and when reverie fantasies cease to exist? Today, more and more often we see adolescents who cannot develop because they are involved in their own parents' unprocessed situations. Despite the aforementioned difficulties, the therapy space as a setting with boundaries and empathetic functions could function as a "womb" that will give birth to new mental life. And this life will bloom as long as therapists preserve intact within them their values and principles – and their ability for reverie!

Key words: Transference, countertransference, psychoanalyst, social crisis, therapy, children, adolescent.

"We both were looking at the same stone.
We were looking at each other through the stone…"
("Maria Nefeli", Odysseus Elytis)

Introduction

No major procedural transgressions are to be expected from the patient in a therapy with a sufficiently analyzed and well-trained psychoanalyst. What is of interest is the way that subtle nuances, different qualities in the character of the psychoanalyst/therapist, common behaviours, and relatively conflict-free behaviours might affect the therapeutic process.

Discussion on defining therapy factors develops along two lines: one focusing on the interpretation and another focusing on the relationship. Based on observations of the mother-baby transaction, as child psychiatrists we believe that it takes more than a flawless interpretation for psychic change to occur – and that additional element is an integral part of the intersubjective relationship between the analyzed and the analyst. According to Stern (1998),[1] this "implicit knowledge of relationships" is acquired unconsciously and is beyond conscious attention and experience. The unconscious dimensions of this relationship knowledge, called "unthought known" by Bollas (1987),[2] are these "meeting" moments defined as intersubjective moments in analysis.

The "good enough" analyst is able to effectively work with each patient's set of fantasies and defences in a wide range of patients and situations.[3] What defines the particular limits and strong or weak points of the analytical work is the analyst's individual characteristics.

Countertransference reactions are usually manifested when there are similarities in the internal conflicts of the analyzed and the analyst or when, through projective identification, patients unconsciously choose that analyst's side which matches their own perspective on early relationships and attach their transference there or when this "match" facilitates or hinders the therapeutic process, depending on the specific patient-analyst pair. The concept of this special communication between patient and analyst along the transference-countertransference axis is involved in transference acting out and countertransference enactment; overlaps with the notion of projective identification; touches upon the concept of empathy; and highlights blind spots with an unconscious meaning in the psychisms of both parties.

Socio-economic crisis and mental health

The socio-economic crisis affects mental health in two interconnected ways, i.e. by undermining protective factors or by increasing risk factors.

In the current situation, changes in the socio-economic circumstances, cultural particularities, dismissal of institutions, constant negation, lack of boundaries, confusion of roles, various family secrets revealed due to "collapses," major conflicts, violence and aggression filling the individual as part of both the internal and the external reality – all are known risk factors causing the individual to experience trauma either due the nature of the received stimuli/threats or due to the loss of the enabling/supportive environment.

The impact on the analyst, the analyzed, and the therapeutic setting

In our opinion, this situation cannot but affect the analyst's psychism as well. The analyst will have to strike a balance between their own internal objects, which under the circumstances activate the analyst's own suppressed conflicts, and the multiple intense projections of the analysed. Our thoughts as analysts will unfold along the following lines:

First of all, the internal struggles taking place in the analyst's psychism regarding their own griefs, frustrations, and conflicts concerning their adjustment to the current reality, as well as individual griefs relating to their narcissistic doubts and the projections of omnipotence they receive. The question is whether the analyst will go through a destabilization process, being overwhelmed by psychic stimuli in multiple levels, or react with "manic defences" resulting, perhaps, in the prevalence of anti-psychoanalytic dynamics on the transference - countertransference axis.

Our second line of thought involves the internal struggles taking place in the psychism of the analyzed, and often the "meeting" of the latter with the analyst through the "parallel process".[4]

Finally, we think about the multiple – due to psychic tensions – instances of enacting (or acting out) and the setting being put to the test in terms of frequency, fees, difficulty of symbolic processing, and aggressiveness towards the interpretations and demands of the analyst as object introjected to the superego and requiring "compliance" to certain standards, the setting principles.

The internal "turbulence" in the therapist's psychism

We refer to the internal processes resulting from conflicts in the therapist's psychism as regards their own internal objects, life experiences, frustrations in relation to the parent/authority, adolescent conflicts with the system, political views, life philosophy, and sense of fairness.

Furthermore, to their own personal, professional, and financial frustration resulting from years of effort aimed at approaching an – often highly placed – ideal self.

At another level, feelings of anger or guilt or threat emerge within the framework of personal persecutions inflicted by the system in an irrational way, e.g. through bureaucratic and often cursory receipt audits and/or the frequent imposition of fines by the IRS, i.e. situations of control evoking the threat of an intruding authority and bringing to the surface the vestiges of previous developmental phases.

All this often leads to the collapse of the sense of narcissistic omnipotence which is strong mainly within those colleagues that have chosen to work in an individual setting, without associating very much with the elements of another external reality – that of the public sector, insurance funds, psychiatric institutions, and the difficulties of the psychiatric reformation.

Under these circumstances, the therapist's ego must mourn its false relationships, mainly with its "ideal" part, bringing out intense emotions and taking part in mourning processes that will continue to unfold until the new redefinition.

The psychoanalytical relationship and the change of dynamics in the session

The therapist comes into the session with this internal background; a therapist more upset, perhaps nursing the silent fear of whether they will be master of themselves in the challenge that the psychoanalytical condition makes us face at every instance.

The "parallel process"

During the session, the meeting moment comes with the parallel emergence of relevant – but obviously more serious – issues of the analyzed. However, it is often harder when the meeting moment becomes a moment of "matching" between the analyst and the analyzed in a parallel process. It is then that the analyst must neither act as if seduced by the emotional manifestations of the analyzed nor be rendered immobile by guilt that they themselves have caused these manifestations.[5] This "meeting moment" is an obstacle that could halt the process, requiring an immediate external supervision.

The psychoanalyst "in transition"

Therefore, during this phase when they feel "in transition," and within the framework of their own adjustment to the impending situation, the analyst

also receives the attacks of the analyzed as a result of their own processes, either of regression in the face of new threat and annihilation anxieties or in the psychically more mature situations of mourning and depression. This therapist-parent is no longer omnipotent, cannot offer any solutions, cannot protect in a fantasy level; they are not being idealized either by the analyzed or by themselves.

The narcissistic issue

Serious issues of narcissistic doubt often lead them to feel frustration, loneliness, being gridlocked, and often angry. This is a special form of mourning process, of their own neurosis, according to Freud (1923).[6] If the transferential projection of omnipotence is combined with the analyst's tendency for omnipotence and omniscience, they are then led to "manic defences/ the manic triad", i.e. triumph, control, and contempt, when anti-psychoanalytic transference/countertransference dynamics become prevalent.[7]

The threat to the intermediate space

According to Winnicot (1971),[8] analysis is an intermediate space where the playing fields of the two subjects meet and the rules of play require from us to accept that all events within this structure (thoughts, emotions, acts, silence, etc.) do not imply what they would outside the structure. A prerequisite for this is that the analytical attitude provides a clear guarantee of safety, for if challenges are left unchecked, they will infiltrate and destroy the illusionary structure.[9]

Fairbairn (1958)[10] describes the patient's attempt to subdue and place their relationship with the analyst in their own closed system through transference; if this attempt runs into the analyst's inability to manage it, it creates the risk that the gap between the analyst's subject and its function might collapse. The analytical situation is then at permanent danger of deteriorating into a real situation.[11] This is the result of the violation of the transitional/intermediate space and the obliteration of the symbolic function.

We believe that in this new phase the analyst must process their intense emotional readjustments, the flood of psychic stimuli and stirrings from patients, and the presence of too many feelings of guilt (or lack thereof) regarding the experience of deprivation associated with the hard and unyielding nature of the setting's boundaries. Therefore, it is a mourning process taking place at multiple levels. In the framework of an assimilation process for these stimulations, analysts feel, think, are supervised if necessary, share within their professional institutions/associations, and process through seminars and/or publications such as this in order to restore the associative connections that would deal with new challenges in therapy and produce creative content, allowing the therapy to move forward.

The setting and the therapeutic relationship

The boundaries of the external setting are now in confusion, while the boundaries of the internal setting of the two protagonists (analyst/analyzed) under reconfiguration, inevitably testing the therapeutic relationship against the setting as well.

It is accepted that the setting's main features are stability, consistency, predictability, confidentiality, and continuity. Even though the setting comprises these constants, i.e. it must undoubtedly be and remain stable and unchanging, at times it should also be flexible, adjusting to the patient's needs when these have been understood and evaluated by the analyst.[12]

Environmental influences are unavoidable (parents, health issues, socio-economic and/or political changes, etc.), but must be kept at a minimum. Obviously, the more regressed a patient is the greater the importance of the analytical setting.

Therapy is not an issue linked to the degree of the setting's perfection. Besides, the "perfect setting" would leave the patient's unvoiced, psychotic parts unobserved and untouched.

The breakdown and restoration of the setting is an essential part of the analytical work and a major factor for genuine – not superficial – analysis.[13]

The often-repeated statement that the analyst is the guarantor of the setting does not imply a "mandatory" inflexibility or a mirroring coldness, distance, and silence, since analysts offer their own psychic setting as a cornerstone for the analytical process, guaranteeing that they assume full responsibility. In this we are in line with A. Green (2005)[14] who proposed that when the setting needs to be radically modified, the therapist must turn to an internal setting – that of their own internalized analysis – and enforce it, as it were, on the current relationship.

The setting is now put to the test regarding frequency, fees, content, and resistances. Digging deeper becomes more difficult when external pressures overwhelm the psychism, and interpretations may be low-key or aggressive, depending on the analyst's own processes.

The analyst is at times projected as an ally, a giving, "good enough mother» who will relieve anxieties, and at other times as a depriving mother, a sadistic institution who asks of you too much, who asks of you to be deprived in order to get what you consider self-evident: her availability.[3] "You need it, but not like that." This is the regression of a psychism seeking for a breast unconditionally, with no limits. This illusion of omnipotence by the regressed psychism, in contrast to the rigid omnipotence of the analyst-breast, is sure to cause threat anxieties to the analyzed, both in relation to their own projected driven aggressiveness but also in relation to the revenge on the part of the other.

The anger of the analyzed about the setting projected on money is associated with parental demands introjected to the superego of the analyzed. The therapist as object (mother or father) interjected to the superego requires conformation to certain standards.

The discussion about money –sometimes conducted, others avoided– is experienced as a "prohibition" of anger that intensifies the latter, in combination with an introjected sadistic, condescending father which the analyzed must not attack in order to meet the requirements for character perfection and to feel strong.

Linking the management of the fee issue with the archaic objects introjected to the superego of the analyzed contributes to the experiencing of a difference between fantasy and reality. At this point, session delays and instances of acting out start occurring and the therapy is often stopped.

We wonder whether the symbolic processing of enactment (and acting out) instances might open internal communication channels among disconnected states or parts of the self, so that they can be understood as a result of conflicting unconscious procedures, when the external reality is also so uncertain, destructive, and unreliable.

We wonder whether in the current phase it is possible for countertransference difficulties to be externalized so that the analyst might be freed from the limitations described above.

In the current violent social developments, people feel a huge pressure aimed at depriving them of their freedom to think and seek alternatives at every level of individual and social life. This situation is reflected in the interpretative process as well. Due to special circumstances, the interpretative understanding moves from the partial and peripheral to the primary and central.

The analyst on one hand must investigate what is primary and central, making it conscious through interpretation, while on the other becomes involved in the partial and peripheral psychic life, which constitutes the truth of real life. At that time, the analyst will consider their thematic choices as well as the time of uttering transference interpretations as a tool for motivating psychic change.

Will they use, in order to achieve psychic change, the therapeutic alliance and empathy or the mutative interpretation, even though the analysed is assaulted by a painful external reality?[1,11] For example, how can fundamental issues of bond insecurity be interpreted when unemployment and the ensuing major uncertainty overwhelms the psychism due to its real dimensions?

Therapy in children and adolescents

Issues are more complex in the therapy of children and adolescents. Their mental condition is affected by that of their parents. For example, parents suffering from anxiety disorders are unable to absorb their child's anxieties; depressive parents cannot contain the child's concerns; and guilt-ridden parents will transfer their own unresolved conflict issues to the child. These parents often communicate contradictory messages and find it difficult to create a stable environment with continuous caring emotions. The result is children neglected or overprotected, immature, involved in states where roles are confused, while the satisfaction of their needs is inhibited. This leads to the formation of inhibited psychisms, immobilized as a defence in order to survive, or psychisms expressing themselves violently, acting out their unvoiced feelings of pain and anger and, in many cases, eventually creating the image of a false self.

In such cases, the need for a multifaceted therapeutic approach addressed to both the child and the parents is urgent and imperative. But how can parents respond to such a therapy contract when they have no insurance fund benefits, and what will be the therapist's reaction when parents quickly stop their own therapeutic work, giving priority to their child's therapy? (A therapy essentially impossible and meaningless without their own participation.)

And what will become of adolescent therapies? When it is hard for the therapist to become an object of identification and idealization, since all institutions around them have been undermined, confirming the adolescent's guilt-ridden fantasy aggression?

How, then, will the therapeutic process move forward when models crumble; when parents are being proved weak and unable to receive the aggressiveness of the independence-gaining process; and when reverie fantasies cease to exist? Today, more and more often we see adolescents who cannot develop because they are involved in their own parents' unprocessed situations.

This is a serious issue, since it is a daily, constant negation by adolescents, deeply questioning the ability for therapeutic response when the therapist, under the burden of reality, shares exactly the same negation. This inability of parents and/or therapists to process mourning is a very real risk factor for the transgenerational transmission of psychopathology in the immediate future.[15]

Conclusion

Despite the aforementioned difficulties, the therapy space as a setting with boundaries and empathetic functions is always a womb that will give birth to new mental life. And this life will bloom as long as therapists preserve intact within them their values and principles – and their ability for reverie!

Ψυχαναλυτική ψυχοθεραπεία σε περιόδους κρίσης: Οι επιπτώσεις στη θεραπευτική σχέση

Ευ. Σουμάκη,[1] Δ.Κ. Αναγνωστόπουλος[2]

[1]Διαγνωστική & Θεραπευτική Μονάδα για το Παιδί «Σπ. Δοξιάδης»,
[2]Πανεπιστημιακή Παιδοψυχιατρική Κλινική ΕΚΠΑ, Νοσοκομείο Παίδων «Η Αγία Σοφία», Αθήνα

Ψυχιατρική 2018, 29:257–263

Στην παρούσα εργασία πραγματευόμαστε την επίδραση της κοινωνικοοικονομικής κρίσης της χώρας μας στη θεραπευτική διαδικασία και συγκεκριμένα στον άξονα μεταβίβασης-αντιμεταβίβασης. Οι μεταβολές της κοινωνικοοικονομικής κατάστασης, οι πολιτισμικού χαρακτήρα ιδιαιτερότητες, η κατάργηση των θεσμών, η συνεχής διάψευση, η έλλειψη ορίων, η σύγχυση ρόλων, τα διάφορα οικογενειακά μυστικά που αποκαλύπτονται λόγω των «καταρρεύσεων», οι σοβαρές συγκρούσεις, η βία και η επιθετικότητα που κατακλύζουν το άτομο και αποτελούν μέρος της εσωτερικής αλλά και της εξωτερικής του πραγματικότητας, είναι γνωστοί παράγοντες κινδύνου που οδηγούν το άτομο σε μια κατάσταση τραυματική είτε λόγω της φύσης των ερεθισμάτων-απειλών που δέχεται, είτε λόγω απώλειας του διευκολυντικού-υποστηρικτικού του περιβάλλοντος. Η κατάσταση αυτή δεν μπορεί –κατά τη γνώμη μας– παρά να επηρεάσει και τον ψυχισμό του αναλυτή τόσο στα ιδιαίτερα χαρακτηριστικά του όσο και στις νέες και έντονες προβολές που δέχεται. Καλείται δηλαδή να ισορροπήσει ανάμεσα στα δικά του εσωτερικά αντικείμενα που, κάτω από την πίεση των συνθηκών αυτών, δραστηριοποιούν τις δικές του απωθημένες συγκρούσεις, και στις έντονες και ποικίλες προβολές του αναλυόμενου. Οι άξονες πάνω στους οποίους αναπτύσσεται η δική μας σκέψη, ως ψυχαναλυτών-θεραπευτών,

αφορούν τρία επίπεδα: Καταρχάς στις εσωτερικές «μάχες» που γίνονται στον ψυχισμό του αναλυτή, όσον αφορά τα δικά του πένθη, τις ματαιώσεις και τις συγκρούσεις που σχετίζονται με τη «δική» του προσαρμογή στην τρέχουσα πραγματικότητα, καθώς και τα ιδιαίτερα πένθη που σχετίζονται με τη ναρκισσιστική του αμφισβήτηση και σε σχέση με τις προβολές παντοδυναμίας που δέχεται. Σ' ένα δεύτερο επίπεδο αναρωτιόμαστε για τις αντίστοιχες «εσωτερικές μάχες» στον ψυχισμό του αναλυόμενου, και συχνά τη «συνάντησή» του με τον αναλυτή στα πλαίσια της «παράλληλης διεργασίας» (parallel process). Σ' ένα τρίτο επίπεδο σκεφτόμαστε τις πολλαπλές, λόγω ψυχικών εντάσεων, διαδραματίσεις (ή εκδραματίσεις) και το «θεραπευτικό πλαίσιο» που δοκιμάζεται όσον αφορά τη συχνότητα, την αμοιβή, τη δυσκολία συμβολικής επεξεργασίας, την επιθετικότητα απέναντι στις ερμηνείες και τις απαιτήσεις του αναλυτή, ως ενδοβλημένου στο Υπερεγώ αντικειμένου, που απαιτεί συμμόρφωση με ορισμένα προαπαιτούμενα. Στις θεραπείες των παιδιών και των εφήβων τα θέματα είναι ακόμα πιο πολύπλοκα καθώς η ψυχική τους κατάσταση επηρεάζεται από εκείνη των γονέων τους. Ειδικότερα, στις θεραπείες των εφήβων ο θεραπευτής δύσκολα μπορεί ν' αποτελέσει αντικείμενο προς ταύτιση και εξιδανίκευση, όταν όλοι οι θεσμοί γύρω έχουν υποτιμηθεί, επιβεβαιώνοντας την ενοχική φαντασιωτική επιθετικότητα του εφήβου. Το ζήτημα είναι σοβαρό καθώς πρόκειται για μια καθημερινή και συνεχή διάψευση του εφήβου και θέτει σε βαθιά αμφισβήτηση τη δυνατότητα θεραπευτικής ανταπόκρισης όταν συμβαίνει και ο θεραπευτής –κάτω από το βάρος της πραγματικότητας– να συμμερίζεται ακριβώς την ίδια διάψευση. Αυτή λοιπόν η αδυναμία των γονέων ή/και των θεραπευτών, η ανικανότητά τους να επεξεργαστούν το πένθος αποτελούν πραγματικό παράγοντα κινδύνου μετάδοσης της ψυχοπαθολογίας μεταξύ των γενεών. Παρόλες όμως τις αναφερόμενες δυσκολίες ο χώρος της θεραπείας ως ένα πλαίσιο με όρια και λειτουργίες ενσυναίσθησης, απαιτείται να αποτελεί δυνητικά χώρο δημιουργίας. Μια μήτρα που θα γεννήσει νέα ψυχική ζωή και αυτή η νέα ζωή να ανθίσει. Αρκεί και οι θεραπευτές να κρατήσουν μέσα τους σταθερές τις αρχές, τις αξίες τους και την ικανότητά τους για «ονειροπόληση».

Λέξεις ευρετηρίου: Μεταβίβαση, αντιμεταβίβαση, ψυχαναλυτής, κρίση, ψυχοθεραπεία, παιδιά, έφηβοι.

References

1. Stern DN, Bruschweiler-Stern N, Harrison AM, Lyons-Ruth K, Morgan AC, Nahum JP et al. The process of therapeutic change involving implicit knowledge. Some implications of developmental observations for adult psychotherapy. I*nfant Ment Health J* 1998, 19:300–308, doi: 10.1002/(SICI)1097-0355(199823)19:3<300:AID-IMHJ5>3.0.CO;2-P
2. Bolas, C. *The Shadow of the Object*. Basic Books, New York, 1987
3. Winnicott DW. The theory of the parent-infant relationship. *Int J Psychoanal* 1960, 41:585–595, PMID: 13785877
4. Mendelsohn R. Parallel process and projective identification in psychoanalytic supervision. *Psychoanal Rev* 2012, 99:297–314, doi: 10.1521/prev.2012.99.3.297
5. Ioannidis C. Deceitful relationships. *Oedipus* 2009, 2:26–34
6. Freud S. *Three Essays on Sexuality*. S E 7, 1923:125–248
7. Segal H. *The work of Hanna Segal*. FA Books, London, 1988
8. Winnicott D. *Playing and Reality*. Tavistock Publications, London, 1971
9. Parsons M. The logic of play in psychoanalysis. *Int J Psychoanal* 1999, 80:871–884, PMID: 10643568
10. Fairbairn R. On the nature and aims of psycho-analytical treatment. *Int J Psychoanal* 1958, 39:376–385, PMID: 13610509
11. Strachey, J. The nature of the therapeutic action of psychoanalysis. *Int J Psychoanal* 1934, 15:127–159
12. Anastasopoulos D, Soumaki E, Anagnostopoulos DC. Psychoanalytic confidentiality. *Synapsis* 2009, 5:78–85
13. Etchegoyen RH. *Fundamentals of Psychoanalytic Technique*. Karnak books, London, 1991
14. Green A. *L' intrapsychique et l' intersubjectif en psychanalyse.* Lanctot, Paris, 2005
15. Anastasopoulos D, Soumaki E, Anagnostopoulos DC. The double acting-out. *Tetr Psichiatr* 2009, 108:45–52

Corresponding author: J. Soumaki, 6 Gorgiou street, GR-116 36 Athens, Greece, Tel: (+30) 6944 581 648
e-mail: soumakijenny@gmail.com

Review article
Ανασκόπηση

Is impulsivity in part a lithium deficiency state?

O. Giotakos

The Non-Profit Organization "Obrela", Athens, Greece

Psychiatriki 2018, 29:264–270

Lithium mechanisms of action are related to the function of many enzymes, hormones, vitamins, and growth factors. In humans, lithium treatment has been associated with humoral and structural evidence of neuroprotection, such as increased expression of anti-apoptotic genes, inhibition of cellular oxidative stress, synthesis of brain-derived neurotrophic factor, cortical thickening, increased grey matter density, and hippocampal enlargement. Lithium, in pharmacological doses, has been used successfully in treating bipolar disorders, and has been shown to decrease suicidality and violent crime in this situation. The guidelines of major psychiatric association name lithium as a first-line therapy for bipolar disorder. From the other hand, impulsivity is a core feature of bipolar disorder. Increased levels of this dimensional trait are present not only during acute phases of the illness but also during euthymia. Increased impulsivity worsens clinical prognosis of bipolar disorder due to its association with several severity indices, such as substance abuse or dependence, suicidal behavior, and poorer functional outcome. A wide range of intracellular responses may be secondary to the inhibition of glycogen synthase kinase-3 beta (GSK3β) by lithium, while genetic variability at GSK3β gene was found to be associated with increased impulsivity in bipolar patients. Although impulsivity has been traditionally linked to dysregulation of serotonergic and dopaminergic systems, some authors have proposed that lithium could reduce impulsivity levels by means of its capacity to regulate the aforementioned neurotransmitter systems. Moreover, lithium in trace amounts, as occurs in drinking water, has been inversely related to suicidal mortality, aggression and homicidal violence. These findings pose the question of whether the prospect of adding lithium to drinking water is realistic, weighing the benefits and potential risks. It seems also that in the competition for survival, those entities that best minimized lithium toxicity and maximized the benefits of lithium action had an edge in the competition to survive and reproduce. Finally, lithium has been reported to increase the volume of the prefrontal cortex and anterior cingulate gyrus. Evidence from both basic and clinical researches support that lithium may decrease impulsivity and may at least partially, exert its antisuicidal effect via reinforcing “top-down brakes” of impulsive action. Considering the research data, we may suggest that even natural lithium level intake can influence impulsivity, a possible core factor that mediate to the manifestation of both suicidality and aggressiveness, or even criminality. Moreover, we may suggest that a lithium deficiency state may precipitate these situations.

Key words: Lithium, impulsivity, suicide, bipolar disorder.

Lithium and neuroscience

Lithium is ubiquitous in the environment and probably an essential trace nutrient. Interesting questions about lithium abound at all levels of science, ranging from the microscopic to the cosmic. As a natural trace element, lithium is washed out by rain from rocks and from the soil, dissolving in ground water and reaching the food chain via drinking water. Lithium plays an important role in embryogenesis and biochemical mechanisms of action are related to the function of many enzymes, hormones, vitamins, and growth factors. Lithium displaces magnesium ions and inhibits at least 10 cellular targets, all of which are components of intracellular signalling pathways. Lithium effects some enzymes involved in energy metabolism, such as hexokinase, pyruvate kinase, cholinesterase, tryptophan hydroxylase, and glycogen synthetase.[1] Lithium is considered as the most effective mood-stabilizer used to treat bipolar disorder.[2] Lithium blood concentration varies normally from .00001 to .00009 moles/liter, while the therapeutic target range for bipolar is .0005 to .001 moles/liter, which is about 100 times the high end of the normal range.

Epidemiological studies in bipolar patients revealed that continued lithium treatment was associated with reduction of the rate of dementia to the same level as that for general population, and that effects were not found in anticonvulsants, antidepressants, or antipsychotics, suggesting a specific effect of lithium.[3] Neuroimaging studies in humans have demonstrated that chronic use is associated with cortical thickening, higher volume of the hippocampus and amygdala, and neuronal viability in bipolar patients on lithium treatment, while chronic lithium treatment at subtherapeutic doses can reduce cerebral spinal fluid phosphorylated tau protein.[4] Lithium treatment may yield disease-modifying effects in Alzheimer Disease, both by the specific modification of its pathophysiology via inhibition of the overactive enzyme glycogen synthase kinase-3 (GSK-3), and by the unspecific provision of neurotrophic and neuroprotective support.[5]

Helbich et al[6] (2013) have found some interesting associations, investigating the relationship between suicide mortality, lithium levels in drinking water, and the altitude above sea level. These new research and methodological approaches contribute to the induction of new avenues in the collaboration between biology, chemistry and psychiatry, by exploring the association between lithium content in drinking water and mental health, and especially suicide mortality, as well as violent or impulsive crime.[7]

Low lithium intakes and suicide mortality

Some ecological studies have shown an association between low lithium intakes from water supplies and suicide, as well as homicide rate. Schrauzer & Shrestha (1990),[8] using data from 27 Texas counties for the period 1978–1987, found that the incidence rates of suicide, homicide, and rape were significantly higher in counties whose drinking water supplies contain little or no lithium than in counties with water lithium levels ranging from 70–170 μg/L. Ohgami et al (2009)[9] examined lithium levels in tap water in the 18 municipalities of Oita prefecture in Japan, in relation to the suicide standardised mortality ratio in each municipality. They found that lithium levels were significantly and negatively associated with suicide standardised mortality ratio averages for 2002–2006 and suggested that even very low levels of lithium in drinking water may play a role in reducing suicide risk within the general population. Kapusta et al (2011)[10] evaluated the association between local lithium levels in drinking water and suicide mortality at district level in Austria. The overall suicide rate as well as the suicide mortality ratio were inversely associated with lithium levels in drinking water, and remained significant after sensitivity analyses and adjustment for socioeconomic factors.

Similarly, Blüml et al (2013)[11] evaluated the association between lithium levels in the public water supply and county-based suicide rates in 226 Texas counties, with a state-wide sample of 3123 lithium measurements from the public water supply. The findings provided evidence that higher lithium levels in the public drinking water are associated with lower suicide rates. However, Kabacs et al (2011),[12] measuring lithium levels in tap water in the 47 subdivisions of the East of England and correlating these with the suicide standardised mortality ratio in each subdivision, found no association between lithium in drinking water and suicide rates across the East

of England for the period 2006–2008. A recent study showed that lithium levels in drinking water were significantly and inversely associated with male but not total or female suicide standardized mortality ratios, in 274 municipalities of Kyushu Island in Japan.[13] Another recent research by Liaugaudaite et al (2017) showed also that the higher levels of lithium in public drinking water systems from 9 cities of Lithuania were associated with lower suicide rates in men.[14]

These findings pose the question of whether the prospect of adding lithium to drinking water is realistic, weighing the benefits and potential risks, and the bulk of evidence may suggests that the optimum level of lithium intake is more than most people get from food and drinking water. Considering that research, in his paper titled "Is violence in part a lithium deficiency state?", Goldstein (2016)[15] suggested: "In order to ensure adequate dietary intakes of elemental lithium daily for the purpose of decreasing aggression and violence, we propose considering the fortification of cereal grain products with lithium and also the addition of lithium to vitamin preparations for adults".

The dimensional trait of impulsivity

Impulsivity is a core feature of bipolar disorder. Increased levels of this dimensional trait are present not only during acute phases of the illness but also during euthymia.[16,17] It has been widely demonstrated that increased impulsivity worsens clinical prognosis of bipolar disorder due to its association with several severity indices, such as substance abuse or dependence,[18] suicidal behavior,[16] presence of axis I and/or II comorbidities,[19] and poorer functional outcome.[20] Impulsivity is considered to be constituted by three different factors: attentional-cognitive, motor and non-planning impulsivity, at the Barratt Impulsiveness Scale,[21] which has been suggested to present differential predictive validity for a variety of relevant psychiatric or behavioral outcomes.[22]

Impulsivity has been shown to be heritable.[23–25] The presence of increased levels of impulsivity in bipolar patients has been consistently associated with chronicity, a more unstable course of the illness, characterized by an increased number of episodes, an earlier onset and the presence of depressive predominant polarity, a poorer compliance and a correlation between higher impulsivity and the severity of the suicidal attempt.[26] Moreover, research data indicate that there are common pathways between aggression and impulsivity.[27]

Lithium and impulsivity

Following the above studies which investigated the relation between low lithium intakes from water supplies and suicide, we evaluated the association between lithium levels in the public water supply and prefecture-based suicide rates in Greece. Analysis was conducted with respect to lithium levels in 149 samples from 34, out of 52, prefectures of Greece. The average lithium level was 11.10 μg/L (range 0.1 to 121 μg/L). The results indicated a tendency for lower suicide rates in the prefectures with high levels of lithium in drinking water.[28] Extending this study, we found a tendency of lower mean number of homicides in the prefectures with high levels of lithium in drinking water.[29] Considering these results, we suggested that natural lithium level intake may influence impulsiveness, a possible core factor that mediate to the manifestation of both suicidality and aggressiveness, or even criminality. Helbich et al (2013),[6] concluded to similar suggestions, after investigating the relation between suicide mortality and lithium levels in drinking water.

An association between genetic variability at glycogen synthetase kinase-3β (GSK3β) emergence of bipolar disorder and response to lithium has been well rehearsed.[30,31] Based on findings that lithium inhibits both GSK3 isoenzymes, Jiménez et al (2014),[32] analyzed the potential impact of genetic variants located at the GSK3α and GSK3β genes on impulsivity levels, and they found that genetic variability at GSK3β gene was associated with increased impulsivity in bipolar patients. Lithium, which is considered as one of the most effective mood-stabilizers used to treat bipolar disorder, decreases levels of impulsivity as measured by different outcome measures not only in bipolar patients, but also in other impulse control disorders.[33–37] Although impulsivity has been traditionally linked to dysregulation of serotonergic and dopaminergic systems, some authors have proposed that lithium could reduce impulsivity levels by means of its capacity to regulate the aforementioned neurotransmitter sys-

tems.[38] Lithium inhibits GSK3β isoenzyme[39] which in turn is known to act as a mediator of serotonergic function.[40] The inhibition of GSK3 has been suggested to play a key role of the therapeutic action of most of the "gold-standard" pharmacological agents used to treat mood disorders.[39]

Lithium may have superior antisuicidal effects relative to other mood stabilizers.[37,41,42] A recent meta-analysis[43] in 48 randomized control trials comparing lithium with placebo or active drugs in long term treatment for mood disorders, concluded that lithium is an effective treatment for reducing the risk of suicide in people with mood disorders, and the authors suggested that impulsivity might be a mechanism mediating the antisuicidal effect. John Cade (1949),[44] the Australian psychiatrist credited with discovering the effects of lithium carbonate as a mood stabilizer in the treatment of bipolar disorder, reported the original paper with the title "Lithium salts in the treatment of psychotic excitement". We can suggest that Cade's concept of excitement may fit better with that concept of impulsiveness.[1] Considering all the above data, we may suggest that even low lithium intakes can influence impulsivity, a core factor that mediate to the manifestation of both suicidality and aggressiveness, or even criminality. Moreover, we may suggest that a lithium deficiency state may precipitate these situations.

Many clinical neuroscience data is in accordance with the above suggestion. The pharmacologic mechanisms of action of lithium and amphetamine seem to be directly opposite and lithium could be prophylactic for cases of amphetamine abuse.[45] With regard to the mechanism, taking the fact into consideration that lithium has been reported to increase the volume of the prefrontal cortex and anterior cingulate gyrus,[46] it seems likely that lithium may at least partially exert its antisuicidal effect via reinforcing "top-down brakes" of impulsive action. Since lithium has been shown also to increase the volume and function of the hippocampus,[47] antisuicidal, antiaggressive and antiimpulsive effects of lithium may rely on a stable balance between the "top-down brakes" and the "bottom-up drive".[4] In a recent study, Tobe et al (2017),[48] using human-induced pluripotent stem cells (hiPSCs) from patients with bipolar disorder responsive to lithium, found that lithium alters the phosphorylation state of collapsin response mediator protein-2 (CRMP2). The authors suggested that the "lithium response pathway" in bipolar patients governs CRMP2's phosphorylation, which regulates cytoskeletal organization, particularly in spines, modulating neural networks. Finally, other mechanisms acting in parallel, like the initial lithium induced hypothyroidism may help to rearrange and normalize thyroid hormone secretion in the long-term therapy, acting possibly through an adaptive thyroid system resetting, which may results in a correction of an isolated CNS hypothyroidism.[49]

Μπορεί η παρορμητικότητα να υποδηλώνει εν μέρει μία κατάσταση έλλειψης λιθίου;

Ο. Γιωτάκος

Μη Κερδοσκοπικός Οργανισμός «Ομπρέλα», Αθήνα

Ψυχιατρική 2018, 29:264–270

Οι μηχανισμοί δράσης του λιθίου σχετίζονται με τη λειτουργία πολλών ενζύμων, ορμονών, βιταμινών και παραγόντων ανάπτυξης. Στους ανθρώπους η θεραπεία με λίθιο συνδέεται με χυμικές και δομικές ενδείξεις νευροπροστασίας, όπως αυξημένη έκφραση των αντιαποπτοτικών γονιδίων, αναστολή του οξειδωτικού κυτταρικού στρες, σύνθεση των νευροτροφικών παραγόντων, πάχυνση του φλοιού, αύξηση πυκνότητας της φαιάς ουσίας και αύξηση όγκου του ιπποκάμπου. Το λίθιο σε

φαρμακολογικές δόσεις έχει χρησιμοποιηθεί με επιτυχία στη θεραπεία της διπολικής διαταραχής και έδειξε να μειώνει την αυτοκτονικότητα και την εγκληματικότητα στα περιστατικά αυτά. Οι οδηγίες συνταγογράφησης μεγάλων οργανισμών θεωρούν το λίθιο πρώτης γραμμής θεραπεία της διπολικής διαταραχής. Από την άλλη πλευρά, η παρορμητικότητα είναι ένα πυρηνικό στοιχείο της διπολικής διαταραχής. Αυξημένα επίπεδα αυτού του διαστασιακού χαρακτηριστικού είναι παρόντα όχι μόνο στη διάρκεια των οξέων φάσεων της νόσου, αλλά και στη διάρκεια των φάσεων νορμοθυμίας. Η αυξημένη παρορμητικότητα επιδεινώνει την κλινική πρόγνωση της διπολικής διαταραχής, μέσω διάφορων συνοδών κλινικών εκδηλώσεων, όπως η εξάρτηση από ουσίες, η αυτοκτονικότητα και η πτωχή λειτουργικότητα. Ένα μεγάλο εύρος ενδοκυτταρικών απαντήσεων μπορεί να σχετίζονται με την αναστολή του GSK3β από το λίθιο, ενώ ο γενετικός πολυμορφισμός του GSK3β γονιδίου βρέθηκε να σχετίζεται με αυξημένη παρορμητικότητα στους διπολικούς ασθενείς. Αν και η παρορμητικότητα έχει παραδοσιακά συνδεθεί με ανεπαρκή ρύθμιση του σεροτονινεργικού και ντοπαμινικού συστήματος, ορισμένοι ερευνητές έχουν προτείνει ότι το λίθιο μπορεί να μειώσει τα επίπεδα παρορμητικότητας μέσα από την ιδιότητα να ρυθμίζει τα παραπάνω νευρομεταβιβαστικά συστήματα. Επιπλέον, το λίθιο σε στοιχειώδη επίπεδα, όπως συμβαίνει στο πόσιμο ύδωρ, έχει σχετιστεί αντίστροφα με την αυτοκτονικότητα, την επιθετικότητα και την εγκληματικότητα. Τα ευρήματα αυτά θέτουν το ερώτημα κατά πόσον η ενδεχόμενη πρόσθεση λιθίου στο πόσιμο ύδωρ είναι ρεαλιστική, ζυγίζοντας το όφελος και το πιθανό κόστος. Φαίνεται μάλλον ότι τα όντα εκείνα που ελαχιστοποιούν τον κίνδυνο τοξικότητας του λιθίου και μεγιστοποιούν τα οφέλη της δράσης του βγαίνουν ενισχυμένα στην επιβίωση και την αναπαραγωγή. Τέλος, βρέθηκε ότι το λίθιο αυξάνει τον όγκο του προμετωπιαίου φλοιού και του πρόσθιου προσαγωγίου. Οι ενδείξεις τόσο από τη βασική όσο και την κλινική έρευνα υποστηρίζουν ότι το λίθιο μπορεί να μειώνει την παρορμητικότητα, ενώ μπορεί τουλάχιστον εν μέρει να έχει αντιαυτοκτονική δράση μέσα από την ενίσχυση των «από πάνω προς τα κάτω φρένων» στην παρορμητικότητα. Λαμβάνοντας υπόψη τα παραπάνω δεδομένα, μπορούμε να υποθέσουμε ότι ακόμη και τα φυσικά επίπεδα πρόσληψης λιθίου ενδέχεται να επηρεάσουν την παρορμητικότητα, έναν πυρηνικό παράγοντα που διαμεσολαβεί στην εκδήλωση τόσο της αυτοκτονικότητας όσο και της επιθετικότητας, ή ακόμη και της εγκληματικότητας. Επιπλέον, μπορούμε να υποθέσουμε ότι μια κατάσταση έλλειψης λιθίου μπορεί να προδιαθέσει σε τέτοιες καταστάσεις.

Λέξεις ευρετηρίου: Λίθιο, παρορμητικότητα, αυτοκτονίες, διπολική διαταραχή.

References

1. Giotakos O. Lithium: Implications for Neuropsychiatry and Wellness. *Int J Ment Health Psychiatry* 2016, 2:1–10, doi: 10.4172/2471-4372.1000136
2. American Psychiatric Association. Practice guideline for the treatment of patients with bipolar disorder (revision). Am J Psychiatry 2002,159 (4 Suppl):1–50, *PMID*: 11958165
3. Kessing LV, Forman JL, Andersen PK. Does lithium protect against dementia? *Bipolar Disord* 2010, 12:87–94, doi: 10.1111/j.1399-5618.2009.00788.x
4. Diniz BS, Machado-Vieira R, Forlenza OV. Lithium and neuroprotection: translational evidence and implications for the treatment of neuropsychiatric disorders. *Neuropsychiatr Dis Treat* 2013, 9:493–500, doi: 10.2147/NDT.S33086
5. Forlenza O, De Paula VR, Diniz BS. Neuroprotective effects of lithium: implications for the treatment of Alzheimer's disease and related neurodegenerative disorders. *ACS Chem Neurosci* 2014, 5:443–450, doi: 10.1021/cn5000309
6. Helbich M, Blóml V, Leitner M, Kapusta ND. Does altitude moderate the impact of lithium on suicide? A spatial analysis of Austria. *Geospat Health* 2013, 7:209–218. doi: 10.4081/gh.2013.81
7. Helbich M, Leitner M, Kapusta N. Geospatial examination of lithium in drinking water and suicide mortality. *Int J Health Geogr* 2012, 11:1–8, doi: 10.1186/1476-072X-11-19
8. Schrauzer GN, Shrestha KP. Lithium in drinking water and the incidences of crimes, suicides, and arrests related to drug addictions. *Biol Trace Elem Res* 1990, 25:105–113, PMID: 1699579
9. Ohgami H, Terao T, Shiotsuki I, Ishii N, Iwata N. Lithium levels in drinking water and risk of suicide. *Br J Psychiatry* 2009, 194:464–465, doi: 10.1192/bjp.bp.108.055798
10. Kapusta ND, Mossaheb N, Etzersdorfer E, Hlavin G, Thau K, Willeit M, et al. Lithium in drinking water and suicide mor-

tality. *Br J Psychiatry* 2011, 198:346–350, doi: 10.1192/bjp.bp.110.091041

11. Blüml V, Regier MD, Hlavin G, Rockett IR, König F, Vyssoki B, et al. Lithium in the public water supply and suicide mortality in Texas. *J Psychiatr Res* 2013, 47:407–411, doi: 10.1016/j.jpsychires.2012.12.002
12. Kabacs N, Memon A, Obinwa T, Stochl J, Perez J. Lithium in drinking water and suicide rates across the East of England. *Br J Psychiatry* 2011, 198:406–407, doi: 10.1192/bjp.bp.110.088617
13. Ishii N, Terao T, Araki Y, Kohno K, Mizokami Y, Shiotsuki I et al. Low risk of male suicide and lithium in drinking water. *J Clin Psychiatry* 2015, 76:319–326, doi: 10.4088/JCP.14m09218
14. Liaugaudaite V, Mickuviene N, Raskauskiene N, Naginiene R, Sher L. Lithium levels in the public drinking water supply and risk of suicide: A pilot study. *J Trace Elem Med Biol* 2017, 43:197–201, doi: 10.1016/j.jtemb.2017.03.009
15. Goldstein MR, Mascitelli L. Is violence in part a lithium deficiency state? *Med Hypotheses* 2016, 89:40–42, doi: 10.1016/j.mehy.2016.02.002.
16. Swann AC, Lijffijt M, Lane SD, Steinberg JL, Moeller FG. Increased trait-like impulsivity and course of illness in bipolar disorder. *Bipolar Disord* 2009, 11:280–288, doi: 10.1111/j.1399-5618.2009.00678.x.
17. Strakowski SM, Fleck DE, Delbello MP, Adler CM, Shear PK, Kotwal R, Arndt S. Impulsivity across the course of bipolar disorder. *Bipolar Disord* 2010, 12:285–297, doi: 10.1111/j.1399-5618.2010.00806.x
18. Swann AC, Dougherty DM, Pazzaglia PJ, Pham M, Moeller FG. Impulsivity: a link between bipolar disorder and substance abuse. *Bipolar Disord* 2004, 6:204–212, doi: 10.1111/j.1399-5618.2004.00110.x
19. Dunayevich E, Sax KW, Keck J et al, Strakowski SM. Twelve-month outcome in bipolar patients with and without personality disorders. *J Clin Psychiatry* 2000, 61:134–139, PMID: 10732661
20. Jimenez E, Arias B, Castellvi P, Goikolea JM, Rosa AR, Fananas L et al. Impulsivity and functional impairment in bipolar disorder. *J Affect Disord* 2012, 136:491–497, doi: 10.1016/j.jad.2011.10.044
21. Patton JH, Stanford MS, Barratt ES. Factor structure of the Barratt impulsiveness scale. *J Clin Psychol* 1995, 51:768–774, PMID: 8778124
22. Muhtadie L, Johnson SL, Carver CS, Gotlib IH, Ketter TA. A profile approach to impulsivity in bipolar disorder: the key role of strong emotions. *Acta Psychiatr Scand* 2014, 129:100–108, doi: 10.1111/acps.12136
23. Pedersen NL, Plomin R, McClearn GE, Friberg L. Neuroticism, extraversion, and related traits in adult twins reared apart and reared together. *J Pers Soc Psychol* 1988, 55:950–957, PMID: 3216289
24. Coccaro EF, Bergeman CS, McClearn GE. Heritability of irritable impulsiveness: a study of twins reared together and apart. *Psychiatry Res* 1993, 48, 229–242, PMID: 8272445
25. Moeller FG, Barratt ES, Dougherty DM, Schmitz JM, Swann AC. Psychiatric aspects of impulsivity. *Am J Psychiatry* 2001, 158:1783–1793, doi: 10.1176/appi.ajp.158.11.1783
26. Ekinci O, Albayrak Y, Ekinci AE, Caykoylu A. Relationship of trait impulsivity with clinical presentation in euthymic bipolar disorder patients. *Psychiatry Res* 2011,190:259–264, doi: 10.1016/j.psychres.2011.06.010
27. Giotakos O. Aggressive behavior: Theoretical and biological aspects. *Psychiatriki* 2013, 24:117–131, PMID: 24200542
28. Giotakos O, Nisianakis P, Tsouvelas G, Giakalou VV. Lithium in the public water supply and suicide mortality in Greece. *Biol Trace Elem Res* 2013, 156:376-379, doi: 10.1007/s12011-013-9815-4
29. Giotakos O, Tsouvelas G, Nisianakis P, Giakalou V, Lavdas A, Tsiamitas C, et al. A negative association between lithium in drinking water and the incidences of homicides, in Greece. *Biol Trace Elem Res* 2015, 164:165–168, doi: 10.1007/s12011-014-0210-6
30. Serretti A, Drago A. Pharmacogenetics of lithium longterm treatment: focus on initiation and adaptation mechanisms. *Neuropsychobiology* 2010, 62:61–71, doi: 10.1159/000314311
31. Serretti A, Drago A, De RD. Lithium pharmacodynamics and pharmacogenetics: focus on inositol mono phosphatase (IMPase), inositol poliphosphatase (IPPase. and glycogen sinthase kinase 3 beta (GSK-3 beta). *Curr Med Chem* 2009, 16:1917–1948, PMID: 19442155
32. Jiménez E, Arias B, Mitjans M, Goikolea JM, Roda E, Ruvz V, et al. Association between GSK3β gene and increased impulsivity in bipolar disorder. *Eur Neuropsychopharmacol* 2014, 24:510–518, doi: 10.1016/j.euroneuro.2014.01.005
33. Hollander E, Pallanti S, Allen A, Sood E, Baldini RN. Does sustained-release lithium reduce impulsive gambling and affective instability versus placebo in pathological gamblers with bipolar spectrum disorders? *Am J Psychiatry* 2005, 162:137–145, doi: 10.1176/appi.ajp.162.1.137
34. Dorrego MF, Canevaro L, Kuzis G, Sabe L, Starkstein SE. A randomized, double-blind, crossover study of methylphenidate and lithium in adults with attention-deficit/hyperactivity disorder: preliminary findings. *J Neuropsychiatry Clin Neurosci* 2002, 14:289–295, doi: 10.1176/jnp.14.3.289
35. Swann AC, Bowden CL, Calabrese JR, Dilsaver SC, Morris DD. Pattern of response to divalproex, lithium, or placebo in four naturalistic subtypes of mania. *Neuropsychopharmacology* 2002, 26:530–536, doi: 10.1016/S0893-133X(01)00390-6
36. Christenson GA, Popkin MK, Mackenzie TB, Realmuto GM. Lithium treatment of chronic hair pulling. *J Clin Psychiatry* 1991, 52:116–120, PMID: 1900831
37. Song J, Sjölander A, Joas E, Bergen SE, Runeson B, Larsson H, et al. Suicidal behavior during lithium and valproate treatment: A within-individual 8-year prospective study of 50,000 patients with bipolar disorder. *Am J Psychiatry* 2017, 174:795–802, doi: 10.1176/appi.ajp.2017.16050542
38. Kovacsics CE, Gottesman II, Gould TD. Lithium's antisuicidal efficacy: elucidation of neurobiological targets using endo-

phenotype strategies. *Annu Rev Pharmacol Toxicol* 2009, 49:175–198, doi: 10.1146/annurev.pharmtox.011008.145557

39. Jope RS. Glycogen synthase kinase-3 in the etiology and treatment of mood disorders. *Front Mol Neurosci* 2011, 4:16, doi: 10.3389/fnmol.2011.00016
40. Zhou W, Chen L, Paul J, Yang S, Li F, Sampson K et al. The effects of glycogen synthase kinase-3beta in serotonin neurons. *PLoS One* 2012, 7:e43262, doi: 10.1371/journal.pone.0043262
41. Terao T. Aggression, suicide, and lithium treatment. Am *J Psychiatry* 2008, 165:1356–1357, doi: 10.1176/appi.ajp.2008.08040598
42. Terao T, Goto S, Inagaki M, Okamoto Y. Even very low but sustained lithium intake can prevent suicide in the general population? *Med Hypotheses* 2009, 73:811–812, doi: 10.1016/j.mehy.2009.02.043
43. Cipriani A, Hawton K, Stockton S, Geddes JR. Lithium in the prevention of suicide in mood disorders: updated systematic review and meta-analysis. BMJ 2013, 346: f3646, doi: 10.1136/bmj.f3646
44. Cade J. Lithium salts in the treatment of psychotic excitement. *Med J Aust* 1949, 2:349–352, PMID: 18142718
45. Flemenbaum A. Does lithium block the effects of amphetamine? A report of three cases. *Am J Psychiatry* 1974, 131:820–821, doi: 10. 1176/ajp.131.7.820
46. Monkul ES, Matsuo K, Nicoletti MA, Dierschke N, Hatch JP, Dalwani M et al. Prefrontal gray matter increases in healthy individuals after lithium treatment: a voxel-based morphometry study. *Neurosci Lett* 2007, 429:7–11, doi: 10.1016/j.neulet.2007.09.074
47. Yucel K, Taylor VH, McKinnon MC, Macdonald K, Alda M, Young LT et al. Bilateral hippocampal volume increase in patients with bipolar disorder and short-term lithium treatment. *Neuropsychopharmacology* 2008, 33:361–367, doi: 10.1038/sj. npp.1301405
48. Tobe BTD, Crain AM, Winquist AM, Calabrese B, Makihara H, Zhao WN et al. Probing the lithium-response pathway in hiPSCs implicates the phosphoregulatory set-point for a cytoskeletal modulator in bipolar pathogenesis. *Proc Natl Acad Sci USA*, 2017,114:E4462-E4471, doi: 10.1073/pnas.1700111114
49. Giotakos O. Is there a connection between lithium induced hypothyroidism and lithium efficacy in bipolar disorder? *Dialog Clin Neurosci Ment Health* 2018, 1:36–49, doi: 10.26386/obrela.v1i2.46

Corresponding author: O. Giotakos, 2 Erifilis street, GR-116 34 Athens, Greece, e-mail: info@obrela.gr, www.obrela.gr

Brief communication
Σύντομο άρθρο

Adolescents' mental health during the financial crisis in Greece: The first epidemiological data

M.P. Paleologou,[1,2] D.C. Anagnostopoulos,[1,2] H. Lazaratou,[1] M. Economou,[1] L.E. Peppou,[1] M. Malliori[1]

[1]1st Department of Psychiatry, Medical School, University of Athens,
[2]Department of Child Psychiatry, Medical School, University of Athens,
General Pediatric Hospital "Agia Sofia", Athens, Greece

Psychiatriki 2018, 29:271–274

Greek financial crisis has incurred adverse effects on the mental health of the population; however existing research is constrained in the adult population. Therefore, the present study aims to shed light on the mental health state of adolescents during the recession. In this context 2,150 adolescents were recruited from a random and representative sample of public and private schools in the greater Athens area. Mental health problems were assessed with the self-report Strengths and Difficulties Questionnaire while additional questions enquired about students' socio-demographic characteristics. Findings indicate that roughly one out of ten adolescents scored above the cut off point for the total difficulties score, with the higher prevalence been recorded for the conduct problems sub-scale. More specifically, 7.7% of the sample scored above the abnormal cut-off point for the total difficulties score, 10.9% for emotional symptoms, 11.9% for conduct problems, 10.6% for hyperactivity and 4.8% for peer problems. Furthermore, adolescents who reported that during the previous month there was not enough food in their house displayed higher odds of manifesting mental health problems than adolescents who replied negatively in the particular query. On the grounds of these results, there is indication about the adverse effects of the financial crisis in the development of psychiatric symptomatology in adolescents in the Greek society. This is the first study providing epidemiological data on the current state of adolescents' mental health amid the recession in Greece, showing that the crisis impinges disproportionately on the most vulnerable socio-economic groups.

Key words: Financial crisis, adolescent, mental health.

Since 2009 Greece has been consumed by a socio-economic and cultural crisis due to the international financial crisis. During that time, the national income has decreased and unemployment has tripled. For the first time, flexible employment dominates the job market, while public sector hiring has practically stopped. At the same time, due to reserve "haircuts", insurance funds are unable to cover the current medical expenses of insured people.

The socio-economic crises affects mental health in two mutually sustaining ways: First it undermines the protective factors contributing to and sustaining development, and second it increases and enhances the risk factors for the emergence of mental disorders. Situations of the current reality that fall into the above categories include: employment insecurity, income instability, unemployment, flexible employment, exorbitant debts, homelessness, home insecurity, increase of social inequalities, poverty and social exclusion (especially of vulnerable groups), inability of the individual to control his/her life, and uncertainty for the future. All this contributes to a significant increase in psychiatric morbidity overall that has been researched and documented by the scientific community during the long-term study of crises. Specifically, the global financial crisis has incurred adverse effects on the mental health of the adult population in Greece through various pathways, including elevated rates of unemployment and economic hardship.[1]

However, its impact on the child population has not attracted equal attention, in spite of reports substantiating a stark increase in child poverty rate from 23% in 2008 to 40.5% in 2012.[2] Scarce data from mental health services in the country have corroborated a considerable increase in cases with various psychosocial problems, including conduct disorder, suicide attempts, addictive disorders, school drop outs, bullying and family discord as well as in hospital admissions.[3,4] Nonetheless, no research has been conducted on community samples; while there is a dearth of studies in the international literature as well.[5]

In this context, 2,150 adolescents were recruited from a random and representative sample of 51 schools in Athens area in 2013–2014. Mental health problems were assessed with the Greek version of the Strengths and Difficulties Questionnaire[6,7] while additional questions enquired about students' socio-demographic characteristics. The self-reported instrument consisting of these two sections was completed during one school hour. Findings indicate that 7.7% of the sample scored above the abnormal cut-off point for the total difficulties score, 10.9% for emotional symptoms, 11.9% for conduct problems, 10.6% for hyperactivity and 4.8% for peer problems. It merits noting that the research group that validated the instrument in Greece, did not present the scale's cut off points. Therefore, in the present calculations, the cut off points were computed in accord with the international literature.[8] Furthermore, adolescents who reported that during the previous month there was not enough food in their house displayed higher odds of manifesting mental health problems than adolescents who replied negatively in the particular query: OR=5, 95% CI=2.87–8.72 $p<0.01$ for total score, OR=3.12, 95%CI=1.8–5.37 for emotional symptoms, OR=3.32, 95%CI=1.98–5.56, $p<0.01$ for conduct problems, OR=2.13, 95%CI=1.17–3.89, $p<0.05$ for hyperactivity and OR=3, 95%CI=1.45–6.22, $p<0.01$ for peer problems.

This is the first study providing epidemiological data on the current state of adolescents' mental health amid the recession in Greece, showing that the crisis impinges disproportionately on the most vulnerable socio-economic groups. Faced with this situation, the community of child psychiatrists has intensified its efforts to support public services by offering additional services, developing common actions with other health workers, consolidating its alliances with other social patients (the Church, insurance organizations, patient associations etc), enhancing its advocacy role so that decision makers might change health polities, and using its scientific tools to promote further research and substantiate data on the current state of child mental health.

Additionally, multifaceted interventions targeting families from low socio-economic background as well as mental health promotion activities in schools should be prioritized if we want to avoid extrapolation of these problems to adulthood in the ensuing years.

Acknowledgments: The present study was conducted within the framework of the research programme: "Investigation of involvement with gambling (including its pathological form) in the adult and adolescent population in Greece" funded by OPAP S.A.

Η ψυχική υγεία των εφήβων στην Ελλάδα της οικονομικής κρίσης: Πρώτα ερευνητικά δεδομένα

Μ.Π. Παλαιολόγου,[1,2] Δ.Κ. Αναγνωστόπουλος,[1,2] Ε. Λαζαράτου,[1] Μ. Οικονόμου,[1] Λ.Ε. Πέππου,[1] Μ. Μαλλιώρη[1]

[1]Α΄ Ψυχιατρική Κλινική, Ιατρική Σχολή Πανεπιστημίου Αθηνών,
[2]Παιδοψυχιατρική Κλινική, Ιατρική Σχολή Πανεπιστημίου Αθηνών,
Νοσοκομείο Παίδων «Η Αγία Σοφία», Αθήνα

Ψυχιατρική 2018, 29:271–274

Η οικονομική κρίση στην Ελλάδα έχει επιφέρει βλαπτικές συνέπειες στην ψυχική υγεία του ελληνικού πληθυσμού. Η έρευνα όμως που υπάρχει πάνω σε αυτό το θέμα είχε μέχρι σήμερα επικεντρωθεί αποκλειστικά στον ενήλικο πληθυσμό. Τούτων δοθέντων, η παρούσα μελέτη έχει σκοπό να αναδείξει τα προβλήματα ψυχικής υγείας που ανακύπτουν κατά τη διάρκεια της οικονομικής κρίσης στον εφηβικό πληθυσμό. Γι' αυτόν τον σκοπό επιστρατεύτηκαν 2.150 έφηβοι από τυχαίο και αντιπροσωπευτικό δείγμα δημόσιων αλλά και ιδιωτικών σχολείων από την ευρύτερη περιοχή της Αττικής. Τα προβλήματα ψυχικής υγείας εξετάστηκαν με τη χρήση αυτοσυμπληρούμενου ερωτηματολογίου, του Ερωτηματολογίου Δυνατοτήτων και Δυσκολιών (SDQ). Επιπλέον εξετάστηκαν μια σειρά από κοινωνικά και δημογραφικά χαρακτηριστικά. Σύμφωνα με τα αποτελέσματα περίπου ένας στους 10 εφήβους του δείγματος παρουσιάζει προβλήματα ψυχικής υγείας, με συχνότερα εκείνα που αφορούν στη διαγωγή. Πιο συγκεκριμένα, 7,7% του δείγματος παρουσίασε βαθμολογία πάνω από το επιτρεπτό όριο της κλίμακας, 10,9% του δείγματος παρουσίασε συναισθηματικά προβλήματα, 11,9% παρουσίασε προβλήματα διαγωγής, 10,6 % προβλήματα υπερκινητικότητας, και 4,8% προβλήματα στη σχέση με συνομηλίκους. Επιπρόσθετα, οι έφηβοι που δήλωσαν ότι κατά τη διάρκεια του τελευταίου μήνα δεν υπήρχε αρκετό φαγητό στην οικεία τους, παρουσίασαν υψηλότερα ποσοστά ψυχιατρικής συμπτωματολογίας σε σχέση με τους εφήβους που δήλωσαν ότι υπήρχε φαγητό στην οικεία τους. Τα αποτελέσματα της παρούσας έρευνας στοιχειοθετούν ότι υπάρχουν ενδείξεις πως η οικονομική κρίση συμβάλλει στην ανάπτυξη ψυχιατρικής συμπτωματολογίας στους Έλληνες εφήβους. Η παρούσα μελέτη είναι η πρώτη στην Ελλάδα που εξετάζει την επίπτωση της οικονομικής κρίσης στην ψυχική υγεία των εφήβων και δείχνει ότι η οικονομική κρίση πλήττει τις πλέον ευαίσθητες κοινωνικο-οικονομικές ομάδες του πληθυσμού.

Λέξεις ευρετηρίου: Οικονομική κρίση, εφηβεία, ψυχική υγεία.

References

1. Economou M, Peppou LE, Souliotis K, Stylianidis S. Towards a critical, patient oriented approach. In: Stylianidis S (ed) *Social and Community Psychiatry*. Berlin, Springer, 2016:469–483
2. United Nations' Children's Fund. *Children of the Recession: The Impact of the Economic Crisis on Child Well-Being in Rich Countries*. Florence, UNICEF, 2014
3. Anagnostopoulos DC, Soumaki E. The state of child and adolescent psychiatry in Greece during the international financial crisis: a brief report. *Eur Child Adolesc Psychiatry* 2013, 22:131–134, doi: 10.1007/s00787-013-0377-y
4. Kolaitis G, Giannakopoulos G. Greek financial crisis and child mental health. *Lancet* 2015, 386:335, doi: 10.1016/S0140-6736(15)61402-7

5. Rajmil L, Fernandez de Sanmamed MJ, Choonara I, Faresjö T, Hjern A, Kozyrskyj AL et al. 2014. Impact of the 2008 economic and financial crisis on child health: a systematic review. *Int J Environ Res Public Health* 2014, 11:6528–6546, PMID: 25019121

6. Giannakopoulos G, Dimitrakaki C, Papadopoulou K, Tzavara C, Kolaitis G, Ravens-Sieberer U et al. Reliability and validity of the strengths and difficulties questionnaire in Greek adolescents and their parents. *Health* 2013, 5: 1774–1783, doi:10.4236/health.2013.511239

7. Giannakopoulos G, Tzavara C, Dimitrakaki C, Kolaitis G, Rotsika V, Tountas Y. The factor structure of the Strengths and Difficulties Questionnaire (SDQ) in Greek adolescents. *Ann Gen Psychiatry* 2009, 8:20, doi: 10.1186/1744-859X-8-20

8. Ronning, JA, Handegaard BH, Sourander A, Morch WT. The Strengths and Difficulties Self-Report Questionnaire as a screening instrument in Norwegian community samples. *Eur Child Adolesc Psychiatry* 2004, 13:73–82, doi:10.1007/s00787-004-0356-4

Corresponding author: M.P. Paleologou, Department of Child Psychiatry, Medical School, University of Athens, General Pediatric Hospital "Agia Sofia", Thivon & Papadiamantopoulou street, GR-115 27 Athens, Greece, Tel: (+30) 210-213 2013 392
e-mail: mina.palaiologou@yahoo.gr

ΠΛΗΡΩΜΕΝΟ ΤΕΛΟΣ
Ταχ. Γραφείο Κ.Ε.Μ.Π. ΚΡΥΟΝΕΡΙΟΥ
Αρ. Άδειας 4739

PRESS POST (X+7) PRESS POST

ΕΛΤΑ Hellenic Post

ΕΝΤΥΠΟ ΚΛΕΙΣΤΟ ΑΡ. ΑΔΕΙΑΣ 2931 ΚΕΜΠΑ
Κωδικός 016951
ΒΗΤΑ ΙΑΤΡΙΚΕΣ ΕΚΔΟΣΕΙΣ
Κατεχάκη & Αδριανείου 3 – 115 25 ΑΘΗΝΑ

Περιοδικό "Ψυχιατρική"
Διονυσίου Αιγινήτου 17, 3ος όροφος, 115 28 Αθήνα
Τηλ.: 210-77 58 410 • Fax: 210-77 09 044 • e-mail: editor@psych.gr

The Journal "Psychiatriki"
17, Dionisiou Eginitou str., 3rd floor, 115 28 Athens, Greece
Tel.: (+30) 210-77 58 410 • Fax: (+30) 210-210-77 09 044 • e-mail: editor@psych.gr

Ελληνική Ψυχιατρική Εταιρεία
Παπαδιαμαντοπούλου 11, 115 28 Αθήνα
Τηλ.: 210-72 14 184, Fax: 210-72 42 032 • e-mail: psych@psych.gr

Hellenic Psychiatric Association
11, Papadiamantopoulou str., 115 28 Athens, Greece
Tel.: (+30) 210-72 14 184, Fax: (+30) 210-72 42 032 • e-mail: psych@psych.gr