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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

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In Memoriam

Γιάννης Παπακώστας

(1941–2021)
Καθηγητής Ψυχιατρικής Πανεπιστημίου Αθηνών

Συχνά λέγεται η φράση «ουδείς αναντικατάστατος», ωστόσο υπάρχουν άνθρωποι που αφήνουν δυσαναπλήρωτο κενό στον χώρο τους. Ένας τέτοιος Άνθρωπος ήταν ο Γιάννης Παπακώστας που έφυγε πριν λίγους μήνες. Όσοι είχαν την τύχη να συνεργαστούν μαζί του, και είναι πολλοί αυτοί, απολάμβαναν τις απέραντες γνώσεις του, το υπέροχο χιούμορ του και την πληθώρα των παροιμιών, στις οποίες συχνά πυκνά κατέφευγε για να κάνει σαφέστερη τη διδασκαλία του. Διπλά τυχεροί όσοι βρίσκονταν στο στενό περιβάλλον του και αντάλλασσαν απόψεις. Ακόμα και αν δεν συμφωνούσαν, κέρδιζαν από τη μετριοπάθειά του, που σε οδηγούσε με ψυχοθεραπευτική μαεστρία να μειώσεις τις μεροληψίες σου και να απολαμβάνεις τις συζητήσεις μαζί του για διάφορα θέματα, ψυχολογικά, φιλοσοφικά και άλλα.

Ο Γιάννης Παπακώστας γεννήθηκε το 1941 και ήταν ο έκτος μεταξύ οκτώ αδελφών. Μεγάλωσε στην ορεινή Ναυπακτία, πήγε Γυμνάσιο στην Αθήνα και φοίτησε στην Ιατρική Σχολή Αθηνών. Πήρε την ειδικότητα του Νευρολόγου – Ψυχιάτρου στην Πανεπιστημιακή Κλινική του Αιγινητείου Νοσοκομείου. Το 1971 ξεκίνησε τη θητεία του στην Ψυχιατρική Κλινική του Πανεπιστημίου Αθηνών στο Αιγινήτειο Νοσοκομείο, αρχικά ως ειδικευόμενος και στη συνέχεια ως πανεπιστημιακός βοηθός. Το 1975, μετά από επιτυχή δοκιμασία στις αμερικανικές εξετάσεις, ξεκίνησε τις μεταπτυχιακές του σπουδές στη Νέα Υόρκη. Εκεί είχε την ευκαιρία να εξειδικευτεί σε δύο βασικούς και συμπληρωματικούς τομείς: στη βιολογική ψυχιατρική, δίπλα στον καθηγητή Max Fink, κορυφαίο στον χώρο της υπολογιστικής ηλεκτροεγκεφαλογραφίας και ηλεκτροσπασμοθεραπείας, και συγχρόνως στη Γνωσιακή-Συμπεριφορική Ψυχοθεραπεία στην οποία ολοκλήρωσε τη θεωρητική και πρακτική εκπαίδευση. Το 1978 διορίστηκε Research Assistant Professor of Psychiatry στο Ψυχιατρικό Τμήμα της Ιατρικής Σχολής του πολιτειακού Πανεπιστημίου της Νέας Υόρκης. Επέστρεψε στην Ελλάδα το 1980 και διορίστηκε επιμελητής της Πανεπιστημιακής Ψυχιατρικής Κλινικής του Αιγινητείου Νοσοκομείου, υπό τη διεύθυνση του Κώστα Στεφανή. Συνέχισε να εργάζεται ως καθηγητής ψυχιατρικής μέχρι τη συνταξιοδότησή του. Ο Γιάννης Παπακώστας ήταν ένας από τους εμβληματικούς καθηγητές στο Αιγινήτειο Νοσοκομείο. Στον κλινικό τομέα υπηρέτησε σε διάφορες δομές της Ψυχιατρικής Κλινικής και επί μία πενταετία ήταν υπεύθυνος του Τμήματος Βραχείας Νοσηλείας. Έναν χρόνο μετά την επιστροφή του στην Ελλάδα (1981) δημιούργησε στο Αιγινήτειο το Πρόγραμμα Γνωσιακών Ψυχοθεραπειών, το πρώτο και μακροβιότερο πρόγραμμα εκπαίδευσης στη Γνωσιακή Ψυχοθεραπεία, το οποίο συνεχίζεται μέχρι και σήμερα. Το 2006 ίδρυσε και ηγήθηκε της Ελληνικής Εταιρείας Γνωσιακών Ψυχοθεραπειών.

Ο Γιάννης Παπακώστας έχει ένα πλουσιότατο συγγραφικό έργο δημοσιευμένο σε διεθνή και ελληνικά περιοδικά που απλώνεται σε αρκετούς τομείς της Ψυχιατρικής. Ωστόσο, η συμβολή του στη διάδοση της Γνωσιακής Ψυχοθεραπείας αποτελεί τη μεγαλύτερη προσφορά του στην ελληνική ψυχιατρική κοινότητα. Όχι μόνο εκπαίδευσε εκατοντάδες ψυχιάτρους και ψυχολόγους, αλλά προίκισε την ελληνική βιβλιογραφία με δύο σπουδαία βιβλία. Το πρώτο με τίτλο «Γνωσιακή Ψυχοθεραπεία: θεραπεία και πράξη» το 1994, ένα βιβλίο αναφοράς για την εκπαίδευση των ψυχοθεραπευτών και το δεύτερο, η ύστατη προσφορά του, με τίτλο «Η Γνωσιακή Ψυχοθεραπεία και το Τρίτο Κύμα» που ολοκληρώθηκε το 2021, αλλά δεν πρόλαβε να το πάρει στα χέρια του. Το βιβλίο αναφέρεται στις νεότερες γνωσιακές ψυχοθεραπευτικές στρατηγικές.

Η πολύπλευρη προσωπικότητά του φαίνεται και από την ενασχόλησή του με την ποίηση, στην οποία συνδύαζε την ευαίσθητη αποτύπωση του συναισθηματικού του κόσμου με οξυδερκή φιλοσοφικό προβληματισμό. Η ποιητική του συλλογή εμπνευσμένη από την αρχαιοελληνική γραμματεία, έχει τίτλο «Αλλημυθία» (2009). Ο θαυμασμός του στο Σίσυφο και το σισύφειο έργο αποτυπώθηκε στο βιβλίο «Ο μυθολογικός και ο αλληγορικός Σίσυφος» (2016).

Ο Γιάννης Παπακώστας είχε μια μεγάλη αγάπη για τη γνώση. Όλοι τον θυμόμαστε, χαμογελαστό, να κρατάει ένα βιβλίο ή ένα πρόσφατο άρθρο. Τη δίψα του για καινούργια γνώση, είχε το χάρισμα να την κάνει μεταδοτική. Φεύγοντας από μια συνάντηση μαζί του, κάτι καινούργιο υπήρχε να ψάξεις, να ερευνήσεις. Όλα ήταν αντικείμενο έρευνας, έλεγε χαρακτηριστικά: "don't trust me, test me". Και του άρεσε ιδιαίτερα να μεταδίδει αυτή τη γνώση στους μαθητές του με τους οποίους δεν κουραζόταν ποτέ να ασχολείται και πολλούς από τους οποίους στήριζε και προωθούσε επιστημονικά και επαγγελματικά με μια πατρική φροντίδα.

Ο Γιάννης Παπακώστας ήταν ένας άνθρωπος προσηνής, με ήπιο χαρακτήρα με τεράστια ευρυμάθεια, με εξαιρετικές διαλεκτικές ικανότητες, που χαιρόσουν να τον ακούς, και σου έδινε μια αφορμή για εξέλιξη. Η διαφωνία μαζί του ήταν μια εξερεύνηση,

από την οποία κερδίζατε και οι δύο: εκείνος συζητούσε προσπαθώντας να προχωρήσει τη σκέψη του, αλλά είχε και την ικανότητα να σε κάνει να γίνεσαι κι εσύ πιο διαλλακτικός και ανοιχτός. Αυτή ήταν η μεγάλη τύχη όσων τον είχαν κοντά τους. Γιατί ο Γιάννης Παπακώστας δεν ήταν απλώς ένας ευγενικός άνθρωπος, ήταν ένας ευγενής.

Όλα αυτά που αναφέρθηκαν δεν φιλοδοξούν να αποδώσουν μια λεπτομερή περιγραφή του Γιάννη, είναι μερικά ψήγματα για να του εκφράσουμε ένα μικρό μέρος της ευγνωμοσύνης μας έναντι της τεράστιας προσφοράς του και να επισημάνουμε ότι ο Γιάννης Παπακώστας αφήνει δυσαναπλήρωτο, πολύ δυσαναπλήρωτο, κενό σε πολλά επίπεδα.

Οι φίλοι και συνάδελφοι,

Νίκος Βαϊδάκης

Γιάννης Ζέρβας

Γιάννης Μιχόπουλος

Αρτέμης Πεχλιβανίδης

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Editorial

Substance use during the COVID-19 pandemic: What is really happening?

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The COVID-19 pandemic is associated with increased levels of anxiety, fear, sadness, difficulty adjusting, symptoms of post-traumatic stress disorder and suicidality, both in the general population and specific subgroups. The presence of this type of psychopathology increases the risk of involvement with or worsens the use of addictive substances and alcohol as a maladaptive coping strategy.[1]

According to these data, people with substance use disorders are a population at high risk for COVID-19 infection and serious illness. A large controlled retrospective case study in the US found that people with substance use disorders are significantly more vulnerable to COVID-19 and its complications (primarily those with opioid use disorder OR=10.21 and with tobacco use disorder OR = 8.25), and that the course and outcome of the disease (hospitalization, death) was worse than in non-dependent individuals. The main culprits are increased physical co-morbidity (frequent respiratory and cardiovascular problems), poor health and living conditions, marginalization and difficulties in accessing health services.[2,3]

International epidemiological data during the first months of the pandemic regarding the use of addictive substances do not lead to safe conclusions. A cross-sectional online epidemiological study conducted on a sample of 36,538 adults from 21 European countries between April and July 2020 found an overall decrease in alcohol use, which was mainly attributed to the reduction of heavy episodic consumption, while at the same time an increase in alcohol consumption among people with severe alcohol use was recorded. The use of cannabis and nicotine showed increasing trends, as well as the use of cocaine, but to a lesser extent, while the use of MDMA (ecstasy) showed a decrease.[4] In a review of 45 cross-sectional studies conducted between December 2019 and November 2020, alcohol use was on the rise overall, despite geographical variations, as was the use of other addictive substances, cannabis in particular.[5] It should be noted that those who increased alcohol use during quarantine were those exhibiting higher levels of negative emotionality mechanisms.[6]

In Greece, an online cross-sectional survey in April 2020 in the general population during the first lockdown showed a reduction in alcohol use (43.7% of alcohol users reduced or quit), a reduction in cannabis (67.3% quit), while 33.3% increased nicotine use. These changes were attributed to the limitation of alcohol availability, social distancing, changes in daily routine and income reduction.[7,8] Also, wastewater samples from Athens, analyzed by the Laboratory of Analytical Chemistry of EKPA, showed a significant increase in the use of cocaine (67%), amphetamine (350%) and methamphetamine (37%), and a decrease in the use of MDMA (–38%) during the first lockdown, compared to the corresponding period of the previous year.[9] Analysis of wastewater samples from other European cities "suggest that levels of use of most drugs appear generally lower during the initial lockdowns, but then appear to bounce back once lockdown was lifted. A comparison with 2019 appears to suggest similar overall consumption of most drugs, and in several cities possibly even higher levels, based on this data source. Exceptions here appear to be MDMA and methamphetamine, two drugs for which the levels observed in 2020 appear lower in most of the participating cities".[10,11]

There were also changes in the locations of use of the substances, as with the periodic restrictions the use was transferred mainly at home and in open public spaces; in some cases, it was associated with increased intravenous use and cases of intoxication. Finally, intermittent difficulties in drug availability and trafficking have led users to search for other substances, increase experimentation and multidrug use, and make online purchases. In addition, there is concern about the increasing abuse of benzodiazepines, which are either diverted from therapeutic use or appear on the illicit market, often as new benzodiazepines.[10,12]

According to the European Monitoring Center for Drugs and Drug Addiction (EMCDDA), "the drug market has been remarkably resilient to disruption caused by the pandemic" … Drug trafficking has adapted to the new conditions with changes in routes and methods of trafficking, and by further enhancing the digital presence of the drug market… "Any reductions in drug consumption seen during the initial lockdowns rapidly disappeared as social distancing measures were eased. In general terms, there appears to have been less consumer interest in drugs usually associated with recreational events, such as MDMA, and greater interest in drugs linked with home use. However, the easing of restrictions … during the summer was associated with a rebound in the

levels of use". Also, "survey data suggest that those using drugs occasionally prior to COVID-19 may have reduced or even ceased their use during the pandemic, but more-regular users may have increased their drug consumption".[10]

Measures taken to control the pandemic have reduced and modified the mental health and addiction treatment services provided. Although services have been adequately restored, there has initially been a 60% reduction in the availability and provision of detoxification services in Europe.[13] Live contact, mainly at group level, was significantly reduced or stopped altogether for a long period, as well as the frequency of individual appointments. Therapeutic programs sought to respond to the new conditions using technology and telemedicine, providing online group support and psychotherapy. Substitution treatment programs have become more flexible by providing long-term pharmaceutical substitutes (take home) to prevent users from moving. There have also been facilitations in prescribing by treating physicians. Thus, the addicts' contact with the treatment process was maintained, but it was insufficient to meet their increased needs during this period.

In conclusion, it should be noted that substance use appears to have an autonomous dynamism in relation to the pandemic and the consequent psychopathology, being in a "loose" causal relationship with it. Therefore, hasty and untimely generalizations should be avoided, and easy conclusions should not be drawn through extrapolations from previous socio-economic crises of different types or through partial spatiotemporal understandings, which are usually presented by the media in the form of negative alarming information.

Eleftherios Mellos
Psychiatrist - Psychotherapist, "ATHENA" Programme, OKANA - First Department of Psychiatry, Medical School, National and Kapodistrian University of Athens & Secretary of Section on Substance Abuse, Hellenic Psychiatric Association, Athens, Greece

Thomas Paparrigopoulos
Professor of Psychiatry, First Department of Psychiatry, Medical School National and Kapodistrian University of Athens, Eginition Hospital & Chairman of Section on Substance Abuse, Hellenic Psychiatric Association, Athens, Greece

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Άρθρο σύνταξης

Η χρήση εθιστικών ουσιών κατά την πανδημία Covid-19: Τι πραγματικά συμβαίνει;

ΙΣΤΟΡΙΚΟ ΑΡΘΡΟΥ: Παραλήφθηκε 27 Ιανουαρίου 2022/Δημοσιεύθηκε Διαδικτυακά 21 Φεβρουαρίου 2022

Η πανδημία COVID-19 έχει επιφέρει αυξημένα επίπεδα άγχους, φόβου, θλίψης, δυσκολίες προσαρμογής, συμπτώματα μετατραυματικής διαταραχής και αυτοκτονικότητας, τόσο στον γενικό πληθυσμό όσο και σε ειδικές ομάδες. Η ύπαρξη ψυχοπαθολογίας αυτού του τύπου αυξάνει τον κίνδυνο εμπλοκής ή επιδεινώνει τη χρήση εθιστικών ουσιών και αλκοόλ, ως μια δυσπροσαρμοστική στρατηγική αντιμετώπισης.[1]

Από την άλλη πλευρά, τα άτομα με διαταραχές χρήσης ουσιών αποτελούν πληθυσμό υψηλού κινδύνου για μόλυνση από COVID-19 και για σοβαρή νόσηση. Σε μεγάλη ελεγχόμενη αναδρομική μελέτη περιπτώσεων στις ΗΠΑ διαπιστώθηκε ότι τα άτομα με διαταραχές χρήσης ουσιών είναι σημαντικά πιο ευάλωτα στον COVID-19 και τις επιπλοκές του (κατεξοχήν με διαταραχή χρήσης οπιοειδών OR=10,21 και με διαταραχή χρήσης καπνού OR=8,25), καθώς και ότι η πορεία και έκβαση της νόσου (νοσηλεία, θάνατος) ήταν χειρότερη σε σχέση με τα μη εξαρτημένα άτομα. Ως υπεύθυνοι παράγοντες ενοχοποιούνται κυρίως η αυξημένη σωματική συννοσηρότητα (συχνά αναπνευστικά και καρδιαγγειακά προβλήματα), οι κακές συνθήκες υγιεινής και διαβίωσης, η περιθωριοποίηση και οι δυσκολίες πρόσβασης στις υπηρεσίες υγείας.[2,3]

Τα διεθνή επιδημιολογικά δεδομένα κατά της πρώτους μήνες της πανδημίας σχετικά με τη χρήση εξαρτησιογόνων ουσιών δεν οδηγούν σε ασφαλή συμπεράσματα. Σε συγχρονική διαδικτυακή επιδημιολογική μελέτη που διεξήχθη σε δείγμα 36.538 ενηλίκων από 21 ευρωπαϊκές χώρες μεταξύ Απριλίου–Ιουλίου 2020 διαπιστώθηκε συνολικά μείωση της χρήσης αλκοόλ, που αποδόθηκε κυρίως στη μείωση της βαριάς επεισοδιακής κατανάλωσης, ενώ ταυτόχρονα καταγράφηκε αύξηση της κατανάλωσης μεταξύ των ατόμων με βαριά χρήση αλκοόλ. Η χρήση κάνναβης και νικοτίνης εμφάνισε αυξητικές τάσεις, καθώς και η χρήση κοκαΐνης αλλά σε μικρότερο βαθμό, ενώ η χρήση MDMA (ecstasy) εμφάνισε μείωση.[4] Σε ανασκόπηση 45 συγχρονικών μελετών από τον Δεκέμβριο 2019 έως τον Νοέμβριο 2020, η χρήση αλκοόλ σημείωσε συνολικά αυξητικές τάσεις, παρόλες τις γεωγραφικές διαφοροποιήσεις, καθώς και η χρήση άλλων εθιστικών ουσιών, με μεγαλύτερη αύξηση να καταγράφει η κάνναβη.[5] Ας σημειωθεί ότι εκείνοι που αύξησαν τη χρήση αλκοόλ κατά τη διάρκεια της καραντίνας ήταν όσοι εμφάνισαν έντονα αρνητικούς συναισθηματικούς μηχανισμούς.[6]

Στη χώρα μας μια διαδικτυακή συγχρονική μελέτη τον Απρίλιο 2020 στον γενικό πληθυσμό κατά τη διάρκεια του πρώτου εγκλεισμού έδειξε μείωση της χρήσης αλκοόλ (43,7% των χρηστών αλκοόλ μείωσε ή διέκοψε), μείωση της κάνναβης (67,3% διέκοψε), ενώ αντιθέτως 33,3% αύξησαν τη χρήση νικοτίνης, μεταβολές που αποδόθηκαν στον περιορισμό της διαθεσιμότητας αλκοόλ, στην κοινωνική αποστασιοποίηση, τις αλλαγές στην καθημερινή ρουτίνα και στη μείωση του εισοδήματος.[7,8] Επίσης, δεδομένα από τα λύματα της πόλης των Αθηνών, που ανέλυσε το Εργαστήριο Αναλυτικής Χημείας του ΕΚΠΑ, έδειξαν σημαντική αύξηση της χρήσης κοκαΐνης (67%), αμφεταμίνης (350%) και μεθαμφεταμίνης (37%), και μείωση της χρήσης MDMA (–38%) κατά την περίοδο του πρώτου εγκλεισμού, σε σχέση με την αντίστοιχη περίοδο του προηγούμενου έτους.[9] Οι αντίστοιχες αναλύσεις λυμάτων από άλλες ευρωπαϊκές πόλεις «φανερώνουν ότι τα επίπεδα χρήσης των περισσότερων ουσιών είναι γενικά χαμηλότερα στη διάρκεια των αρχικών εγκλεισμών, στη συνέχεια όμως ανακάμπτουν μετά την άρση των εγκλεισμών. Συγκριτικά με το 2019, η συνολική κατανάλωση των περισσότερων ουσιών φαίνεται να παραμένει σε παρόμοια επίπεδα και, σε κάποιες πόλεις, ίσως αυξημένα, βάσει της συγκεκριμένης πηγής δεδομένων. Εξαίρεση φαίνεται να αποτελούν η MDMA και η μεθαμφεταμίνη, δύο ουσίες τα επίπεδα χρήσης των οποίων το 2020 παρατηρούνται χαμηλότερα στις περισσότερες από τις συμμετέχουσες πόλεις».[10,11]

Αλλαγές υπήρξαν επίσης στους χώρους χρήσης των ουσιών, καθώς με τα κατά περιόδους περιοριστικά μέτρα η χρήση μεταφέρθηκε κυρίως στο σπίτι και σε ανοικτούς δημόσιους χώρους, και συνδέθηκε σε κάποιες περιπτώσεις με αύξηση της ενδοφλέβιας χρήσης και των περιστατικών τοξίκωσης. Τέλος, οι κατά διαστήματα δυσκολίες στη διαθεσιμότητα και διακίνηση των ναρκωτικών οδήγησε τους χρήστες στην αναζήτηση και άλλων ουσιών, στην αύξηση των πειραματισμών και του φαινομένου της πολυχρήσης, καθώς και στις αγορές μέσω διαδικτύου. Επιπλέον, ανησυχία προκαλεί η αυξανόμενη κατάχρηση βενζοδιαζεπινών, οι οποίες είτε εκτρέπονται από τη θεραπευτική χρήση είτε εμφανίζονται στην αγορά παράνομων ουσιών, συχνά με τη μορφή νέων βενζοδιαζεπινών.[10,12]

Σύμφωνα με το Ευρωπαϊκό Κέντρο Παρακολούθησης Ναρκωτικών και Τοξικομανίας (EMCDDA) «η αγορά ναρκωτικών επέδειξε αξιοσημείωτη ανθεκτικότητα στην αναστάτωση που προκάλεσε η πανδημία»… Η εμπορία προσαρμόστηκε στις νέες συνθήκες

με αλλαγές στις οδούς και στις μεθόδους διακίνησης και με περαιτέρω ενίσχυση της ψηφιακής παρουσίας της αγοράς ναρκωτικών… «Η αρχική μείωση της χρήσης ουσιών που παρατηρήθηκε στη διάρκεια των πρώτων εγκλεισμών ανατράπηκε ταχύτατα με τη χαλάρωση των μέτρων τήρησης των κοινωνικών αποστάσεων. Σε γενικές γραμμές, φαίνεται να υπήρχε λιγότερο ενδιαφέρον των χρηστών για ουσίες που συνήθως συνδέονται με ψυχαγωγικές δραστηριότητες, όπως η MDMA, και μεγαλύτερο ενδιαφέρον για ουσίες που συνδέονται με κατ' οίκον χρήση. Πάντως, η χαλάρωση των περιορισμών…στη διάρκεια του καλοκαιριού συνδέεται με ανάκαμψη των επιπέδων χρήσης». Επίσης, «τα δεδομένα φανερώνουν ότι οι περιστασιακοί χρήστες ουσιών πριν την COVID-19 μπορεί να έχουν περιορίσει ή και διακόψει τη χρήση στη διάρκεια της πανδημίας, ενώ οι πιο συστηματικοί χρήστες μπορεί να έχουν αυξήσει τη χρήση».[10]

Τα μέτρα που επιβλήθηκαν για τον έλεγχο της πανδημίας περιόρισαν και τροποποίησαν τις παρεχόμενες θεραπευτικές υπηρεσίες ψυχικής υγείας και απεξάρτησης. Παρά το γεγονός ότι οι υπηρεσίες αποκαταστάθηκαν σε ικανό βαθμό, υπήρξε αρχικά μείωση κατά 60% στη διαθεσιμότητα και παροχή υπηρεσιών απεξάρτησης στην Ευρώπη.[13] Η διά ζώσης επαφή, κυρίως σε ομαδικό επίπεδο, μειώθηκε σημαντικά ή και σταμάτησε εντελώς για μεγάλα χρονικά διαστήματα, ενώ η συχνότητα των ατομικών συναντήσεων αραίωσε σημαντικά. Τα προγράμματα προσπάθησαν να ανταποκριθούν στις νέες συνθήκες με τη χρήση της τεχνολογίας και της τηλεϊατρικής, παρέχοντας διαδικτυακά ομάδες υποστήριξης και ψυχοθεραπείας. Τα προγράμματα υποκατάστασης έγιναν πιο ευέλικτα με τη χορήγηση υποκατάστατων μεγάλης χρονικής διάρκειας (take home) ώστε να αποφεύγεται η μετακίνηση των χρηστών. Επίσης, υπήρξαν αντίστοιχες διευκολύνσεις στη συνταγογράφηση από τους θεράποντες ιατρούς. Έτσι, διατηρήθηκε μεν η επαφή των εξαρτημένων ατόμων με τη θεραπευτική διαδικασία, πλην όμως δεν ήταν σε θέση να καλυφθούν επαρκώς οι αυξημένες ανάγκες τους κατά την περίοδο αυτή.

Συμπερασματικά, θα πρέπει να επισημανθεί ότι η χρήση εθιστικών ουσιών φαίνεται να διαθέτει μια αυτόνομη δυναμική σε σχέση με την πανδημία και τη συνεπαγόμενη ψυχοπαθολογία, και να βρίσκεται σε μια «χαλαρή» μη νομοτελειακή αιτιώδη σχέση με αυτή. Συνεπώς, πρέπει να αποφεύγονται βιαστικές και άκαιρες γενικεύσεις, και να μη συνάγονται εύκολα συμπεράσματα μέσω παρεκβολής από προηγούμενες διαφορετικού τύπου κοινωνικο-οικονομικές κρίσεις ή μέσω χωρο-χρονικά αποσπασματικών θεωρήσεων, που κατά κανόνα προβάλλονται από τα ΜΜΕ με τη μορφή ανησυχητικής αρνητικής πληροφόρησης.

Ελευθέριος Μέλλος
Ψυχίατρος-Ψυχοθεραπευτής, Πρόγραμμα «ΑΘΗΝΑ», ΟΚΑΝΑ -
Α΄ Ψυχιατρική Κλινική ΕΚΠΑ, Γραμματέας Κλάδου Ουσιοεξαρτήσεων της ΕΨΕ, Αθήνα

Θωμάς Παπαρρηγόπουλος
Καθηγητής Ψυχιατρικής, Α΄ Ψυχιατρική Κλινική, Ιατρική Σχολή,
Εθνικό και Καποδιστριακό Πανεπιστήμιο Αθηνών, Αιγινήτειο Νοσοκομείο,
Πρόεδρος Κλάδου Ουσιοεξαρτήσεων της ΕΨΕ, Αθήνα

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Research article

Exhaustion and burnout in the healthcare system in Greece: A cross-sectional study among internists during the COVID-19 lockdown

Eleni Karlafti,[1] Emmanouil S. Benioudakis,[1] Eirini Barouxi,[2] Georgia Kaiafa,[1] Triantafyllos Didangelos,[1] Konstantinos N. Fountoulakis,[3] Stamatina Pagoni,[4] Christos Savopoulos[1]

[1]*First Propeadeutic Internal Medicine Department, AHEPA University Hospital, Aristotle University of Thessaloniki, Thessaloniki,*
[2]*Department of Psychology, University of Crete, Rethimno,*
[3]*Third Department of Psychiatry, AHEPA University Hospital, Aristotle University of Thessaloniki, Thessaloniki,*
[4]*Third Department of Internal Medicine, "G. Gennimatas" General Hospital of Athens, Greece*

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ABSTRACT

The COVID-19 pandemic has rapidly changed everyday life around the world. The situation created by the COVID-19 pandemic has been shown to be associated with severe mental health problems in frontline medical and nursing staff. The aim of this study was to investigate exhaustion, disengagement, secondary traumatic stress, compassion satisfaction, burnout, as well as depression, anxiety and stress among internists in Greece, during the second lockdown period. Internists were approached through the Internal Medicine Society of Greece and a total of 117 participated in the study (response rate: 15.3%). The participants responded through a Google form on the Depression, Anxiety and Stress Scale-21, the Oldenburg Burnout Inventory (OLBI) and the Professional Quality of Life Scale version 5 (ProQOL-5). Exhaustion was found in the majority of the participants (88%), 65.8% met the criteria for at least moderate levels of compassion satisfaction and 71.8% presented moderate levels of burnout. Furthermore, about half of the participants met the criteria for moderate to extremely severe levels of depression, anxiety and stress. Finally, regression analyses showed that depression was associated with both the OLBI and ProQOL-5 scales. The majority of the internists, during the lockdown period in Greece, were evaluated as "exhausted", with high rates of negative psychological symptoms. The present study, despite the limitations, highlights the impact of the COVID-19 pandemic on internists, which triggered a shift in attention onto the treatment, and especially the prevention, of stressful situations for health professionals.

KEYWORDS: COVID-19 pandemic, exhaustion, burnout, depression, internists, Greece.

Introduction

The Coronavirus disease of 2019 (COVID-19) is an infectious disease caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The virus and disease were first identified in the Chinese city of Wuhan in late 2019 and became known to the World Health Organization on December 31, 2019. Since then, it has spread around the world and has developed into a pandemic.[1] The ever-increasing number of cases, the impending risk of infection as well as the excessive burden on health care systems are important factors of an intense psychological burden and are associated with

Corresponding author: Emmanouil Benioudakis, First Propeadeutic Internal Medicine Department, AHEPA University Hospital, Aristotle University of Thessaloniki, 1 Stilponos Kyriakidi street, GR-556 36 Thessaloniki, Greece • e-mail: empeniou@auth.gr

increased manifestation of anxiety and depression, especially among Health Care Workers (HCWs).[2] COVID-19 has been shown to be associated with severe mental health problems in patients as well as frontline medical and nursing staff, who had direct contact with infected patients and expressed greater mental distress, more stigma, and more concerns about their families' infection.[3] In addition, symptoms of post-traumatic stress were reported in Italy,[4] where the COVID-19 pandemic has had a stronger impact on the mental health of physicians.[5]

On February 26, 2020, the first wave of the epidemic began in Greece, along with the first implementation of strict measures for the prevention of infection and the early imposition of social distancing. During this period, emotional disorders and high levels of symptoms of depression and anxiety were similar or higher compared to the period of the 2009 financial crisis.[6] Amidst COVID-19, burnout (BO) has a high prevalence in HCWs around the world as it appears as a response to stressful situations in the course of the development of a work activity.[7] BO is a psychological syndrome that may emerge when employees are exposed to a stressful working environment, with high job demands and low resources or low gratification.[8]

Despite the fact that Greece took strict social prevention measures early on, the Greek public health system faced serious challenges and showed significant shortages of equipment, staff and hospital facilities from the beginning of the COVID-19 pandemic in the country.[9] Greek clinicians were faced with unprecedented, serious challenges that they had to respond to immediately and effectively. Within a limited time and with minimal resources, they had to act in a timely manner and make decisions about the diagnoses, the sorting and isolation of cases with suspected infection, the treatment and maintenance of patients in life, as well as make immediate decisions about closing departments and preparing surgeries, with limited resources and beds in intensive care. These procedures are familiar in many countries and concern the daily difficulties and mental, spiritual and physical damage faced by frontline HCWs, as evidenced by the literature.[1,9,10]

During the COVID-19 pandemic, frontline medical correspondents worked continuously to meet the high demands of healthcare, while higher levels of mental disorders have been reported among them.[11] At a time when public health systems are struggling and overburdened, trying to meet the requirements of COVID-19, physically and mentally healthy healthcare professionals are needed to provide reliable and effective health care services.[12] The aim of this study was to investigate exhaustion, disengagement, secondary traumatic stress, compassion satisfaction, burnout, as well as depression, anxiety and stress among internists in Greece, during the second lockdown period.

Material and Method

Sample

Internists were approached through the Internal Medicine Society of Greece. A Google form link was emailed to their accounts and before participating in the study, all participants electronically gave their consent. The research was open from 21 April 2021 until 13 May 2021, during the second lockdown in Greece. During this period, the HCWs were not allowed to take any normal licenses.[13] Of the total number of internists who were approached (n=764), eventually 117 participated in the study (response rate: 15.3%). To avoid double entries, only one questionnaire was accepted per specific IP address. The research structure did not allow any tracking of the participants' identity and participants were free to discontinue at any time. The study was conducted according to the guidelines of the Declaration of Helsinki and approved by the Scientific Council of the "AHEPA" University Hospital, Aristotle University of Thessaloniki, under approval number 15043, dated April21, 2021.

Data collection

Participants' socio-demographic characteristics (age, gender, marital status, annual income, etc.) were collected. The Depression, Anxiety and Stress Scale-21 was then administered to explore levels of depression, anxiety, and stress. Following that, the Oldenburg Burnout Inventory was used to identify professional BO, and finally, the Professional Quality of Life Scale version 5 was used to identify the negative consequences of helping others and the positive feelings derived from the compassionate helping of working with people who have experienced extremely stressful events. The questionnaires used Likert scale and multiple-choice question answers.

Depression, Anxiety and Stress Scale-21 (DASS-21)

This is a 21-item self-report questionnaire scored on a 4-point Likert scale ranging from 0 (did not apply to me at all) to 3 (applied to me very much, or most of the time). DASS-21 is designed to assess depression, anxiety, and stress with a three-factor structure of high validity among the three dimensions. Each of the three scales contains 7-items and higher scores indicate more frequent symptomatology.[14] DASS-21 subscales scores were also recoded as "normal", "mild", "moderate", "severe" and "extremely severe" accordingly.[15] The Greek

translation of the DASS-21 is both reliable and valid.[16] In this study, the DASS-42 Cronbach alpha coefficients were (α_{total}=.914; $\alpha_{depression}$=.809; $\alpha_{anxiety}$=.771; α_{stress}=.888).

The Oldenburg Burnout Inventory (OLBI)

The OLBI is a 16-item self-report questionnaire scored on a 4-point Likert scale ranging from 1 (strongly agree) to 4 (strongly disagree). The OLBI is designed to assess disengagement and exhaustion (physical, spiritual and emotional). Each of the two scales contains 8-items. Eight items need to be reversed and recoded as follows: 1 as 4, 2 as 3, 3 as 2 and 4 as 1. We considered participants to be at high risk of BO if they met cutoff scores of ≥2.25 for exhaustion and ≥2.10 for disengagement. These cut off scores have been suggested in previous studies[17] and correlate with physical symptoms.[18] The Greek translation of the OLBI is both reliable and valid.[19] In this study, the OLBI Cronbach alpha coefficients were (α_{total}=.825; $\alpha_{disengagement}$=.762; $\alpha_{exhaustion}$=785).

The Professional Quality of Life Scale version 5 (ProQOL-5)

The ProQOL-5 is a 30-item self-report questionnaire scored on a 5-point Likert scale ranging from 1 (never) to 5 (very often), with higher scores indicating higher levels on each subscale. The ProQOL-5 incorporates two aspects, the positive "Compassion Satisfaction" (CS) and the negative "Compassion Fatigue" (CF) which contains the BO scale and Secondary Traumatic Stress (STS).[20] The ProQOL-5 consists of three subscales with 10 items each.[21] The final score of each subscale was recoded as "Low", "Moderate" and "High" accordingly.[21] The ProQOL-5 has been adapted for Greece with good reliability and construct validity.[22] In this study, the ProQOL-5 was used with permission and the Cronbach alpha coefficients were (α_{CF}=.892; α_{BO}=.758; α_{STS}=.810).

Statistical analyses

Statistical analyses were performed using the statistical package SPSS, version 22 (SPSS Inc., Chicago, IL). To compare the means of variables with two categories, the independent samples t-test with a 0.05 two-sided significance level and chi-square tests or the Fisher exact test with Monte-Carlo correction for categorical variables were used. Pearson correlation coefficients were calculated to assess relationships between the OLBI and ProQOL-5 scales.

In addition, multivariate linear regression analyses were conducted to examine the association between a number of predictors: gender (male/female); age; marital status (single/married); vaccinated against the SARS-COV-2 (yes/no); SARS-CoV-2 virus protection is adequate at your workplace (yes/no); Depression-DASS-21; Anxiety-DASS-21 and Stress-DASS-21, and the continuous outcome variables of disengagement-OLBI; exhaustion-OLBI; CS-ProQOL-5; STS-ProQOL-5 and BO-ProQOL-5. Finally, we used bootstrapping (a sample of 1500 bootstraps) and 95% confidence intervals. Estimated associations were described as β-coefficients with 95% CIs.

Results

Socio-demographic characteristics

The majority of participants (58.1%) were females and most (81%) were under 50 years old. Half of the participants had children with the majority of them (67.7%) having at least two. In addition, most of the participants (80.3%) had been in contact with patients with COVID-19 (p=0.031). There was a statistically significant difference between the internists that were vaccinated (82.9%) and those that were not vaccinated (p = 0.045). Finally, the majority of participants (64.9%) work in the city of Thessaloniki (p=0.027) with 45.2% of the sample working at the University General Hospital. The gender differences between socio-demographics, OLBI, DASS-21 and ProQOL-5 questionnaires outcome variables are presented in table 1. Moreover, we regrouped the participants into three different groups according to OLBI scores. First, the disengagement group, with mean disengagement score ≥2.10; then the exhaustion group, with mean exhaustion score ≥2.25, and finally the BO group, when both the disengagement and exhaustion score met the threshold inclusion criteria according to the literature.[23] Results are presented in figure 1. In addition, figure 2 presents the recoding (low, moderate, high) of the final score of each subscale BO, STS and CS of the ProQOL-5 questionnaire. Furthermore, according to the DASS-21 questionnaire, about half of the participants met the criteria for moderate to extremely severe levels of psychometrically measured depression, anxiety and stress symptomatology. The results of the recoded levels of the DASS-21 questionnaire: normal, mild, moderate, severe and extremely severe, are presented in figure 3. Finally, the relationship between the OLBI and ProQOL-5 scales is presented in table 2. It was found that according to Pearson's bivariate correlations all scales were statistically significantly associated (p<0.01), apart from the STS-ProQOL-5 and Disengagement-OLB.

Multiple linear regression models of the OLBI and ProQOL-5 scales

A Multiple linear regression models were performed to highlight the role of disengagement, exhaustion (OLBI), CS, STS and BO (ProQOL-5), with the socio-demographic and

Table 1. Socio-demographic characteristic.

Variables		Males (N=49) Mean±SD N (%)	Females (N=68) Mean±SD N (%)	x^2 or t	p[a]
Age (years)		41.5±11.0	39.2±9.2	1.233	0.22
Age group (years)	≤40	29 (59.2)	39 (57.4)	0.039	0.843
	>40	20 (40.8)	29 (42.6)		
Family status	Single	19 (38.8)	37 (54.4)	2.790	0.095
	Married	30 (61.2)	31 (45.6)		
Children	None	22 (44.9)	36 (52.9)	0.737	0.455
	Yes	27 (55.1)	32 (47.1)		
Vaccinated against SARS-CoV-2	Yes	45 (91.8)	52 (76.5)	4.745	0.045
	No	4 (8.2)	16 (23.5)		
SARS-CoV-2 virus protection is adequate	Yes	33 (67.3)	42 (61.8)	0.386	0.535
	No	16 (32.7)	26 (38.2)		
Contact with COVID-19 patients	Yes	41 (83.7)	53 (77.9)	6.091	0.031
	No	3 (6.1)	0 (0)		
	Probably	5 (10.2)	15 (22.1)		
City of employment	Thessaloniki	25 (51.0)	51 (75.0)	7.181	0.027
	Athens	4 (8.2)	3 (4.4)		
	Others	20 (40.8)	14 (20.6)		
Place of work	Public Hospital	26 (53.1)	21 (30.9)	6.975	0.062
	University General Hospital	16 (32.7)	37 (54.4)		
	Private Clinic	6 (12.2)	7 (10.3)		
	Other	1 (2.0)	3 (4.4)		
Depression DASS-21		5.0±4.0	5.0±3.7	–0.061	0.952
Anxiety DASS-21		3.4±3.3	3.5±3.1	–0.113	0.91
Stress DASS-21		8.4±4.5	7.7±4 .7	0.909	0.39
Disengagement OLBI		2.3±0.5	2.2±0.5	1.088	0.279
Exhaustion OLBI		2.8±0.4	2.8±0.5	–0.181	0.857
Compassion satisfaction ProQOL-5		38.7±7.0	37.7±6.2	0.864	0.39
Burnout ProQOL-5		25.8±5.6	25.4±5.1	0.399	0.690
Secondary traumatic stress ProQOL-5		24.1±7.5	24.8±4.7	–0.634	0.527

[a]P-values obtained by t-test for two independent samples, and x^2 test or Fisher exact test with Monte-Carlo correction

the three subscales of DASS-21: depression, anxiety and stress; the potential factors being significant was p≤0.05.

According to our sample, for each 1-year (age) of increment, disengagement decreases by –0.097 points (95%CI: –0.18, –0.00, p=0.043) respectively. For each 1-point of increment on the depression scale, disengagement respectively increases by 0.55 points (95%CI: 0.18, 0.87, p=0.005). Also, for each 1-point of increment on the depression scale, exhaustion respectively increases by 0.318 points (95%CI: 0.13, 0.5, p=0.001), CS decreases by –0.931 points (95%CI: –1.35, –0.49, p=0.001), STS increases by 0.41points (95%CI: 0.06, 0.76, p=0.023) and BO respectively increases by 0.955 points (95%CI: 0.68, 1.22, p=0.001). In addition, for each 1-point of increment on the anxiety scale, STS respectively increases by 0.609 points (95%CI: 0.13, 1.08, p=0.015). Finally, for each 1-point of increment on the stress scale, exhaustion respectively increases by 0.316 points (95%CI: 0.15, 0.5, p=0.001). Results are presented in table 3.

Discussion

The COVID-19 pandemic has seen an increased demand on frontline physicians, such as internists, who need to treat large numbers of patients in an unprec-

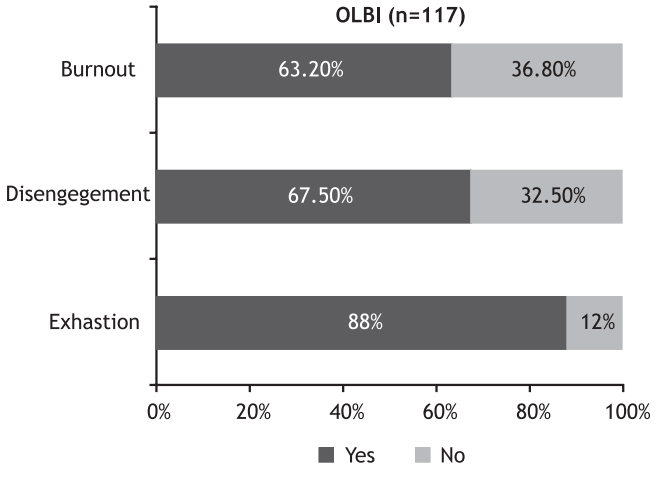

Figure 1. Sample's scores on the Oldenburg Burnout Inventory (OLBI).

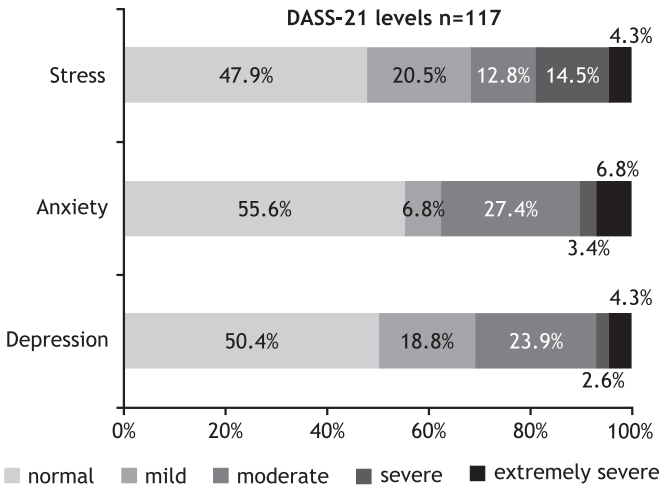

Figure 3. Sample's scores on the Depression, Anxiety and Stress Scale – 21, DASS 21.

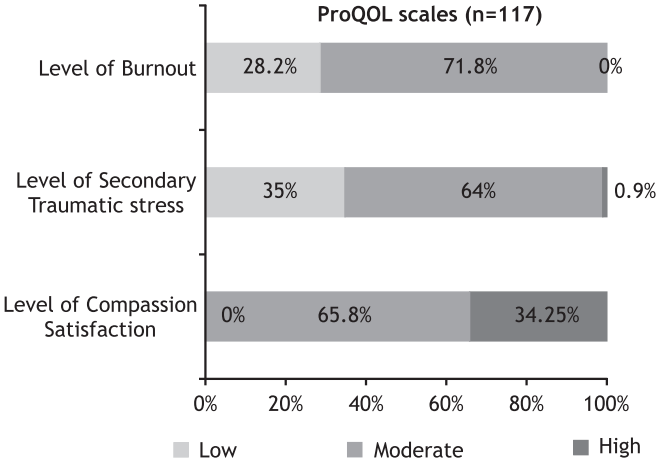

Figure 2. Sample's scores on the Professional Quality of Life Scale version 5 (ProQOL-5).

edented pandemic crisis,[24] causing an unprecedented strain on HCWs.[25] During the COVID-19 pandemic, infection rates increased, hospitals were overloaded, with unavailability of hospital beds and a lack of inadequate personal protective equipment, resulting in further exacerbation of the already vulnerable mental health of HCWs.[26] In this study we investigated the exhaustion, disengagement, STS, CS and BO, as well as the psychological symptoms among internists, frontline personnel facing COVID-19, in Greece.

Occupational BO was firstly mentioned in the literature in the late 1960s.[27] Since then, uncoordinated research has led to a multi-dimensional construct of BO[16] consisting of the three main components: emotional exhaustion, depersonalization, and decreased personal accomplishment, as a result of constant and chronic occupational stress.[28] The OLBI evaluated BO in two dimensions: exhaustion and disengagement from work. On the one hand, exhaustion is defined as a consequence of intense physical, emotional and cognitive strain, resulting as a long-term consequence of prolonged exposure to certain job demands.[29] On the other hand, disengagement refers to distancing oneself from one's work in general, work content (e.g., uninteresting, no longer challenging) and object of work. The disengagement dimension concerns the relationship between employees and their jobs, particularly with respect to identification

Table 2. Pearson correlations between Oldenburg Burnout Inventory (OLBI) and the Professional Quality of Life Scale version 5 (ProQOL-5) subscales.

Variables	1	2	3	4	5
1. Disengagement OLBI	1.00				
2. Exhaustion OLBI	0.43**	1.00			
3. Compassion satisfaction ProQOL-5	–0.57**	–0.38**	1.00		
4. Secondary traumatic stress ProQOL-5	–0.00	0.38**	–0.19*	1.00	
5. Burnout ProQOL-5	0.55**	0.68**	–0.65**	0.52**	1.00

*p<0.05, ** p<.001

Table 3. Multiple linear regression models predicting the scores on the Oldenburg Burnout Inventory (OLBI) and the Professional Quality of Life Scale version 5 (ProQOL-5) (n=117).

Covariates	Disengagement OLBI†			Exhaustion OLBI†			Compassion satisfaction ProQOL-5†			Secondary traumatic stress ProQOL-5†			Burnout ProQOL–5†		
	b (95% CIs)	SE	p	b (95% CIs)	SE	p	b (95% CIs)	SE	p	b (95% CIs)	SE	p	b (95% Cis)	SE	p
Constant	19.919 (16.9, 23.5)	1.841	0.001**	17.536 (14.4, 20.8)	1.638	0.001**	38.318 (32.6, 44)	2.886	0.001**	18.366 (13.5, 23.2)	2.494	0.001**	21.071 (17.5, 24.6)	1.81	0.001**
Gender	–1.165 (–2.6, 0.2)	0.737	0.124	0.165 (–1.0, 1.3)	0.795	0.795	–0.874 (–3.0, 1.3)	1.128	0.436	1.566 (–0.5, 3.4)	1.014	0.138	–0.614 (–2.0, 0.8)	0.722	0.395
Age (years)	–0.097 (–0.1, –0.0)	0.045	0.043*	0.021 (–0.0, 0.1)	0.042	0.635	0.087 (–0.0, 0.2)	0.065	0.182	–0.005 (–0.1, 0.1)	0.062	0.936	–0.001 (–0.0, 0.0)	0.04	0.975
Marital status	0.335 (–1.6, 2.3)	1.0	0.753	–0.749 (–2.4, 0.9)	0.893	0.414	1.111 (–1.5, 3.7)	1.343	0.404	1.775 (–0.6, 4.1)	1.215	0.154	–1.129 (–3.0, 0.6)	0.949	0.233
Vaccinated against SARS-CoV-2	0.638 (–1.5, 2.3)	1.05	0.532	0.464 (–1.0, 1.9)	0.793	0.551	1.626 (–0.7,3.0)	1.164	0.153	–2.584 (–5.5, 0.5)	1.525	0.092	0.339 (–1.3, 1,9)	0.834	0.68
SARS-CoV-2 virus protection is adequate at your workplace	0.785 (–0.7, 2.4)	0.798	0.337	1.057 (–0.3, 2.3)	0.689	0.127	0.073 (–2.1, 2.3)	1.129	0.953	–1.826 (–4.2, 0.4)	1.18	0.127	0.287 (–1.1, 1.6)	0.708	0.984
Depression	0.55 (0.1, 0.8)	0.176	0.005**	0.318 (0.1, 0.5)	0.095	0.001**	–0.931 (–1.3, –0.4)	0.214	0.001**	0.41 (0.0 0.7)	0.181	0.023*	0.955 (0.6, 1.2)	0.136	0.001**
Anxiety	–0.22 (–0.5, 0.0)	0.156	0.145	–0.055 (–0.2, 0.1)	0.107	0.58	0.197 (–0.2, 0.6)	0.224	0.359	0.609 (0.1, 1.0)	0.249	0.015*	–0.053 (–0.2, 0.1)	0.124	0.665
Stress	0.075 (–0.1, 0.3)	0.133	0.584	0.316 (0.1, 0.5)	0.084	0.001**	–0.003 (–0.3, 0.3)	0.171	0.987	0.181 (–0.1, 0.5)	0.166	0.271	0.097 (–0.1, 0.3)	0.109	0.367
R^2	0.322			0.432			0.326			0.346			0.586		
F	6.410**			10.276**			6.531**			7.130**			19.125**		

*p<0.05, ** p<.001, †1500 bootstrap samples

with work and willingness to continue in the same occupation.[30] BO, according to the OLBI, occurs when both exhaustion and disengagement pass the cutoff mean scores.[31] Our survey results present a high proportion of internists (88%) who met the criteria for exhaustion and a lower (67.5%) who met the criteria for disengagement. According to the OLBI, the majority of the participants (63.2%) met the criteria for BO. Exhaustion rates in our study appeared to be slightly higher, but in the same line as, the research of Tan et al.[32] Chernoff et al.[33] and Sheehan et al,[34] conducted among frontline HCWs. Disengagement rates in our research were lower, compared to the study by Tan et al[32] and Chernoff et al[33] Our research results regarding BO appeared to be in line with Pappa et al research[35] which was conducted among frontline HCWs in Greece. We believe that the reduced disengagement rates significantly restrained the BO rates among our sample. However, exhaustion seems to be the most obvious manifestation of BO, while overtime was also related with higher rates of the OLBI exhaustion dimension.[31]

Regarding the ProQOL-5 scale, the majority of the responders reported a moderate level (65.8%) of CS, while the rest (34.25%) reported a high level. CS occurs in the form of the helper's altruistic behaviors and results from a transactional dynamic understood as the positive effects or "payments" one gains as a result of care giving, despite the 'cost' of helping others.[36] This construct was identified as a protective factor against BO and STS.[37] The BO scale of the ProQOL-5 is a dimension of the CF which appeared to be mainly at a moderate level (71.8%) in our sample. The BO scale of the ProQOL-5 is associated with feelings of hopelessness and difficulties in dealing with work or in doing the job effectively, as well as frustration, exhaustion, anger and depression, while is also highly associated with STS.[38] In addition, the BO scale of the ProQOL-5 can reflect the feeling that your efforts make no difference, or they can be associated with a very high workload or a non-supportive work environment.[20,21] Finally, STS, which is the second component of CF, is related to a negative feeling driven by fear and work-related trauma and is presented mainly at a moderate level in our sample (64.8%).[20] Similar results regarding STS where found by Kalaitzaki et al research,[39] which was conducted among HCWs in Greece during the same research period. On the one hand, CS among frontline doctors during COVID-19 presented higher rates in our research than Dosil et al[40] and Ortega-Galán et al research.[41] On the other hand, BO and STS, presented lower rates in our research than Dosil et al[40] and Ortega-Galán et al research.[41]

A higher prevalence of mental health problems, such as anxiety, depression, and so on, was presented among the frontline workers in comparison with the non-frontline HCWs.[36] In this survey we assessed psychological symptoms with the DASS-21 questionnaire. Initially, the depression scale assesses dysphoria, hopelessness, devaluation of life, self-deprecation, lack of interest, anhedonia and inertia.[15] Anxiety scale assesses autonomic arousal, skeletal muscle effects, situational anxiety, and subjective experience of anxiety effects. Finally, the stress scale is sensitive to levels of chronic nonspecific arousal and assesses relaxation difficulty, nervous arousal, agitation, irritability, over-reaction and impatience.[14,15] It is concerning for the mental health of the participants that about a third (30.8%) exhibited moderate to extremely severe depression symptoms, while 37.6% and 31.6% reported moderate to extremely severe anxiety and stress levels respectively. The results of our research show at least twice as high scores regarding moderate to extremely severe depression, anxiety and stress among doctors, in relation to an equivalent study that was conducted among HCWs in Australia[42] and Malaysia.[43] In addition, our results regarding BO and anxiety are in line with Cheristanidis et al research,[44] which was conducted among primary HCWs in Greece. However, in line with the literature,[45] the results of the multivariate linear regression showed that depression significantly associated with exhaustion and disengagement of the OLBI as well as with CS, STS and the BO scale of ProQOL-5. Depression in our research was presented as a key element of BO, such as exhaustion, frustration and anger, according to the literature.[18]

The higher prevalence of depression, anxiety, stress and post-traumatic stress is well established among frontline HCWs in comparison with second-line HCWs.[3,11,26,30] Nevertheless, mixed results are presented between frontline nurses and physicians, regarding the above psychological symptoms.[12,25,40] During the COVID-19 pandemic, dysfunctional coping strategies among frontline HCWs contributed to a higher risk of STS[46] and negative psychological symptoms.[28] Individual focused intervention, as well as organisational interventions proved to be beneficial for HCWs. Initially, according to the literature, organizations can provide adequate nutrition, planning shorter rotations and schedules with sufficient rest for the medical staff. Furthermore, psychoeducation training in coping skills and self-care activities, trauma-focused psychological support, mindfulness practices, social and peer support as well as the increase of communication skills, are important individual focused interventions that can minimize the risk of negative psychological effects.[8,12,28,30,31]

The first limitation of this study is the limited number of participants, a fact that was not under our control. In addition, the cross-sectional design cannot provide ev-

idence of causality and the self-report questionnaires may be influenced by recall and selection biases.

Conclusion

The findings in this study highlight that the majority of the internists qualified as exhausted during the COVID-19 pandemic. In addition, high levels of moderate to extremely severe depression, anxiety and stress have been reported among the participants of the study. In contrast, CS levels present as high and counter balance the STS and BO scores. Nevertheless, the majority of the internists qualified as "Burnout" in both of the questionnaires used; thus, further attention should be focused on the treatment, and especially the prevention, of stressful situations for HCWs. Finally, a reminder to readers is that the uses of stress, anxiety, and depression meanings is psychometric not clinical.

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Ερευνητική εργασία

Εξάντληση και εξουθένωση στο σύστημα υγειονομικής περίθαλψης στην Ελλάδα: Μια συγχρονική μελέτη ανάμεσα σε παθολόγους κατά τη διάρκεια της απαγόρευσης κυκλοφορίας λόγω COVID-19

Ελένη Καρλάφτη,[1] Εμμανουήλ Σ. Μπενιουδάκης,[1] Ειρήνη Μπαρουξή,[2] Γεωργία Καϊάφα,[1] Τριαντάφυλλος Διδάγγελος,[1] Κωνσταντίνος Ν. Φουντουλάκης,[3] Σταματίνα Παγώνη,[4] Χρήστος Σαββόπουλος[1]

[1]*Α' Προπαιδευτική Παθολογική Κλινική, Πανεπιστημιακό Γενικό Νοσοκομείο «ΑΧΕΠΑ», Αριστοτέλειο Πανεπιστήμιο Θεσσαλονίκης, Θεσσαλονίκη,*

[2]*Τμήμα Ψυχολογίας, Πανεπιστήμιο Κρήτης, Ρέθυμνο,*

[3]*Γ΄ Πανεπιστημιακή Ψυχιατρική Κλινική, Πανεπιστημιακό Γενικό Νοσοκομείο «ΑΧΕΠΑ», Αριστοτέλειο Πανεπιστήμιο Θεσσαλονίκης, Θεσσαλονίκη,*

[4]*Γ΄ Παθολογική Κλινική, «Γ. Γεννηματάς» Γενικό Νοσοκομείο Αθήνας*

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ΠΕΡΙΛΗΨΗ

Η πανδημία του COVID-19 άλλαξε ραγδαία την καθημερινότητα σε όλο τον κόσμο. Η κατάσταση που δημιουργήθηκε από την πανδημία COVID-19 έχει αποδειχθεί ότι σχετίζεται με σοβαρά προβλήματα ψυχικής υγείας, τόσο στο ιατρικό, όσο και στο νοσηλευτικό προσωπικό της πρώτης γραμμής. Σκοπός αυτής της μελέτης είναι να διερευνήσει την εξάντληση, την αποδέσμευση, το δευτερογενές τραυματικό στρες, την ικανοποίηση από τη συμπόνια, την εξουθένωση, καθώς και την κατάθλιψη το άγχος και το στρες, μεταξύ των παθολόγων στην Ελλάδα, κατά την περίοδο της δεύτερης απαγόρευσης κυκλοφορίας. Οι παθολόγοι προσεγγίστηκαν μέσω της Εταιρείας Παθολογίας της Ελλάδας και συνολικά 117 άτομα συμμετείχαν στη μελέτη (ποσοστό ανταπόκρισης: 15,3%). Οι συμμετέχοντες απάντησαν μέσω μιας φόρμας Google, στα ερωτηματολόγια: Depression, Anxiety and Stress Scale – 21, the Oldenburg Burnout Inventory (OLBI) και Professional Quality of Life Scale version 5 (ProQOL-5). Εξάντληση εντοπίστηκε στην πλειοψηφία των συμμετεχόντων (88%), το 65,8% πληρούσε τα κριτήρια για τουλάχιστον μέτρια επίπεδα ικανοποίησης από τη συμπόνια και το 71,8% εμφάνισε μέτρια επίπεδα εξουθένωσης. Επιπλέον, περίπου οι μισοί από τους συμμετέχοντες πληρούσαν τα κριτήρια για μέτρια έως εξαιρετικά σοβαρά επίπεδα κατάθλιψης, άγχους και στρες. Τέλος, οι αναλύσεις παλινδρόμησης έδειξαν ότι η κατάθλιψη συσχετίστηκε τόσο με τις κλίμακες του OLBI, όσο και του ProQOL-5. Η πλειοψηφία των παθολόγων που συμμετείχαν στη μελέτη κατά τη διάρκεια της απαγόρευσης κυκλοφορίας του COVID-19, αξιολογήθηκε ως "εξαντλημένη", με υψηλά ποσοστά αρνητικών ψυχολογικών συμπτωμάτων. Η παρούσα μελέτη, παρά τους περιορισμούς, αποτυπώνει τις επιπτώσεις της πανδημίας COVID-19 στους παθολόγους, δίνοντας έτσι το έναυσμα για τη στροφή της προσοχής στην αντιμετώπιση και κυρίως στην πρόληψη πιεστικών καταστάσεων για τους επαγγελματίες υγείας.

ΛΕΞΕΙΣ ΕΥΡΕΤΗΡΙΟΥ: Πανδημία COVID-19, εξάντληση, εξουθένωση, κατάθλιψη, παθολόγοι, Ελλάδα.

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Research article

Association of cognitive function of non-demented elderly primary care attendees with physical, mental, and sociodemographic factors

Aglaia Roganaki,[1] Theofanis Vorvolakos,[2] Elpida Sokou,[3] Gregory A. Tripsianis,[4] Theodoros Konstadinidis,[5] Maria Samakouri[2]

[1]*Mouzaki Health Centre, Mouzaki,*

[2]*Department of Psychiatry, Medical School, Democritus University of Thrace, Alexandroupolis,*

[3]*General Hospital of Komotini, Komotini,*

[4]*Medical Statistics Laboratory, Medical School, Democritus University of Thrace, Alexandroupolis,*

[5]*Laboratory of Hygiene and Environmental Protection, Medical School, Democritus University of Thrace, Alexandroupolis, Greece*

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ABSTRACT

Preservation of a population's cognitive functions is a matter of increased concern for all healthcare systems. The detection of factors that are associated with cognitive functions is a matter of increased interest to both the treatment of vulnerable individuals and the implementation of strategies to delay age-related cognitive decline. This study aimed to highlight sociodemographic, physical, and mental health factors associated with the cognitive function in non-demented elderly primary health care attendees. The sample consisted of 362 primary health care attendees aged 60 years or above. A questionnaire regarding sociodemographic and physical health history, along with a battery of psychometric instruments consisting of the Test Your Memory (TYM) test, Geriatric Depression Scale-Short Form (GDS-15), Short Anxiety Screening Test (SAST), and World Health Organization-Five Well-Being Index (WHO-5), were given to all participants. Participants who scored below 39/40 in the TYM, which is the cut-off point for dementia screening in the version of the test we used, were excluded from further assessment. For the rest of the participants, 267 in total, their TYM scores were significantly and negatively correlated with age and SAST scores. Participants with lung and vascular health history problems scored lower in the TYM, as did those with poor education, who lived alone, and who lived in Alexandroupolis. Finally, healthy participants scored higher than individuals with at least one medical condition. Linear multiple regression analysis revealed a model (adjusted R^2=25.80, F=10.11, p<0.001) with three factors (age (beta=–0.32), lung problems (beta=–0.23), and vascular factors (beta=–0.20) that could significantly predict 25.80% of the variance in TYM scores. Preservation of physical health, especially lung and vascular health, along with anxiety alleviation help to counterbalance the negative effect of aging on cognitive function in non-demented elderly primary care attendees.

KEYWORDS: Primary health care, cognitive decline, elderly, lung problems, vascular factors.

Introduction

Aging is a major challenge of our time. It is estimated that those aged over 60 years have exceeded 25% of the total population in all member states of the EU.[1] Greece faces a huge problem, since it is among the countries in Europe with the highest life expectancy at birth and simultaneously the lowest birth rate.[2]

Active aging is one of the main strategies in Europe to counter the demographic challenge.[3] Preservation of cognitive function constitutes an important factor in this ef-

Corresponding author: Theofanis Vorvolakos, Department of Psychiatry, Universities General Hospital of Alexandroupolis, GR-681 00 Dragana, Alexandroupolis, Greece • e-mail: tvorvola@med.duth.gr

fort, as it relates to the elderly's successful performance in daily activities and their ability to live independently and contribute to society for as long as possible.

Cognitive function is worse in the elderly since age is the most significant risk factor for cognitive decline. This decline is not a homogenous phenomenon, since factors other than aging are also involved. Such factors include individuals' mental and physical health, stress levels, and various socioeconomic variables, such as education, financial status, and social contacts.[4] Although most of these factors are known to be associated with cognitive decline, there is a sense of lesser importance regarding these factors in elderly individuals with normal cognitive function. This is despite the fact that even a relatively small decline in cognitive function can lead to reduced activities for the elderly, such as driving or working. On the other hand, changes in lifestyle can help preserve cognitive capacity.[5]

Primary healthcare is the most appropriate setting for the assessment and protection of cognitive function. Primary health care professionals receive many complaints regarding memory issues, and they are the only ones that have a holistic approach regarding the overall physical and mental health of the patients. General practitioners need to have concrete and solid knowledge of the most important factors associated with attendees' cognitive function.

This study aimed to highlight sociodemographic, physical, and mental health factors associated with the cognitive function of non-demented elderly primary health care attendees.

Material and Method

Sample

The study took place in two middle-sized Greek municipalities (with populations of between 50,000 and 100,000 inhabitants), Alexandroupolis and Karditsa, which are 520 km apart and situated in the northeastern and central mainland of Greece, respectively. All participants were primary healthcare users and were recruited through simple random sampling. Over 10 months, researchers visited elderly care centres, as well as primary health care clinics of the above municipalities weekly, on different days of the week. Every service user who was 60 years old or above was asked to participate in the study. All participants provided written informed consent and formed the initial sample of the study. Of them, those who scored below 39/40 in the Test Your Memory (TYM) test, which is the cutoff point for dementia screening in the version of the test we used, were excluded from further assessment. The remaining participants were designated as non-demented participants and formed the final sample of the study.

The Democritus University of Thrace Ethics Committee granted permission for the study. The study was conducted according to the standards of the Declaration of Helsinki (1995) as revised in Edinburgh (2000).

Instruments

The participants of the study answered or filled in the following questionnaires.

1. A detailed ad-hoc questionnaire on:

a. Sociodemographic data included age (in years), sex (male/female), education (literate/poorly educated or illiterate), type of house (owned or rented), living with someone else in the same household or living alone, and municipality of residence (Alexandroupolis/Karditsa).

b. Physical health history data regarding possible vascular risk factors (e.g. hypertension, diabetes), possible lung problems, smoking habits, possible neurological problems (e.g. stroke, brain damage), possible kidney issues, possible endocrine problems, other health issues or comorbidities. These factors were assessed in a binary manner (present/absent or yes/no).

2. Test Your Memory (TYM) test

This is a self-administered questionnaire that is sensitive to mild Alzheimer's disease, designed to assess cognitive function thoroughly, in minimal time by a non-specialist. It consists of a series of 10 cognitive tasks on a double-sided sheet of paper with spaces for the patient to fill in. It also includes an eleventh task, scored negatively, on how much help was needed for the participant to complete the test. The 10 cognitive tasks were orientation, ability to copy a sentence, semantic knowledge, calculation, verbal fluency, similarities, naming, visuospatial abilities (two tasks), and recall of a copied sentence. The TYM has a total maximum score of 50 points. It has a more balanced overall score regarding cognitive function than the Mini-Mental State Examination (MMSE) test.[5] The version of the instrument used in the present study was translated and standardised by our team in the same population in advance, as a culturally adapted instrument for the specific target population. It has a Cronbach's alpha of 0.74, inter-rater reliability of 0.98, and at the cutoff point of 39/40, a sensitivity of 71% and a specificity of 70% for diagnosing dementia.[6,7]

3. Geriatric Depression Scale-Short Form (GDS-15)

The GDS is one of the most commonly used self-report measures for depression in the elderly. It was created for

the older adult population, as its items were based on the characteristics of depression in the elderly. The short form of GDS, which consists of 15 questions, was used in the present study. Each question can be answered in a binary manner, yes or no, corresponding to a score of 1 or 0, respectively. The maximum score is 15. The Greek version has a Cronbach's alpha of 0.94 and shows, at the cutoff of 6/7, a sensitivity of 92.23%, and a specificity of 95.24%, for diagnosing depression.[8,9]

4. Short Anxiety Screening Test (SAST)

The SAST is a screening test for anxiety for elderly individuals. It is rated by the administrator. It consists of 10 questions that can be scored on a scale from 1 to 4, with a total score ranging from 10 to 40. Higher scores indicate greater anxiety. The Greek version of the SAST has a Cronbach's alpha of 0.763 and an intraclass correlation coefficient for reproducibility of 0.763. If someone scores above the cutoff point of 23, they are considered to have clinically significant anxiety symptoms.[10,11]

5. World Health Organization-Five Well-Being Index (WHO-5)

The WHO-5 is a self-administered test that consists of five questions regarding subjective sense of well-being. Each question is scored on a scale of 0 to 5. The total score can be calculated either as a raw score (in that case, 25 is excellent, while a score below 13 is indicative of possible depression) or multiplied by 4 in order to calculate the percentile, regarding the sense of wellbeing, which each individual belongs. It was translated and used in Greek.[12,13]

Statistical analysis

A descriptive analysis of the final sample was performed. Numeric variables are presented as mean±standard deviation, while categorical variables are presented as numbers (percentages). Participants' TYM scores were compared between each other in relation to their sociodemographic (gender, education, type of household, living with someone else or alone, and the municipality of residence) and physical health history binary characteristics using a Student's t-test. Furthermore, Pearson's correlation coefficients between TYM scores and age, GDS-15, SAST, and WHO-5 scores were applied. Finally, a stepwise linear multiple regression analysis was applied to determine the effect of every assessed significant independent sociodemographic, physical health history, and mental health factors on the overall variance of subjects' cognitive functions, as estimated by the TYM, which served as the dependent variable. Statistical significance was set at $p<0.050$. SPSS for Windows was used for statistical analysis.

Results

The initial sample consisted of 362 primary care users: 99 (27.35%) men and 263 (72.65%) women. Of these, 186 (51.40%) were from Karditsa municipality and 176 (48.6%) from Alexandroupolis.

Ninety-five participants (26.25% of the initial sample) scored below the TYM cut-off (39/40) for dementia and were excluded from further analysis. Consequently, the final sample of the study consisted of 267 individuals, 74 men (27.72%) and 193 women (72.28%), aged 68.9±7.02 years. The mean scores of the TYM, GDS-15, SAST, and WHO-5 were 45.97±3.50, 2.86±2.56, 17.48±4.89, and 17.4±4.21, respectively.

Literate participants had significantly higher TYM scores than poorly educated or illiterate participants. In addition, subjects living with someone else in the same household had a significantly better performance in TYM than those living alone, and participants from Karditsa scored higher than those in Alexandroupolis.

On the other hand, no differences were found between men and women or between residents living in rented or owned accommodations regarding their TYM scores (table 1). Statistically significant differences were found in participants' TYM scores with regard to the following physical health history factors: vascular risk factors, lung problems, and overall physical health.

There were no differences in TYM scores among participants who were smokers or had any neurological, endocrine, kidney, or any other physical problems (table 2). There were statistically significant negative Pearson's correlations between TYM and age scores, and TYM and SAST scores. No statistically significant correlations were detected between TYM, GDS, TYM, and WHO-5 scores (table 3).

A linear stepwise regression model was tested with TYM scores as the dependent variable and the following independent variables: age, education, living with/without somebody else, vascular risk factors, overall physical health, SAST score, and lung problems. The results of the regression analysis are shown in table 4. The final regression model revealed three factors that interpreted 28.50% of the variance; these were age, lung problems, and vascular factors, while the SAST score was marginally excluded from the model (table 4).

Discussion

This study aimed to assess the possible associations of various sociodemographic, physical health history, and mental health factors with the cognitive function of non-demented primary healthcare users above 60 years

Table 1. Comparisons of TYM scores between participants' subgroups, defined by the assessed sociodemographic factors.

Socio-demographics	n	Status	Subjects n1 (%)	TYM scores Mean (SD)	p
Gender	267	Male	74 (27.7)	46.20 (3.62)	0.516
		Female	193 (72.3)	45.89 (3.46)	
Education	250	Literate	245 (98.0)	46.16 (3.46)	<0.001
		Poorly educated / illiterate	5 (2.0)	40.60 (0.55)	
Type of House	173	Owned	168 (97.1)	46.36 (3.41)	0.459
		Rented	5 (2.9)	45.20 (4.15)	
Living in the household	182	With somebody else	134 (73.6)	46.54 (3.33)	0.020
		Alone	48 (26.4)	45.19 (3.70)	
Municipality of residence	267	Alexandroupolis	121 (45.3)	45.30 (3.43)	0.004
		Karditsa	146 (54.7)	46.54 (3.47)	

TYM: Test Your Memory test

Table 2. Comparisons of TYM scores between subgroups, defined by the assessed medical history and current medical problem regarding participants' physical health.

Physical Health condition	Status	Subjects n (%)	TYM scores Mean (SD)	p
Vascular risk factors	Present	140 (52.4)	45.34 (3.36)	0.002
	Absent	127 (47.6)	46.68 (3.52)	
Lung Problems	Present	29 (14.4)	44.62 (3.48)	0.030
	Absent	172 (85.6)	46.15 (3.46)	
Smoking	Yes	23 (11.8)	46.35 (3.41)	0.679
	No	172 (88.2)	46.03 (3.47)	
Neurological problems	Present	15 (7.5)	44.80 (3.61)	0.196
	Absent	186 (92.5)	46.02 (3.48)	
Kidney problems	Present	5 (2.5)	45.80 (3.35)	0.936
	Absent	196 (97.5)	45.93 (3.51)	
Endocrine problems	Present	49 (24.4)	45.47 (3.42)	0.295
	Absent	152 (75.6)	46.07 (3.52)	
Any other physical health condition	Present	50 (24.9)	45.72 (3.63)	0.633
	Absent	151 (75.1)	45.99 (3.47)	
Overall physical health	Presence of at least one problem	145 (72.1)	45.33 (3.48)	<0.001
	Absence of any problem	56 (27.9)	47.46 (3.06)	

old, who were living in two medium-sized municipalities of Greece, Alexandoupolis and Karditsa.

In the 2011 population census, the combined population of Alexandroupolis and Karditsa municipalities was approximately 104,000 individuals. According to Greek demographic data,[14] approximately 26% of individuals were 60 years old or above. These two cities, which are 520 km apart, were selected to gain a broader perspective and more comprehensive results regarding Greek primary health care users. Our sample comprised 1.4% of the population. This is considered adequate according to the literature.[15]

To assess possible associations that the above-mentioned factors might have on the cognitive function of primary care users, we opted to exclude potential dementia cases where cognitive decline can be attributed mainly to dementia that overshadows any preexisting or current factor. Over a quarter of the participants scored below the cutoff point for dementia in the TYM. This is in accordance with the literature on dementia screening in such a sample.[16]

The rest of the participants were examined for the possible association that three sets of factors might have on their cognitive abilities. Among the examined sociode-

Table 3. Pearson's Correlations between TYM scores and Age, GDS-15, SAST, WHO-5 scores.

	Pearson's r		p
	n	Test Your Memory (TYM)	
Age	267	–0.34	<0.001
Geriatric Depression Scale - Short Form (GDS-15)	182	–0.11	0.151
Short Anxiety Screening Test (SAST)	182	–0.17	0.020
World Health Organization Five Well - Being Index (WHO-5)	182	–0.03	0.705

Table 4. Multiple Regression analysis results of the following assessed factors: age, education, living with/without somebody else, vascular risk factors, overall physical health, SAST score, and lung problems.

Model	Beta	t	p	95.0% Confidence Interval for B	
				Lower Bound	Upper Bound
Age	–0.32*	–3.72	<0.001	–0.22	–0.07
Lung Problems 0: absent 1: present	–0.23*	–2.70	0.008	–4.40	–0.67
Vascular risk factor 0: absent 1: present	–0.20*	–2.32	0.022	–2.76	–0.22
SAST	–0.16*	–1.92	0.057	–0.32	0.01

Dependent variable: TYM, R^2 adjusted=0.258, F=10.119, p<0.001; TYM: Test Your Memory test, SAST: Short Anxiety Screening Test
*Standardized Coefficient

mographic factors, age, education, and living with/without somebody else in the same household, and living in Alexandroupolis or Karditsa municipality had a significant impact on cognitive function in univariate analyses. More specifically, age is negatively correlated with TYM scores, a finding that is in accordance with the literature that considers aging as the most important risk factor for cognitive decline.[17] Further, poorly educated/illiterate individuals scored far less in the TYM in the present study. This finding is quite consistent with the literature,[18,19] although it could be argued that participants with lower educational levels generally perform worse in tests in comparison to those with higher education.[20] Nevertheless, TYM is thought to be more balanced, regarding this issue, than most of the other tests, by allowing and negatively scoring any help given to the subjects for completion. Another factor that seemed to be beneficial regarding individuals' cognitive function was living with someone else in the same household. It is possible that interaction with others may help cognitive function. According to most of the literature (from different settings), contrary to our results, living alone does not seem to be a risk factor for cognitive decline, possibly because living alone is not necessarily considered synonymous with social isolation from friends and does not imply less social activities.[21] This finding requires further research to be fully understood.

Among the physical health history factors of the participants, vascular risk factors and lung problems were the only two factors where sufferers and non-sufferers had a statistically significant difference in their TYM scores in univariate analyses. This is consistent with the literature, where vascular health is rated as an important factor affecting cognitive function.[22] Most of the guidelines regarding methods to protect cognitive function include, as a top priority, the preservation of vascular health and handling of vascular risk factors, and more particularly, hypertension, arrhythmias, diabetes, and smoking. However, in our study, smoking itself did not seem to have any effect on cognitive function.[23]

On the other hand, in partial contrast with the findings of smoking, the association of lung issues with cognitive function is relatively scarce in the literature. However, this association was apparent in our study, in both univariate analyses and multiple regression analysis.[24,25] It is an interesting finding that can trigger more research in associating lung functioning and cognitive function.[26]

Neurological conditions in populations above 60 years of age are usually related to some form of stroke or brain damage, and are indicative of overall brain aging and loss of brain cells. Consequently, these problems are expected to affect cognitive function.[27] Thus, it is not surprising that

neurological problems did not have much impact on our comparisons, since most of the time they lead to significant cognitive decline and possible dementia.

An interesting finding was that individuals without a history of physical health problems showed better overall cognitive function. This is in accordance with the literature and shows that being generally healthy seem to be significantly associated with better cognitive function.[28]

Considering mental health risk factors and according to the results of the present study, only anxiety as measured by SAST had a significant negative correlation with TYM score, while depression as measured by GDS and sense of well-being as measured by WHO-5 did not. These interesting findings are in accordance with the findings of multiple regression analysis.[29]

The applied multiple regression analysis gave precedence to the following predictors of cognitive decline in our sample: aging, having a history of lung problems, having a history of vascular risk factors, and marginally increased anxiety as measured by SAST. The above model explains 25.8% of the variance of the sample's cognitive function. These results are fully consistent with the literature.[30,31]

In this study, age seems to play the most important role in cognitive function, even in individuals with no significant cognitive decline. The most striking finding is the almost complete absence of any mental health factor that affects the cognitive function of the participants. This seems to be a very interesting finding, since it is argued that cognition is sensitive to mental health problems such as depression. On the other hand, some studies argue that if cognitive decline is a symptom of elderly individuals being diagnosed with depression, it is quite possible that depression is a prodrome to dementia and dementia will follow in a relatively short period of time.[32] We must also point out that although the GDS is a screening test specifically designed for depression, the WHO-5 is also linked with depression, and low scores indicate possible depression.[33] The lack of correlation between GDS and TYM score can also justify the lack of any statistically significant correlation between WHO-5 score and TYM score in our sample.[34]

The main limitation of this study is that it was not prospective. In this sense, since this was a cross-sectional study, we could not test for any possible causality between any of the factors that we assessed and the course of participants' cognitive function and any possible association between these factors and their current cognitive function.

Our sample size was small, considering the number of factors that we had to assess. Although the overall initial sample size was deemed adequate, the number of factors that we assessed on many occasions divided the sample into subgroups with relatively small numbers. Therefore, a larger sample size would be advantageous for future studies.

Another issue is the fact that women are overrepresented in our sample, a limitation that may have influenced our findings. Nevertheless, men and women in our sample did not differ on their cognitive functions, as assessed by their performance in the TYM.

The last limitation that we can comment on is also a suggestion for further study. Even though we assessed a number of identified significant risk factors regarding the cognitive function of the elderly, and we managed to demonstrate their significance, most of the variance on elderly cognitive function was not attributed to any of the factors that we assessed. This can be attributed to the relatively small sample, as we pointed out, or to the fact that some important factors, such as genetic predisposition,[35] or lifestyle factors, such as physical exercise or socializing, were not assessed adequately, despite the fact that overall well-being was assessed.[36] Further study in these directions can help to detect more risk factors regarding the elderly's cognitive function.

In conclusion, cognition is among the most vital functions of primary healthcare users, especially those above 60 years of age. A large proportion of primary care users present with significant cognitive decline and need to be assessed further for possible dementia in order to be treated earlier and more efficiently. For the rest of the population, who are the majority, preservation of physical health, especially vascular and lung health, and anxiety alleviation, to a lesser extent, can help to counterbalance the effects of aging on cognitive function for as long as possible.

Studies like the present one can help primary health care practitioners to monitor their elderly patients regarding modifiable factors for cognitive decline in order to decrease or postpone the onset of severe cognitive deficits that can lead to poorer functioning and subsequent loss of their independence and sense of well-being.

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Ερευνητική εργασία

Συσχέτιση της νοητικής λειτουργίας μη ανοϊκών ηλικιωμένων εξυπηρετούμενων της πρωτοβάθμιας φροντίδας υγείας με σωματικούς, ψυχικούς, κοινωνικούς και δημογραφικούς παράγοντες

Αγλαΐα Ρογγανάκη,[1] Θεοφάνης Βορβολάκος,[2] Ελπίδα Σώκου,[3] Γρηγόριος Α. Τριψιάνης,[4] Θεόδωρος Κωνσταντινίδης,[5] Μαρία Σαμακουρή[2]

[1]*Κέντρο Υγείας Μουζακίου, Μουζάκι,*

[2]*Ψυχιατρική Κλινική, Τμήμα Ιατρικής, Δημοκρίτειο Πανεπιστήμιο Θράκης, Αλεξανδρούπολη,*

[3]*Γενικό Νοσοκομείο Κομοτηνής, Κομοτηνή,*

[4]*Ιατρικής Στατιστικής, Τμήμα Ιατρικής, Δημοκρίτειο Πανεπιστήμιο Θράκης, Αλεξανδρούπολη,*

[5]*Εργαστήριο Υγιεινής και Προστασίας Περιβάλλοντος, Τμήμα Ιατρικής, Δημοκρίτειο Πανεπιστήμιο Θράκης, Αλεξανδρούπολη*

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ΠΕΡΙΛΗΨΗ

Η διατήρηση των νοητικών λειτουργιών του πληθυσμού είναι αυξημένου ενδιαφέροντος για όλα τα συστήματα υγείας. Η ανίχνευση των παραγόντων που σχετίζονται με τις νοητικές λειτουργίες είναι ένα ζήτημα αυξημένου ενδιαφέροντος με διπλό σκοπό τη θεραπεία ευάλωτων ατόμων και την εφαρμογή στρατηγικών ώστε να καθυστερήσουν τη σχετιζόμενη με την ηλικία νοητική έκπτωση. Η μελέτη αυτή σκοπεύει στο να αναδείξει κοινωνικούς, δημογραφικούς, σωματικούς και ψυχικούς παράγοντες που σχετίζονται με τη νοητική λειτουργία μη ανοϊκών ηλικιωμένων εξυπηρετούμενων από την πρωτοβάθμια φροντίδα υγείας. Το δείγμα μας αποτελείτο από 362 συμμετέχοντες, εξυπηρετούμενους της πρωτοβάθμιας φροντίδας υγείας, με ηλικία από 60 ετών και άνω. Ένα ερωτηματολόγιο που αφορούσε σε κοινωνικά και δημογραφικά χαρακτηριστικά καθώς και το ιστορικό της σωματικής υγείας τους υγείας, μαζί με μια συστοιχία ψυχομετρικών εργαλείων που αποτελείται από το Test Your Memory (TYM) test, την Geriatric Depression Scale - Short Form (GDS-15), το Short Anxiety Screening Test (SAST) και το World Health Organization - Five Well-Being Index (WHO-5) χορηγήθηκε σε όλους τους συμμετέχοντες. Οι συμμετέχοντες που βαθμολογήθηκαν κάτω από 39/40 στο TYM, που είναι και το σημείο διακοπής παθολογίας για τη διαλογή της άνοιας, στην έκδοση του τεστ που χρησιμοποιήσαμε, εξαιρέθηκαν από περαιτέρω αξιολόγηση. Για τους υπόλοιπους συμμετέχοντες, 267 στο σύνολο, η βαθμολογία που συγκέντρωσαν στο TYM συσχετίστηκε αρνητικά και στατιστικά σημαντικά με την ηλικία και τη βαθμολογία στο SAST. Συμμετέχοντες με ιστορικό πνευμονικών και αγγειακών προβλημάτων υγείας βαθμολογήθηκαν με χαμηλότερη βαθμολογία στο TYM όπως έκαναν και αυτοί που είχαν πτωχή εκπαίδευση, που έμεναν μόνοι τους και που κατοικούσαν στην Αλεξανδρούπολη. Τέλος, οι υγιείς συμμετέχοντες βαθμολογήθηκαν με υψηλότερη βαθμολογία από τους συμμετέχοντες που υπέφεραν από μία τουλάχιστον ιατρική κατάσταση. Η γραμμική ανάλυση πολλαπλής παλινδρόμησης ανέδειξε ένα μοντέλο (Adjusted R^2=25,80, F=10,11, p<0,001) με τρεις παράγοντες, ηλικία (beta=−0,32), προβλήματα πνευμόνων (beta=−0,23), αγγειακούς παράγοντες (beta=−0,20), το οποίο μπορεί να προβλέψει το 25,80% της μεταβλητότητας της βαθμολογίας του TYM. Η διατήρηση της σωματικής υγείας, ειδικά της υγείας των πνευμόνων και των αγγείων μαζί με την ανακούφιση από το άγχος βοηθά στο να αντισταθμίσει την αρνητική επίδραση της γήρανσης στις νοητικές λειτουργίες των μη ανοϊκών ηλικιωμένων εξυπηρετούμενων από την πρωτοβάθμια φροντίδας υγείας.

ΛΕΞΕΙΣ ΕΥΡΕΤΗΡΙΟΥ: Πρωτοβάθμια φροντίδα υγείας, νοητική έκπτωση, ηλικιωμένοι, πνευμονολογικά προβλήματα, αγγειακοί παράγοντες.

Συγγραφέας επικοινωνίας: Θεοφάνης Βορβολάκος, Ψυχιατρική Κλινική, Πανεπιστημιακό Γενικό Νοσοκομείο Αλεξανδρούπολης, 681 00 Δραγάνα, Αλεξανδρούπολη, Διεύθυνση e-mail: tvorvola@med.duth.gr

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Research article

Obsessive-compulsive symptoms in pregnancy: Their relationship with obsessive beliefs and obsessive-compulsive personality traits

Ekaterini Vasileiou,[1] Panagiota Fexi,[1] Areti Spyropoulou,[1] Iraklis Mourikis,[2] Theodoros Chalimourdas,[2] Ioannis Zervas[1]

[1]*Women's Mental Health Clinic, First Department of Psychiatry, Eginition Hospital, Medical School, Athens University, Athens,*
[2]*Special Practice of Obsessive-compulsive and related disorders, First Department of Psychiatry, Eginition Hospital, Medical School, Athens University, Athens, Greece*

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ABSTRACT

Literature findings are limited and inconsistent on the relationship between obsessive beliefs and obsessive-compulsive symptoms (OCS) and to our knowledge no data are available in pregnant population. Additionally, an interesting field that has not been adequately studied is the relationship between obsessive-compulsive personality traits and OCS while there are no corresponding studies in perinatal period. The aims of the study were to examine the relationship between OCS presented in pregnancy and obsessive beliefs considered to underlie them as well as their association with obsessive-compulsive personality traits. 30 pregnant women with OCS, regardless of their underlying diagnosis, were recruited from a University Psychiatric Hospital and privately. They completed the Mini International Neuropsychiatric Interview (MINI), the Yale-Brown Obsessive- Compulsive Scale (Y-BOCS), the Obsessional Beliefs Questionnaire-44 (OBQ-44), the Leyton Trait Scale and the Hospital Anxiety and Depression Scale (HADS). The main symptoms were aggression (73.3%), contamination (53.3%) obsessions and cleansing/washing (50%), checking (43.3%) compulsions. Pregnant women with obsessive-compulsive personality traits displayed symmetry/exactness obsessions (p=0.020) and cleansing/washing (p=0.011) compulsions as predominant types of OCS and greater severity of compulsions (p=0.049). The results of the logistic regression model suggest that obsessive beliefs of importance/control of thoughts and of responsibility/threat estimation predicted OCS while the belief of perfectionism/certainty did not predict any dimension of OCS. It is noteworthy that most observed relationships between obsessive beliefs and OCS remained even after controlling for variables of anxiety and depression, suggesting that obsessive beliefs have a specific relationship with OCS which is independent of other forms of psychopathology. Depressive symptoms comorbidity increased OCS severity, while in comorbidity with anxiety symptoms no difference in severity of OCS was found. Further research is needed to test our findings in larger and more diverse samples.

KEYWORDS: Obsessive-compulsive symptoms, pregnancy, perinatal, obsessive-compulsive personality traits, obsessive beliefs, anxiety, depression.

Introduction

Given the heterogeneous nature of obsessive-compulsive disorder (OCD),[1] research has focused on identification of homogenous subtypes. During perinatal period women are at an increased risk for the onset/exacerbation of OCD and many experience perinatal-specific obsessive-compulsive symptoms.[2,3] Prevalence rates of OCD during perinatal period were higher (2.3% in pregnancy, 1.7% postpartum and 2.2% overall)[2,4] than the lifetime prevalence rates in women in the general pop-

Corresponding author: Ekaterini Vasileiou, Women's Mental Health Clinic, First Department of Psychiatry, Eginition Hospital, Medical School, University of Athens, 10 Dimitressa street, GR-115 28 Athnes, Greece • e-mail: kathrinvasil@gmail.com

ulation, which were 1.5%.[2,5] Studies revealed that the most common obsessions in pregnancy were aggressive, symmetry/exactness and contamination, whereas the most common compulsions were checking and cleaning/washing.[6–11]

OCD has a complex biopsychosocial causal origin, which no single theoretical model can interpret fully.[12] In addition to biological theoretical models, non-biological have also been developed, emphasizing the importance of obsessive beliefs for OCD's development and maintenance.[13] Cognitive theories of OCD posit that obsessive beliefs underlie the intrusive thoughts and compulsive behaviors noted in this disorder. Extending the theoretical work of Rachman,[14] Salkovskis[15] and others, the Obsessive Compulsive Cognitions Working Group[16–19] empirically derived the following three domains of obsessive beliefs considered to underlie obsessive-compulsive symptoms (OCS):

1. *Overestimation of threat/Inflated Responsibility*. Individuals with OCD evidence exaggerated estimates of the probability and costs of negative events and believe themselves to be personally responsible for causing or preventing any disastrous consequences associated with obsessional thoughts.
2. *Beliefs about the importance of, and need to control, intrusive thoughts*. Individuals with OCD believe that the mere presence of intrusive thoughts indicates that such thoughts are very meaningful. They also believe that complete control over such intrusions is both necessary and possible.
3. *Perfectionism and tolerance of uncertainty*. Individuals with OCD show inability to tolerate mistakes or imperfection, as well as the strong need for a guarantee of safety. To date, several investigations using clinical and nonclinical samples have examined relationships between obsessive beliefs and OCS;[20–22] however their findings have been inconsistent. It is not clear which of the obsessive beliefs are more influential and whether all or some of them have specific relationships with symptom subtypes. Few findings exist about obsessive beliefs in perinatal period and the available studies are about postpartum.[23,24]

There is also some evidence that symptom subtypes may have specific relationships with comorbid disorders. However, few studies have systematically examined the relationship between specific symptom subtypes and clinical characteristics. Thus, while some studies have shown that patients with forbidden thoughts (aggressive, sexual, religious), somatic obsessions, control and ordering/arranging compulsions are more likely to have depression and/or anxiety,[25,26] in other studies relationship between comorbid disorders and OCS subtypes was not found[27] and no such study has been done in perinatal period. The role of obsessive beliefs may be one possible factor contributing to the association between OCS and depressive or anxiety symptoms.[28]

An interesting field that has not been adequately studied is the relationship between obsessive-compulsive personality traits and OCS. The term personality refers to constant patterns of perception, relationship and thinking about the environment and self, which are manifested in a wide range of social and personal contexts.[1] Obsessive-Compulsive Personality (OCP) is a multidimensional concept that appears to be composed of six features: obstinacy, orderliness, parsimony, perseverance, rigidity and superego.[29] Many researchers hypothesize that OCD and obsessive-compulsive personality disorder (OCPD) are strongly related to each other or even overlap conceptually and share many common features.[30] Some researchers even suggest that there might be a distinct subtype of individuals with OCD who also suffer from OCPD[31,32] or that the comorbidity of OCPD and OCD indicates a marker of severity of OCD.[33] The only relevant studies with obsessive-compulsive personality traits are those investigating the dimensional model of personality,[34,35] according to Temperament and Character Inventory (TCI), developed by Cloninger et al,[36] while there are no corresponding studies in perinatal period.

To the best of our knowledge this is the first study investigating the association between obsessive beliefs as well as obsessive compulsive personality traits and OCS types and severity in pregnancy in a sample of Greek population. The impact of anxiety or depression comorbidity was also examined.

Materials and Method

Procedures

The study was conducted at the Women's Mental Health Clinic, at the 1st Psychiatric Department of Eginition University Hospital in Athens, Greece. The criteria for admission to study were pregnant women with OCS (confirmed by psychometric tools and psychiatric assessment) regardless of underlying diagnosis, who received services from the Women's Mental Health Clinic and private psychiatrists, speaking the Greek language adequately, above 18 years old, willing to participate in the study after being informed about the procedure and its benefits, as well as signing written informed consent. Exclusion criteria were mental retardation and other neuro-developmental disorders, psychotic disorder, current substance use disorder and absence of consent to participate. The study was approved by the Ethics Committee of Eginition University Hospital.

Study sample and data collection

Fifty pregnant women were identified as potential participants and were invited to participate in the initial screen. Thirty four pregnant women with OCS (23 from the Women's Mental Health Clinic and 11 from private offices of gynecologists and psychologists) were approached. From them 2 did not meet the inclusion criteria and other 2 did not agree to participate. Finally, 30 pregnant women were recruited, 20 women from Women's Mental Health Clinic and 10 women from private offices. In order to identify pregnant women with OCS, Mini International Neuropsychiatry Interview (MINI)[37] was conducted. All the participants gave written informed consent. This study was carried out from December 2017 until July 2018.

Measures

The following socio-demographic characteristics were accessed: (a) general demographic background (b) personal psychiatric history c) socio-professional status and (d) data relating to the course of pregnancy (gestational weeks, gestational complications, history of abortion).

The Mini International Neuropsychiatric Interview (MINI) (M.I.N.I 5.0.0)[37] Greek version[38] was used to assess the presence of mental disorders based on Diagnostic and Statistical Manual of Mental Disorders IV (DSM-IV) and International Classification of Diseases, 10th Revision (ICD-10). The six questions of item H for OCD were used in order to identify the presence of OCS.

The Obsessional Beliefs Questionnaire-44 (OBQ-44),[19] a shortened version of the original 87-item OBQ,[17] is a self-assessment tool for the evaluation of beliefs associated with OCS. Forty-four obsessional beliefs are rated on a 7-point scale from 1 (disagree very much) to 7 (agree very much). It consists of three empirically derived factors: responsibility/threat estimation (16 items, score range 16–112); perfectionism/certainty (16 items, score range 16–112); and importance/control of thoughts (12 items, score range 12–84). Higher scores represent greater strength of beliefs. The instrument possesses good validity, interval consistency and test-retest reliability and has been widely studied in clinical and nonclinical samples.[17–19] Due to the lack of a Greek validation of the instrument, the questionnaire was used after following the guidelines of WHO on translation (available at: https://www.who.int/tools/whoqol/whoqol-bref/docs/default-source/publishing-policies/whoqol-100-guidelines/translation-methodology.0). Emphasis was given on conceptual and not linguistic equivalence. A pre-test procedure of the instrument was held to identify possibly unclear expressions. Participants of this procedure were demographically representative of the population under examination. Interval consistency of the OBQ-44 subscales was high (α range=0.87–0.95) in the present sample.

The Leyton Trait Scale[39] was used to assess obsessive-compulsive personality traits and behaviour with 23 self-administered items, which is part of Leyton Obsessional Inventory (69 items in total; 46 symptom questions and 23 trait questions). Participants had to choose between dichotomous answers Yes/No (cutoff 11±3.2). Therefore, scores of ≥12 are suggestive of obsessive-compulsive personality/behaviour. This psychometric tool is particularly sensitive to detecting obsessions in women as it has been originally developed to evaluate housewives and is predominantly sensitive to subclinical symptoms. The instrument possesses good reliability in repetitive measurements and can distinguish between OCD patients, OCPD and normal subjects.[39–41] The scale has not been formally validated in the Greek language; however, it has been previously used in studies involving Greek populations, and it has demonstrated sufficient psychometric properties.[42,43] Interval consistency of Leyton Trait Scale was high (α=0.80).

The Hospital Anxiety and Depression Scale (HADS)[44] Greek version[45] is a self-report rating scale comprising 14 items, designed to measure anxiety and depression, the most likely factors to cause psychological distress (7 items for each subscale). Responses to items are placed on a four-point Likert Scale of 0 to 3 (score range 0–21, for each subscale) and high scores indicate more symptoms. For both scores, the following categorization has been proposed: score 0–7 indicate no anxiety or depression, score 8–10 indicate moderate levels of anxiety or depression and score greater than 11 indicate high levels of anxiety or depression.

The Yale-Brown Obsessive-Compulsive Scale (Y-BOCS),[46,47] a semi-structured clinical interview that includes a symptom checklist and 10-item semi-idiografic severity scale was used to assess OCD symptoms severity. The scale includes two subscales (53 obsessions and compulsions) that are scored separately and then a total score of subscales is obtained. Women were asked to endorse which specific OCS applied to them, currently and/or in the past. The severity scale assesses the main obsessions and compulsions on the following five parameters: (a) time, (b) interference, (c) distress, (d) resistance and (e) degree of control. The clinician rates each item from 0 (no symptoms) to 4 (extreme) based on the past week. Symptom severity is grouped as follows: 0-7 sub-clinical, 8–15 mild, 16–23 moderate, 24–31 severe and 32–40 extreme. The Y-BOCS has not been validated during pregnancy or postpartum period but has been used in multiple studies of perinatal population.[7,10,48]

Statistical analysis

Statistical analysis was conducted using the Statistical Package for Social Sciences for Windows with SPSS, version 25.0 (Armonk, NY: IBM Corp). Assessment of the differences between groups was performed using Student's t test/Mann-Whitney U for quantitative variables and the chi-squared test/Fisher exact test for categorical variables depending on whether the variables were normally distributed or not. A logistic regression model was used to assess possible predictors of obsessive beliefs, including effect of anxiety or/and depression. The statistical significance level was accepted as $p < 0.05$.

Results

Sample characteristic

The demographic data of the sample are presented in table 1. Only 5 pregnant women had a primary diagnosis of OCD. The scores of OBQ-44 and Y-BOCS are summarised in table 2.

The main types of OCS in pregnancy

The severity of OCS was mild (53.3%). The most common OCS were aggressive (73.3%), contamination (53.3%), symmetry/exactness (33.3%) obsessions and checking (43.3%), washing/cleansing (50%) and ordering/arranging (20%) compulsions. In majority (73.3%) the OCS were associated with the fetus/infant (accidental harm, contamination, ritualized hand washing, showering, cleaning, excessive checking for fetal movements and mother's repeated requests for ultrasounds).

OCS and obsessive-compulsive personality traits

The analysis of OCS type in pregnant women with or without obsessive-compulsive personality traits is presented in table 3.

Obsessive beliefs

In our analysis, no relationship was found between obsessional beliefs and severity of OCS, despite the one found between obsessional beliefs and depression (p=0.024) and particularly between responsibility/threat estimation and depression (p=0.006). A logistic regression model was used to assess obsessional beliefs as possible predictors for OCS, including the effect of anxiety or/and depression as assessed by HADS. It was found that aggressive obsessions are predicted by subscale of importance/control of thoughts, even after controlling for anxiety or/and depression (p=0.039). Contamination obsessions are predicted by subscale of responsibility/threat estimation when anxiety and/or depression were not present, assessed by HADS score 0–7 (p=0.036).

Table 1. Socio-demographic and clinical characteristics of pregnant women with OCS (N=30)

Study sample characteristics	n (Percent) or mean±SD
Age, mean±SD	31.9±5.1
Gestational week, mean±SD	22.5±9.3
Marital status, n (%)	
Married	18 (60)
Unmarried	10 (33.4)
Divorced	2 (6.7)
Children, n (%)	
No	13 (43.3)
Yes	17 (56.7)
Education, n (%)	
Secondary school	12 (40)
University	16 (53.3)
Postgraduate	2 (6.7)
Professional status, n (%)	
Employed	18 (60)
Unemployed	12 (40)
Gestational complications, n (%)	
No	20 (66.7)
Yes	10 (33.3)
History of abortion, n (%)	
No	20 (66.7)
Yes	10 (33.3)
History of miscarriage, n (%)	
No	24 (80)
Yes	6 (20)
Positive psychiatry family history, n (%)	
No	13 (43.3)
Yes	17 (56.7)
OCS in past, n (%)	
No	11 (36.7)
Yes	19 (63.3)
Diagnosis according to MINI, n (%)*	
Major depressive disorder	11 (36.6)
OCD	5 (16.6)
Panic disorder	5 (16.6)
Agoraphobia	3 (10)
Social anxiety disorder	4 (13.3)
General anxiety disorder	8 (26.6)
Bulimia	1 (3.3)
Dysthymic disorder	1 (3.3)

*Numbers of participants may not match the category totals, as some patients had more than one type of diagnosis
Abbreviations: PCS, Obsessive- Compulsive Symptoms

Table 2. Scores of OBQ-44 and Y-BOCS.

Measures	Mean	SD	Range (Min-Max)
OBQ-44 Subscales			
Responsibility/ threat estimation	70.3	21.0	87.0 (16.0–103.0)
Perfectionism/certainty	64.2	22.8	79.0 (19.0–98.0)
Importance/ control of thoughts	48.3	14.9	57.0 (18.0–75.0)
Y-BOCS			
Severity of the disorder	14.2	9.1	31.0 (2.0–33.0)
Severity of obsessions	8.3	3.9	18.0 (0.0–18.0)
Severity of compulsions	5.9	6.4	30.0 (0.0–30.0)

Cleansing/washing compulsions are predicted by responsibility/threat estimation, when anxiety or/and depression were not present (p=0.040), and when they were (HADS score≥8), depression represents a predictive factor (p=0.042). When there is no effect of anxiety or/and depression, ordering/arranging compulsions are predicted by responsibility/threat estimation (p=0.040). Contamination obsessions, cleansing/washing and ordering/arranging compulsions are all predicted by subscale of responsibility/threat estimation even after controlling for anxiety and/or depression. Depression predicts checking compulsions (p=0.027) whereas in the absence of anxiety and/or depression they are not predicted by any of the obsessional beliefs. Religious, somatic, symmetry/exactness obsessions and counting compulsions cannot be predicted either by obsessional beliefs or by anxiety or/and depression.

OCS and comorbid disorders

Eighteen (60%) pregnant women had high levels of anxiety and 16 (53.3%) had high levels of depression according to HADS. Analysis of OCS type when there is anxiety comorbidity revealed that 72.2% of pregnant women with contamination obsessions (p=0.011) and 66.7% with cleansing/washing compulsions (p=0.025) had moderate or high levels of anxiety. No women with religious obsessions (p=0.018, FET) and a minority (20%) of women with ordering/arranging compulsions presented anxiety (p= 0.026, FET). There was no difference between pregnant women with and without anxiety comorbidity in severity of OCS.

Moreover, pregnant women with moderate or high levels of anxiety scored higher in Dysfunctional Beliefs Questionnaire compared to those who did not have anxiety (p= 0.013). A similar pattern was observed in responsibility/threat estimation (p= 0.010) and in perfectionism/certainty subscales (p= 0.049).

Women with religious obsessions and specifically with references to sins did not have depression comorbidity (p=0.037). 68.8% of pregnant women with cleansing/washing compulsions (p=0.028) and 62.5% women

Table 3. Investigation of OCS type in pregnant women with or without obsessive compulsive personality traits.

	OCP n=15 n (%)	No OCP n=15 n (%)	Total n (%)	p
Obsessions[a]				
Aggressive obsessions§	11 (73.3%)	11 (73.3%)	22 (73.3%)	0.999
Contamination obsessions	9 (60%)	7 (46.7%)	16 (53.3%)	0.464
Religious obsessions§	3 (20%)	1 (6.7%)	4 (13.3%)	0.598
Symmetry/exactness obsessions	8 (53.3%)	2 (13.3%)	10 (33.3%)	0.020*
Somatic obsessions§	1 (6.7%)	1 (6.7%)	2 (6.7%)	0.999
Compulsions[a]				
Cleansing/washing compulsions	11 (73.3%)	4 (26.7%)	15 (50%)	0.011*
Checking compulsions	5 (33.3%)	8 (53.3%)	13 (43.3%)	0.269
Measurement compulsions§	2 (13.3%)	2 (13.3%)	4 (13.3%)	0.999
Ordering/arranging compulsions§	3 (20%)	3 (20%)	6 (20%)	0.999

[a]Numbers of participants may not match the category totals, as some patients had more than one type of OCS
*Statistically significant (p<0.5).
Values based on x^2 test or Fisher exact test § where appropriate.
Abbreviations: OCS, Obsessive-Compulsive Symptoms; OCP, Obsessive-Compulsive Personality

with checking compulsions (p=0.024) had moderate or high levels of depression. Pregnant women with moderate or high levels of depression had higher severity of OCS compared to those who did not have depression (p=0.004).

Discussion

In our study the main OCS presented in pregnancy were aggression and contamination obsessions, and control and cleansing/washing compulsions, as in previous studies.[6–11] Symptoms were primarily related to the fetus/infant, a finding consistent with international literature.[6,7] However, in the present study, the most common OCS in pregnancy was the fear of harming the fetus/infant, while the literature so far mainly refers to fears of fetal contamination.[7,10] One possible explanation for this finding is that the majority of the participants in this study were women who visited a special outpatient clinic of a psychiatric hospital and probably had more severe symptomatology as opposed to the majority of previous studies which were conducted predominantly in obstetric outpatient clinics.[7,8]

Obsessive beliefs predicted some dimensions of OCS in consistency with cognitive behavioral models. The obsessive belief of importance/control of thoughts predicted aggression obsessions, a finding consistent with literature.[22,49,50] The obsessive belief of responsibility/threat estimation predicted three types of OCS, contamination obsessions and cleaning/washing compulsions, as shown the findings of other studies,[20,22,49] as well as ordering/arranging compulsions, as opposed to literature, which shows that ordering/arranging compulsions are associated with the belief of perfectionism/certainty.[22,49,50] However, in the present study the latter did not predict any certain dimension of OCS. It is noteworthy that most observed relationships between obsessive beliefs and OCS remained even after controlling for variables of anxiety and depression, suggesting that obsessive beliefs have a specific relationship with OCS which is independent of other forms of psychopathology, a finding consistent with literature.[51,52] In contrast to what was expected, this study found no relationship between obsessive beliefs and severity of OCS, a finding consistent with literature data.[20]

Our results indicate that pregnant women with OCS and obsessive-compulsive personality traits have experienced symmetry/exactness obsessions and cleansing/washing compulsions as dominant OCS types, probably because these symptoms are more self-conscious and more difficult to change.[41] With regard to the severity of symptoms, it was found that pregnant women with obsessive-compulsive personality traits had statistically significant greater severity of compulsions compared to those without an obsessive-compulsive personality traits.

According to the literature, checking compulsions and aggressive, sexual, religious, somatic and hoarding obsessions seem to predominate in people with OCD and comorbid anxiety[25,53] whilst in our study contamination obsessions and cleaning/washing compulsions were the prevailing symptoms in pregnant women with OCS and anxiety. This difference could be attributed to the urge of pregnant women to control the safety of the environment and prepare it for the newborn. The severity of OCS was not different between pregnant women with and without anxiety, as in another study;[53] however, there are also studies which showed that comorbid anxiety increases the severity of OCS.[49]

According to OCCWG[19] OCD and anxiety subjects differed on two scales of the OBQ-44 (Responsibility/Threat estimation and Importance/Control of thoughts) but not on Perfectionism/Certainty. In our study, pregnant women with high levels of anxiety showed higher ratings on obsessive beliefs and more specifically on responsibility/threat estimation, as well as on perfectionism/certainty. This finding could be attributed to the fact that our study was carried out in a perinatal population in which there is high sense of responsibility for causing harm or failure to prevent it.[54] However, there are also studies, which show that there is no difference in obsessive beliefs between people with OCD with or without comorbid anxiety.[55]

Previous studies comparing patients with OCS with or without depression revealed differences in clinical severity and type of OCS. Our results are in part consistent with the international literature, as similarly to other studies we found that people with depression were more likely to present aggressive obsessions and checking compulsions.[25,26] but not religious, somatic and sexual obsessions.[25,53] However, there are also studies that have not found any relationship between any OCS type and comorbid depression.[27] The contradictory finding in this study about religious obsessions could be attributed to the small sample size, while only 3 (10%) pregnant women had experienced this type of symptom and therefore the results are of limited power. However, other studies have shown that contrary to aggressive, contamination, symmetry/exactness obsessions and corresponding compulsions, the religious obsessions have a neutral or positive effect and probably that is why pregnant women with such obsessions did not show depression symptoms.[56] In literature there are some findings that patients with OCD and depression comorbidity exhibit greater severity in OCS than non-depressive OCD patients,[26,27,53] as in the present study.

Additionally, depression and obsessive beliefs, and more specifically of responsibility/threat estimation, were positively correlated, a finding similar to previous studies.[57,58] One possible explanation for the finding above is that the sudden increase in sense of responsibility for causing or not preventing damage and the overestimation of the probability and severity of threat due to the arrival of the new family member in conjunction with presence of OCS leads to feelings of guilt for these symptoms resulting in the development of depressive symptoms.[26,53]

No statistical differences were found in symptom profile, dysfunctional beliefs and comorbidity between pregnant women with previous history of OCS and those with OCS onset in their current pregnancy, a finding which could be attributed to the small sample size. The perinatal period is a high-risk time for the onset or exacerbation of OCD and many experience perinatal-specific OCS.[2,3] More specifically, according to a review, 10% to 25% of pregnant women experience OCS.[8] It is also noteworthy that according to a recent meta-analysis between 13% and 39% of pregnant OCD women had the onset of OCD during pregnancy and this occurred mainly in the 2nd trimester, a finding suggesting that that pregnancy may be a specific risk factor for the occurrence and/or exacerbation of OCD.[2] In our study, no statistical differences were found in symptom profile, dysfunctional beliefs and comorbidity between pregnant women with previous history of OCS and those with OCS onset in their current pregnancy, a finding which could be attributed to the small sample size. Further studies are needed to understand the factors associated with the onset of OCD during pregnancy. To our knowledge, no prospective studies of antenatal OCD features either in women who suffered from the disorder before pregnancy or who developed it during the perinatal period have been published.[59]

Our study has some limitations. First, the sample size was small (N=30), heterogeneous in stage of pregnancy and in time of OCS occurrence. Secondly, due to its cross-sectional design, possible changes in the type of OCS over time, such as variation and/or emergence were not assessed. Thirdly, it was not possible to find the direction of the relationship between depressive, anxiety symptoms and OCS, since cross-sectional and correlative data do not indicate causality.

Future studies will need to be designed with larger, heterogeneous and more representative sample from gynecological and psychiatric clinics, both public and private. Prospective cross-sectional and longitudinal studies in each trimester of pregnancy and postnatally are needed. Further research is needed to elucidate the relationship between obsessive beliefs and OCS, as it is not yet clear in literature which beliefs are more influential or whether certain areas of beliefs relate to specific symptom subtypes.[20] It would also be interesting, when studying OCS in pregnancy, to examine the idiosyncratic interpretations and the contribution of other beliefs, such as metacognitive beliefs, which have been found to be stronger predictors of OCS than others.[60] Finally, prevention and educational programs that aim to women at risk of developing OCS and assessing their effectiveness could significantly contribute to enriching available literature on OCS in the sensitive phase of perinatal period.

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Ερευνητική εργασία

Ιδεοψυχαναγκαστικά συμπτώματα στην κύηση: Η σχέση τους με ιδεοληπτικές πεποιθήσεις και χαρακτηριστικά ιδεοψυχαναγκαστικής προσωπικότητας

Αικατερίνη Βασιλείου,[1] Παναγιώτα Φέξη,[1] Αρετή Σπυροπούλου,[1] Ηρακλής Μουρίκης,[2] Θεόδωρος Χαλιμούρδας,[2] Ιωάννης Ζέρβας[1]

[1]*Ιατρείο Ψυχικής Υγείας Γυναικών, Α΄ Ψυχιατρική Κλινική, Αιγινήτειο Νοσοκομείο, Ιατρική Σχολή, Πανεπιστήμιο Αθηνών, Αθήνα,*

[2]*Ειδικό ιατρείο Ιδεοψυχαναγκαστικών και Συνδεόμενων διαταραχών, Α΄ Ψυχιατρική Κλινική, Αιγινήτειο Νοσοκομείο, Ιατρική Σχολή, Πανεπιστήμιο Αθηνών, Αθήνα*

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ΠΕΡΙΛΗΨΗ

Περιορισμένα και ασυνεπή είναι τα ευρήματα στη βιβλιογραφία όσον αφορά στη σχέση μεταξύ των ιδεοληπτικών πεποιθήσεων και των ιδεοψυχαναγκαστικών συμπτωμάτων και από όσο γνωρίζουμε δεν υπάρχουν διαθέσιμα δεδομένα σε εγκυμονούσες γυναίκες. Ένα ακόμη ενδιαφέρον ερευνητικό πεδίο που δεν έχει μελετηθεί επαρκώς είναι η σχέση μεταξύ των χαρακτηριστικών της ιδεοψυχαναγκαστικής προσωπικότητας και των ιδεοψυχαναγκαστικών συμπτωμάτων καθώς δεν υπάρχουν αντίστοιχες μελέτες στην περιγεννητική περίοδο. Οι στόχοι της έρευνας ήταν η διερεύνηση της σχέσης μεταξύ των ιδεοψυχαναγκαστικών συμπτωμάτων που εμφανίζονται στην κύηση με τις ιδεοληπτικές πεποιθήσεις και τα χαρακτηριστικά της ιδεοψυχαναγκαστικής προσωπικότητας. Συμμετείχαν 30 εγκυμονούσες με ιδεοψυχαναγκαστικά συμπτώματα, ανεξαρτήτως της διάγνωσής τους, που παρακολουθούνταν από ψυχιατρικό νοσοκομείο αλλά και ιδιωτικά. Τους χορηγήθηκε η Σύντομη Διεθνής Νευροψυχιατρική Συνέντευξη (MINI), η Κλίμακα Ιδεοψυχαναγκαστικής Συμπτωματολογίας (Y-BOCS), το Ερωτηματολόγιο Ιδεοληπτικών Πεποιθήσεων (OBQ-44), το Ερωτηματολόγιο Ιδεοληπτικών Στοιχείων Προσωπικότητας (Leyton trait Scale) και η Νοσοκομειακή Κλίμακα Μέτρησης Άγχους και Κατάθλιψης (HADS). Τα κυρίαρχα συμπτώματα ήταν οι ιδεοληψίες επιθετικότητας (73,3%), οι ιδεοληψίες μόλυνσης (53,3%), οι καταναγκασμοί καθαρισμού/πλυσίματος (50%) και οι καταναγκασμοί ελέγχου (43,3%). Οι εγκυμονούσες με χαρακτηριστικά ιδεοψυχαναγκαστικής προσωπικότητας εμφάνισαν ιδεοληψίες συμμετρίας/ακρίβειας (p=0,020) και καταναγκασμούς καθαρίσματος/πλυσίματος (p=0,011) ως κυρίαρχα είδη ιδεοψυχαναγκαστικών συμπτωμάτων και μεγαλύτερη βαρύτητα καταναγκασμών (p=0,049). Τα αποτελέσματα της λογιστικής παλινδρόμησης δείχνουν ότι οι ιδεοληπτικές πεποιθήσεις της σπουδαιότητας/ανάγκης ελέγχου των σκέψεων και της υπευθυνότητας/υπερεκτίμησης της απειλής προέβλεψαν τα ιδεοψυχαναγκαστικά συμπτώματα, ενώ η πεποίθηση της τελειοθηρίας/βεβαιότητας δεν προέβλεψε κάποια διάσταση των ιδεοψυχαναγκαστικών συμπτωμάτων. Αξιοσημείωτο είναι ότι οι περισσότερες παρατηρούμενες σχέσεις μεταξύ των ιδεοληπτικών πεποιθήσεων και των ιδεοψυχαναγκαστικών συμπτωμάτων παρέμειναν ακόμη και μετά τον έλεγχο των μεταβλητών άγχους και κατάθλιψης, προτείνοντας ότι οι ιδεοληπτικές πεποιθήσεις έχουν μια συγκεκριμένη σχέση με τα ιδεοψυχαναγκαστικά συμπτώματα η οποία είναι ανεξάρτητη από άλλες μορφές ψυχοπαθολογίας. Η συννόσηση καταθλιπτικών συμπτωμάτων αύξησε τη βαρύτητα των ιδεοψυχαναγκαστικών συμπτωμάτων, ενώ η συννόσηση με αγχώδη συμπτώματα δεν επηρέασε τη βαρύτητα των ιδεοψυχαναγκαστικών συμπτωμάτων. Χρειάζονται περισσότερες μελέτες σε μεγαλύτερα και πιο ετερογενή δείγματα.

ΛΕΞΕΙΣ ΕΥΡΕΤΗΡΙΟΥ: Ιδεοψυχαναγκαστικά συμπτώματα, εγκυμοσύνη, περιγεννητική περίοδος, χαρακτηριστικά ιδεοψυχαναγκαστικής προσωπικότητας, δυσλειτουργικές πεποιθήσεις, άγχος, κατάθλιψη.

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Research article

Modern bioethical issues: Euthanasia, physician assisted suicide and abortion. Comparative study of attitudes between physicians and law professionals

Nafsika Malikentzou,[1] Athanasios Douzenis,[1,2] Fotios Chatzinikolaou,[3] Panagiota Bali,[1,2] Ioannis Michopoulos[1,2]

[1]*MSc Program "Forensic Psychiatry", School of Medicine, National and Kapodistrian University of Athens, Athens,*
[2]*2nd Psychiatric Department, National and Kapodistrian University of Athens, "Attikon" Hospital, Athens,*
[3]*Laboratory of Forensic Medicine &Toxicology, School of Medicine, Aristotle University of Thessaloniki, Greece*

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ABSTRACT

We aimed to examine and compare the attitudes of physicians and law professionals on modern bioethical issues. Euthanasia, physician assisted suicide and abortion were selected for this study, as they underline the conflict between human life as a fundamental value, and the individual's right to self-determination. The demand of euthanasia and physician assisted suicide services reflects each person's right to decide on the way their life will end, while the legalization of abortion determines the individual's right to self-determination. These are complex issues with moral, religious and social implications, and as such tend to divide public opinion. In order to investigate their attitudes, physicians of all specialties, as well as law professionals from all over Greece, were invited to participate in the study. In total, 220 professionals responded to the call and participated in the survey. The professionals involved showed fairly high rates of agreement in all the issues studied, but a significant difference in results was found when the occupation of participants was set as a criterion, with physicians being more negative to euthanasia, physician assisted suicide and abortion than lawyers. Religiousness, age and male sex were negatively correlated with "positive" attitudes towards euthanasia, physician assisted suicide and abortion. Moreover, participants' attitudes towards euthanasia and physician assisted suicide were found to predict their attitudes towards abortion, indicating a single ideological direction of agreement or disagreement, accordingly. Individuals' attitudes and opinions are complicated issues, not easy to be categorized. However, it is of scientific interest to shape a legislative framework that is close to the social consensus, ideological evolution and moral needs. This study tried to pave the way for a modern approach to the issues of euthanasia, physician assisted suicide and abortion.

KEYWORDS: Euthanasia, physician assisted suicide, abortion, physicians, legal scientists, study of attitudes.

Introduction

Bioethical issues such as euthanasia, physician assisted suicide and abortion have been a concern for society for many centuries. In ancient Greece references of euthanasia and abortion are found in the Hippocratic oath, as well as in texts of philosophers, such as Plato and Aristotle.[1,2] Particular emphasis has, however, been placed on the debate on these issues recently with the development of bioethics. Bioethics attempts to maintain a balance between the fundamental respect for human rights and

Corresponding author: Nafsika Malikentzou, Attikon University Hospital, 1 Rimini street, GR-124 62 Chaidari, Athens, Greece • e-mail: nafmalikentzou@outlook.com, mnafsika@med.uoa.gr

their non-violation whilst taking into account the rapid techno-scientific progress of recent years.[3]

These issues consist mainly moral or philosophical dilemmas. The participation of mental health professionals, however, becomes inevitable, as suicidal behavior, issues of autonomy and end-of-life ethical problems concern both the medical and the psychiatric community.[4]

Euthanasia and Physician Assisted Suicide (PAS)

In the last decades, scientific advances in medicine have led to an increase in life expectancy and lengthened the life of terminally ill patients. This has often lead to the need for a "good death", which consists in avoiding pain and discomfort for the patient and their family.[5–8]

The term euthanasia (which is divided into active and passive euthanasia) describes the procedure by which drugs, or other medical interventions are given to the patient, in order to end their life.[9] In physician assisted suicide, the doctor is offering the patient the means or the substances, in order to terminate his own life.[10]

Currently, most countries have legislation that does not allow any form of euthanasia or physician assisted suicide. There are few exceptions: the Netherlands, Switzerland, Belgium and Luxemburg in Europe, some US States, Canada and Colombia. However, certain efforts to legalise some forms of euthanasia and Physician Assisted Suicide (PAS) have taken place in several countries in the world.[11]

In Greece, the law considers every act that results in ending someone's life as a crime (stated in the articles 300 and 301 of the Penal Code), even if this action is performed under circumstances of psychological pressure or even after the victim's specific requests.[12]

However, in Greece and internationally, many studies have shown increasingly favorable attitudes of the population towards changing this legislation. A study which was based on Greek data and which involved health professionals has shown more than 60% positive stance towards euthanasia and PAS.[9,13,14]

Moreover, a survey carried out in Graz of Austria,[15] over a period of nine years, from 2001 to 2009, showed a considerable and significant change in student attitudes towards active voluntary euthanasia. More specifically, in 2001 the percentage of agreement to euthanasia was 16.3% and increased to 49.5% in 2009. Furthermore, Attell's[16] cohort analysis from 1977 to 2016 showed that acceptance of euthanasia has increased significantly in recent decades, reaching 74% in 2016.

These results suggest that practices like euthanasia have begun to change in public perception as autonomy and free will of the patients is increasingly appreciated, even though the argument between supporters and opponents of euthanasia still exists.

Abortion

In modern times, more and more women resort to the solution of abortion, even in countries where contraception is easily available.[17] The percentage of abortions for unwanted pregnancies is about 56%.[18]

Most high-income countries have legalized abortion. However, there are still deeply religious or "conservative" countries in which the termination of pregnancy is considered a criminal offence. Countries with such legislation exist in Europe (Finland, Malta, Poland)[19] as well as in Africa and Latin America, where the anti-abortion laws are the strictest. Nonetheless, these laws do not seem to lead to a reduction in the number of abortions performed, as women often seek ways to terminate their pregnancies with illegal and unsafe methods.[20]

The Greek Penal Code, has decriminalized abortion (stated in articles 304 and 304A) up to a certain stage of pregnancy since 1986. According to the current legal framework,[21] an unwanted pregnancy can be legally terminated until the twenty-fourth week of the pregnancy, with no need for justification. If the woman requesting termination of pregnancy provides a specific reason (i.e. a health problem), the time limit for a legitimate abortion is increased.

Despite the fact that in most developed countries the legal framework for the termination of pregnancy is rather permissive, abortion is still a complex subject that raises moral dilemmas and concerns. Dimoula's[22] study in 2007, which examined Greek data, found that 58% of the participants were against abortion. These facts seem to explain the ongoing argument over the correctness of its legalization.

In the present study we aimed to describe and analyse the opinions of physicians and law professionals, as these are influenced by their training and education, and compare the two samples. We also aimed to understand which factors affect the attitudes towards complex bioethic issues that are of great concern to society today.

Material and Method

Study design and participants

The study was carried out during the period 2019-2020. It was a comparative study of attitudes between two population samples, with quantitative data. Overall, 220 people from all over Greece participated in the study, aged 22–79 years (Mean=39.1, SD=12.39). The participants were doctors of various specialties, as well as law professionals (lawyers, judges and trainee lawyers). The participants were informed that their contribution was volun-

tary and anonymous. The study was approved by the ethics committee of the MSc of "Forensic Psychiatry" of the National and Kapodistrian University of Athens.

Data collection tool

A questionnaire was constructed for the purposes of this survey and was given to the participants to complete (see Supplementary Material). The questionnaire consisted of 66 questions and was divided into four main parts: (a) 8 questions about the demographic characteristics of the participants (b) 6 questions about the participants' religious beliefs (e.g., Do you believe in God? Do you believe that your way of life, in social or personal level is affected by your religious beliefs?) (c) 24 questions about their attitudes towards euthanasia and physician assisted suicide (e.g., Would you say that you are in favor of euthanasia? Do you believe that all patients have the right to refuse treatment?) and (d) 28 questions about the participants' attitudes towards abortion (e.g., Would you say that you are in favor of abortion? Do you believe that abortion is a sin and equals murder?). The purpose of this tool was to present the issues addressed from many aspects in order to highlight the attitudes of the participants. The questions were in a two-point "yes or no", or a 4-degree Likert scale. The reliability test that was conducted in the subscales of the questionnaire (religiosity, attitudes towards euthanasia and PAS, attitudes towards abortion) resulted to a Cronbach's alpha higher than 0.7 (0.88, 0.92 and 0.92 respectively).

Statistical analysis

The variables were tested with the Shapiro-Wilk normality test and they were found to have normal distribution. Differences between means were tested with the independent sample t-test. Correlations were tested with the Pearson correlation coefficient. The level of statistical significance was <0.05. Data were analysed with the statistical program IBM SPSS Statistics 25.

With the aim of further analyzing the results, sub-categories were created in the questionnaire, as to the type of argument they express: (a) medical ethics, (b) religious faith, (c) knowledge of legislation and opinion on possible changes, (d) autonomy and self-determination and (e) personal ethics and general ideological attitude. The higher values in the tables suggest a more positive view of euthanasia, PAS and abortion.

Results

The demographic characteristics of the sample are presented in detail in table 1.

The percentage of agreement to euthanasia (partially or totally) was 66.4% in the corresponding question. For physician assisted suicide and abortion, this percentage was 52.8% and 76.8% respectively. Tables 2 and 3 show in detail the reasons for the practices of euthanasia and physician assisted suicide should be legal, as well as the reasons why a woman should have the right to an abortion.

One of our hypotheses was that the profession of the participants could affect the attitudes towards euthanasia and abortion. Furthermore, these attitudes could be

Table 1. Demographic characteristics of the sample.

	N	(%)
Gender		
Male	99	45
Female	120	54.5
Other	1	0.5
Age		
22-27	54	24.5
28-33	28	12.7
34-39	39	17.7
40-45	36	16.4
46-51	25	11.4
52-57	13	5.9
58-63	18	8.2
64+	7	3.2
Profession		
Physicians	111	50.45
Law professionals	109	49.55
Family Status		
Married	92	41.8
Not Married	121	55
Other	7	3.2
Education		
Bachelor	102	46.4
Master	83	37.7
PhD	35	15.9

Table 2. Reasons for which the participants consider that the legislation should allow euthanasia or PAS* (N=220).

Terminally ill patients	154
Patients without treatment prospects	86
Patients suffering from chronic pain	102
Patients suffering mentally	39
Patients who cannot make their own life decisions	136
Anyone after specific and persistent request	29
Under no circumstances	23
Other	15

*Physician Assisted Suicide

Table 3. Reasons the participants consider enough to lead a woman to abortion (N=220)

Unwanted pregnancy	148
Not being ready to become a mother/a parent	133
Pregnancy as a result of rape or incest	206
Medical issues for the pregnant woman or the foetus	203
Financial reasons	90
Pressure from the partner	19
Other priorities (education, career)	82
Under no circumstances	8
Other	3

affected by religious beliefs and some demographic characteristics, such as gender and age. Table 4 demonstrates the differences between physicians and law professionals; higher scores indicate a greater level of agreement to euthanasia, physician assisted suicide and abortion.

Table 5 shows the comparison between physicians and law professionals on the kind of arguments used, in order to support their opinions. It was observed that the answers with most support were the ones with arguments affected by religious beliefs as well as the ones in the category favouring the person's autonomy and self-determination. This was found in both groups of professionals.

Tables 6 and 7 present the size of impact of the demographic characteristics of the participants on their attitudes. Religious sentiment, gender and age were shown to affect the shaping of the participants' attitudes.

Finally, it was shown that individuals' attitudes towards euthanasia and physician assisted suicide are highly correlated with attitudes towards abortion (r=0.71, p=0.01), confirming the hypothesis that a common bioethical and ideological attitude towards both euthanasia and abortion was present.

Discussion

This study showed a general permissive attitude towards euthanasia, physician assisted suicide and abortion among physicians and law professionals. The second main conclusion was that there were significant differences between these two groups.

The law professionals presented a higher level of agreement and acceptance towards all the issues under study, compared to the physicians. This reached a statistically significant level. One could argue that the law professionals have a wider and fuller knowledge of the legislation, and so they perceive the provisions of the law differently. Hence, the formation of their attitudes reflects an ideology that springs from that very knowledge. On the contrary, the physicians perceive these situations from a more personal point of view and based on their training, as protectors of life and health.

Table 4. Independent samples t-test to compare the answers of physicians with legal scientists on their attitudes towards euthanasia, physician assisted suicide and abortion

Profession	Physicians (N=111)	Law professionals (N=109)	t	p
	Mean (SD)	Mean (SD)		
Euthanasia and physician assisted suicide (scores: 20-76)	55.0 (± 10.9)	58.1 (± 10.7)	4.1	0.035
Abortion (scores: 17-64)	49.7 (± 10.6)	52.9 (± 10.2)	6.2	0.025

The difference is significant on the <0.05 level.

Table 5. Independent sample t-test to compare the answers according to the type of argument that was used

Profession	Physicians (N=111)	Law Professionals (N=109)	Score limits	t	p
	Mean (SD)	Mean (SD)	Min.–Max. Score		
Medical ethics	11.8 (± 2.5)	12.4 (± 2.3)	4 - 16	0.8	0.087
Religious faith	12.6 (± 3.4)	13.5 (± 3.2)	4 - 16	0.1	0.034
Legislation changes	12.1 (± 2.9)	12.9 (± 2.9)	4 - 16	0.1	0.034
Autonomy and Self-determination	22.0 (± 4.1)	23.2 (± 4.2)	7 - 28	0.2	0.042
Personal ethics	31.8 (± 6.1)	33.6 (± 6.1)	11 - 44	0.2	0.029

The difference is significant on the <0.05 level

Table 6. Bivariate correlations among age, religiosity of the participants and the variables that measure attitudes towards euthanasia, physician assisted suicide and abortion

	Euthanasia and PAS	Abortion
	r (p)	r (p)
Religiosity	–0.58** (<0.001)	–0.67** (<0.001)
Age	–0.18** (<0.001)	–0.15* (0.03)

*p<0.05; **p<0.01

Table 7. Independent sample t-test to compare gender to the variables that measure attitudes towards euthanasia, physician assisted suicide and abortion

Gender	Euthanasia and physician assisted suicide	Abortion	t	p
Male (N=99) Mean (SD)	54.6 (±12.1)	49.4 (±11.6)	4.5	0.035
Female (N=120) Mean (SD)	58.1 (±9.6)	52.8 (±9.3)	5.7	0.018

The difference is significant on the <0.05 level

Regarding euthanasia and physician assisted suicide, the participants supported them, either totally, or with some reservations. Moreover, 80% of the participants stated that with the application of the proper legal safeguards, euthanasia and physician assisted suicide could be legalised. This finding is in agreement with recent literature, that studied health professionals' or general public's attitudes.[2,14] It is also worth mentioning that 60% of the participants supported active non-voluntary euthanasia, which means the termination of life of patients that are comatose, or when they do not have the ability to decide for their life themselves. This explains the higher percentage of euthanasia's support, compared to the physician assisted suicide. It is worth emphasizing that only one out of ten participants stated that the legislation should never and under no circumstances allow such practices.

This high percentage of support to euthanasia and physician assisted suicide can be attributed, according to the literature, on the high educational level of the participants. More specifically, when it comes to bioethical dilemmas, studies have shown that people with higher education tend to be more supportive of euthanasia and physician assisted suicide compared to people with lower education.[23,24]

Research findings also show that women and older people are less likely to be supporters of euthanasia and PAS, compared to men and younger people.[7,25] In the present study women showed higher levels of agreement towards both practices, whilst age played a minor role in the shaping of attitudes (the difference became more apparent over the age of 58).

Finally, high religious sentiment and believing in God were found to be the greatest predictors of negative attitude towards euthanasia and PAS, as well as towards abortion.[26–29] Our study confirms these findings. The highest negative correlation found on the analysis was between the participants' attitudes and their religious beliefs.

The participants' percentage of agreement (or agreement under certain circumstances) to abortion was, again, quite high, reaching 76%.

The analysis of the gender's effect on the participant's opinion about abortion proved that women were more in favour of abortion than men. This finding does not agree with the literature.[30] However, the most powerful arguments in favour of abortion are made by the feminist movement which stands for women's right for self-determination of their bodies. Hence, this result seems reasonable.[31,32]

Age did not have an important effect on attitudes regarding abortion, even though there was a small, but statistically significant difference, similar to the difference found in euthanasia. The scientific literature is not clear about whether the age has a role to play in supporting or rejecting the termination of pregnancy.[30,33]

The correlation analysis, also, showed a significant agreement between the attitudes towards euthanasia and physician assisted suicide with the attitudes towards abortion, confirming our original hypothesis. As supported by the existing literature that categorizes people in a liberal or a conservative position, this finding can also be interpreted accordingly.[32] Supporters of euthanasia, physician assisted suicide and abortion

probably express a more progressive position, that appreciates the values of freedom and the right to live and die. On the other hand, the opponents of these practices place more meaning in the value of life and are taking a more conservative stance.

In conclusion, the results of this study indicate that in Greece the idea of a possible legalization of euthanasia and PAS has begun to settle in the social conscience and is being understood as an expression of freedom and self-determination. The same can also be said about accepting legal abortions, and women's right to control their bodies. The purpose of this study was to study attitudes and ideologies on bioethical issues that concern society. More studies are needed in order to support the creation of a modern legislative design, closer to social perceptions.

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Ερευνητική εργασία

Σύγχρονα βιοηθικά ζητήματα: Ευθανασία, ιατρικώς υποβοηθούμενη αυτοκτονία και άμβλωση. Συγκριτική μελέτη των στάσεων ιατρών και νομικών

Ναυσικά Μαλικέντζου,[1] Αθανάσιος Δουζένης,[1,2] Φώτιος Χατζηνικολάου,[3] Παναγιώτα Μπαλή,[1,2] Ιωάννης Μιχόπουλος[1,2]

[1]*Πρόγραμμα Μεταπτυχιακών Σπουδών «Ψυχιατροδικαστική», Ιατρική Σχολή, Εθνικό και Καποδιστριακό Πανεπιστήμιο Αθηνών,*

[2]*Β΄ Ψυχιατρική Κλινική, Ιατρική Σχολή, Εθνικό και Καποδιστριακό Πανεπιστήμιο Αθηνών, ΠΓΝ «Αττικόν»,*

[3]*Εργαστήριο Ιατροδικαστικής και Τοξικολογίας, Ιατρική Σχολή, Εθνικό και Καποδιστριακό Πανεπιστήμιο Αθηνών, Αθήνα*

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ΠΕΡΙΛΗΨΗ

Η παρούσα έρευνα είχε σκοπό να μελετήσει και να συγκρίνει τις στάσεις ιατρών και νομικών επιστημόνων, για σύγχρονα βιοηθικά ζητήματα που απασχολούν το κοινωνικό σύνολο. Συγκεκριμένα, η ευθανασία, η ιατρικώς υποβοηθούμενη αυτοκτονία και η άμβλωση επιλέχθηκαν για την έρευνα, καθώς αποτελούν περιπτώσεις σύγκρουσης της ανθρώπινης ζωής ως θεμελιώδους αξίας, με το δικαίωμα στην ελευθερία αυτοκαθορισμού. Η ευθανασία και η ιατρικώς υποβοηθούμενη αυτοκτονία εκφράζουν το δικαίωμα στην επιλογή της ζωής και του θανάτου, ενώ η νομιμοποίηση της άμβλωσης καθορίζει το δικαίωμα αυτοδιάθεσης του σώματος. Πρόκειται για σύνθετα ζητήματα με ηθικές, θρησκευτικές και κοινωνικές προεκτάσεις, που τείνουν να διχάζουν την κοινή γνώμη. Ιατροί διαφόρων ειδικοτήτων και νομικοί από όλη την Ελλάδα κλήθηκαν να συμμετάσχουν στην έρευνα προκειμένου να διερευνηθούν οι στάσεις τους. Συνολικά, 220 επαγγελματίες ανταποκρίθηκαν στο κάλεσμα για συμμετοχή στην έρευνα και αποτέλεσαν το σύνολο του δείγματος. Οι επαγγελματίες που συμμετείχαν εμφάνισαν υψηλά ποσοστά συμφωνίας σε όλα τα ζητήματα που μελετήθηκαν. Βρέθηκε, όμως, σημαντική διαφορά στα αποτελέσματα όταν τέθηκε ως κριτήριο το επάγγελμα των συμμετεχόντων: οι ιατροί ήταν πιο αρνητικοί από τους νομικούς επιστήμονες απέναντι στην ευθανασία, την ιατρικώς υποβοηθούμενη αυτοκτονία και την άμβλωση. Η θρησκευτικότητα, η ηλικία και το άρρεν φύλο του δείγματος συσχετίσθηκαν αρνητικά με την ευνοϊκή στάση απέναντι στην ευθανασία, την ιατρικώς υποβοηθούμενη αυτοκτονία και την άμβλωση. Επιπλέον, η στάση των συμμετεχόντων απέναντι στην ευθανασία και την ιατρικώς υποβοηθούμενη αυτοκτονία βρέθηκε πως προέβλεπε τη στάση τους απέναντι στην άμβλωση και αντίστροφα, γεγονός το οποίο υποδεικνύει μία ενιαία ιδεολογική κατεύθυνση συμφωνίας ή διαφωνίας, κατά περίπτωση. Οι στάσεις και οι ιδεολογίες των ατόμων συνιστούν σύνθετα θέματα και είναι δύσκολο να κατηγοριοποιηθούν. Η μελέτη τους, ωστόσο, παρουσιάζει μεγάλο επιστημονικό ενδιαφέρον και είναι χρήσιμη στη διαμόρφωση ενός νομοθετικού πλαισίου που τοποθετείται κοντά στον κοινωνικό παλμό, συμβαδίζει με την ιδεολογική εξέλιξη και ανταποκρίνεται επιτυχώς στις κοινωνικές και ηθικές ανάγκες. Η παρούσα έρευνα επιδιώκει να ανοίξει τον δρόμο για μία σύγχρονη αντιμετώπιση των ζητημάτων της ευθανασίας, της ιατρικώς υποβοηθούμενης αυτοκτονίας και της άμβλωσης.

ΛΕΞΕΙΣ ΕΥΡΕΤΗΡΙΟΥ: Ευθανασία, ιατρικώς υποβοηθούμενη αυτοκτονία, άμβλωση, ιατροί, νομικοί επιστήμονες, έρευνα στάσεων.

Συγγραφέας επικοινωνίας: Ναυσικά Μαλικέντζου, Πανεπιστημιακό Γενικό Νοσοκομείο «Αττικόν», Ρίμινι 1, 124 62 Χαϊδάρι, Αθήνα, Διεύθυνση e-mail: nafmalikentzou@outlook.com, mnafsika@med.uoa.gr

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Research article

Factor structure and psychometric properties of the Greek version of the Reconstructed Depressive Experiences Questionnaire

Antonios Kalamatianos, Lissy Canellopoulos

Department of Psychology, National and Kapodistrian University of Athens, Athens, Greece

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ABSTRACT

The Reconstructed Depressive Experiences Questionnaire (RDEQ) is a self-report measure for assessing depressive experiences and in particular dependency and self-criticism, that is, vulnerability traits for depression. It constitutes a short version of the widely used DEQ that was constructed to detect the anaclitic and the introjective depressive characterological configurations. However, DEQ's validity has been questioned and several shortened versions have been constructed. RDEQ has been found to preserve the characteristics of the original scale and demonstrate the best psychometric qualities. The aim of this study was to evaluate the psychometric properties of the Greek version. RDEQ was translated and the final version was administered, along with questionnaires measuring depression (Beck Depression Inventory, BDI), attachment (Cartes de Modèles Individuels de Relations, CAMIR), and self-esteem (Rosenberg Self-Esteem Scale, RSES), to a clinical and a community sample of 714 individuals. Confirmatory factor analysis yielded a two-factors structure that represents the personality dimensions of dependency and self-criticism. Findings showed that this model fits well the data and has good internal consistency with Cronbach's alphas 0.84 and 0.87, respectively. The correlation between the two RDEQ factors demonstrated that the two scales are orthogonal and distinct. Moreover, the Greek version exhibited low to moderate significant correlations with BDI, CAMIR, and RSES and satisfactory convergent and divergent validity. RDEQ appears to be a suitable tool for research use and is expected to facilitate the examination of depressive personality dimensions in Greek speaking populations.

KEYWORDS: Depression, Depressive Experiences Questionnaire, vulnerability, dependency, self-criticism.

Introduction

Over the last decades there has been a growing interest in the personality types associated with increased risk for depression.[1] One of the most widely used instruments to differentiate between these types is the Depressive Experiences Questionnaire (DEQ). DEQ was constructed by Blatt[2] who viewed interpersonal relatedness and self-definition as two variations in personality organization and development. He concurrently proposed two developmental configurations, the anaclitic and the introjective. The former entails the development of mature, intimate, and mutually satisfactory interpersonal relationships and the latter involves developing a realistic, integrated, and differentiated identity.[1,3] In order to measure these depressive styles Blatt et al[4] assembled items that reflected subjective experiences, often referred to by people with major depression (MD). Sixty-six of those statements were administered to undergraduate students. Three independent factors, dependency, self-criticism, and efficacy, were extracted. Hence, DEQ was constructed to evaluate the life experiences of people with depression and the first two factors corroborated the theoretical formulation of two developmental pathways and separate causes of depression, that is, interpersonal relatedness and self-definition.[2,5]

Dependency reflects the concern about abandonment and separation, difficulty in expressing anger, anxiety about rejection, feelings of absence of love and

Corresponding author: Antonios Kalamatianos, School of Philosophy (office 527), National and Kapodistrian University of Athens, Panepistimiopolis, GR-157 84 Athens, Greece • e-mail: akalamt@psych.uoa.gr

fear of others being disappointed, loneliness, and loss. Self-criticism, includes issues related to failure, guilt, dissatisfaction, hopelessness, anxiety about self-worth, ambivalence about self and others, a sense of inability to respond to the high standards that one and others pose, and a tendency of assuming the blame. Efficacy, represents personal resilience and inner strength.

With respect to psychometric properties, satisfactory convergent, divergent, and construct validity have been reported in clinical and non-clinical populations and different languages,[6–9] with an adequate Cronbach's alpha, 0.81 and 0.80,[10] for dependency and self-criticism, correspondingly. An association of DEQ scales with BDI in clinical and non-clinical populations has also been reported by Blatt et al,[11] with measurements of depressive affect in healthy participants, in cross-sectional and long-term studies,[12] with self-esteem,[13] and insecure attachment styles. Zuroff and Fitzpatrick[14] have found a relationship between dependency and anxious attachment and between self-criticism and fearful-avoidant attachment.

Regarding DEQ's utility in clinical practice and research, it has been observed that the depressive dimensions predict the outcome of psychotherapy[15] and of antidepressant treatment.[16] It has also been found that dependent people benefit from structured supportive therapies, such as psychoanalytic and group CBT, because they can connect more easily with therapists, while the self-critical, those with greater investment in cognitive functioning, respond to the insight-oriented, long-term therapies, such as psychoanalysis and individual CBT.[17,18]

Despite the extensive use of DEQ, there is concern about its psychometric characteristics. Many researchers[19,20] have failed to repeat the orthogonality between the two personality traits due to elevated cross-loadings or low loadings on any factor and to high interrelation between the two dimensions. In addition, Desmet et al[21] argued that the items do not reflect independent constructs and Welkowitz et al[22] and Bagby et al[23] have contended that the initial scoring system is complex, difficult to use, and weak.

Other, shortened, versions of DEQ have been presented so far, such as DEQ-Revised,[22] DEQ-Reconstructed-RDEQ,[23] and McGill DEQ.[24] RDEQ[23] is a short form of DEQ's dependency and self-criticism and uses a simple and valid scoring procedure. Bagby et al[23] used factor analyses to identify 19 items from a large sample of normal adults, students, and outpatients. RDEQ's intercorrelations between scores on dependency and self-criticism were found sufficiently low (around 0.45). It also fit adequately to the hypothesized model and exhibited good discriminant validity. It has shown enhanced internal consistency compared to the original instrument. The alpha coefficients across the different samples ranged from 0.69 to 0.80 and its items represent excellently Blatt's theoretical dimensions.[23] Moreover, the association between the two factors was reduced compared to the original scale, thus indicating that they are orthogonal. Additionally, Desmet et al[21] studied the factorial and construct validity of the original DEQ and of its shortened versions with normal adult, student, and clinical samples by confirmatory factor analysis and found that RDEQ demonstrated the best psychometric properties. Research findings have provided evidence of its usefulness with various populations.[25–28]

Since, to the best of our knowledge, there is no prior published research with the Greek version of RDEQ, the aim of the present study was to validate the RDEQ in a patient with MD and a community Greek sample.

Material and Method

Participants and procedure

The participants of this study were 714 adults, aged 18 to 56 years and had attained at least elementary schooling, 323 MD patients aged 37.37 years and 391 healthy controls aged 32.90 years. In the clinical sample 67 (20.70%) were males and 256 (79.30%) females, 96 (29.70%) had comorbidity with dysthymic disorder, anxiety and personality disorders. In the community sample 114 (29.20%) were males and 277 (70.80%) females.

This study received permission from the Department of Psychology in the University of Athens and approval from the National Health Operations Center. The design and the data collection were in accordance with the Declaration of Helsinki ethical principles and the Edinburgh revision in 2000. The patients were recruited, on the basis of their psychiatric diagnosis, voluntarily, at outpatient clinics of mental health centers and psychiatric departments of general hospitals in the prefecture of Attica. Those who met the DSM-IV diagnostic criteria for major depressive disorder-MDD, single episode or recurrent, joined the clinical group. The non-clinical group was gathered voluntarily in waiting areas of Health Insurance's and the National Bank's central branches. Those who had not been diagnosed with DSM-IV MDD were listed in the community group. In addition, the exclusion criteria comprised a BDI score of ≤ 10 for the patient and of ≥ 17 for the community sample. These are the cut-off scores of mild or clinical depression according to the US and the Greek adaptation samples.[29] The participants were informed about the purpose of the study and a consent form was obtained prior to the sample collection.

Since there is not a Greek translation, the multiple forward backward process, recommended by Guillemin et al,[30] was used. The original American version was trans-

lated into Greek with forward translation by two experienced, fluent in English and Greek, bilingual translators independently. Then, we conducted a comparison of the two forms and their incorporation into one. The consensus version was re-translated back by two other native English speakers, blinded to the initial form, into the source language. After that, the Greek version was administered to a small population from the community in order to receive feedback about the items' clarity and the instructions' comprehensiveness. The developer's suggestions were taken into account so as to formulate the final form.

Measures

The Reconstructed Depressive Experiences Questionnaire[23] was used in the current study with the permission of the original authors. It includes 19 items and two factors, Dependency (10 items), and Self-Criticism (9 items). Responses are given on a 7-point Likert scale ranging from 1=I strongly disagree to 7=I strongly agree.

Attachment was measured by Cartes de Modèles Individuels de Relations-CAMIR,[31] a 72-item, self-rating scale that describes four attachment strategies, the secure, the preoccupied, the detached, and the unresolved that was out of the current study's scope. CAMIR has demonstrated adequate Cronbach's alpha ranging from 0.68 to 0.95 and from 0.73 to 0.80 in its Greek standardization.[32]

The Rosenberg Self-Esteem Scale-RSES[33] was administered to evaluate general self-worth. It contains 10 items. The internal consistency was good with alpha coefficients ranging from 0.77 to 0.88. It has also exhibited good concurrent, predictive, and construct validity.[34] In its Greek validation the Cronbach's alpha was 0.80.[35]

The severity of recent depressed mood was measured by Beck Depression Inventory-BDI.[36] Validated within Greek populations,[29] BDI comprises 21 items and has showed good internal consistency with Cronbach's alpha ranging from 0.73 to 0.92 and from 0.76 to 0.95 in non-clinical and psychiatric populations, correspondingly. The Pearson product-moment correlation coefficients ranged from 0.48 to 0.86 in clinical populations and from 0.60 to 0.90 in nonpsychiatric subjects. Finally, high construct, discriminant, and criterion validity have been manifested with BDI.[37]

Statistical analysis

Initially, we checked normality by calculating the distributional indices for every item and followed the cut-off scores suggested by Cohen et al.[38] Then we tested the manufacturer's proposed structure and determined whether this corresponds to the data from the two groups of the present study. We firstly assessed RDEQ's internal consistency in order to investigate the correlation of each item with the instrument's factors. After checking for multivariate normality with the use of the Mardia coefficient, statistical analysis also included confirmatory factor analysis (CFA), that was performed following the maximum likelihood method of parameter estimation. The fit of the model was calculated by the following fit indices: x^2/df, the RMSEA (Root Mean Square Error of Approximation), the GFI (Goodness-of-Fit Index), the SRMR (Standardized Root Mean Square Residual), the CFI (Comparative Fit Index), and the TLI (Tucker-Lewis Index). Measurement invariance across MD and community samples was estimated using multi-group procedures. It entailed the establishment of the configural invariance model, that is the equivalence of the factor structure across the two groups, and the assessment of the metric invariance model so as to evaluate the equivalence of factor loadings. We conducted a metric invariance test by constraining the two models to be equal and performed a x^2 difference test between a fully constrained and an unconstrained model. Scalar invariance was consequently verified by testing the equivalence of item intercepts. Convergent and divergent validity were determined by the assessment of correlations (Pearson's r) and by multiple regressions among the factors of RDEQ and other inventories measuring attachment, self-esteem, and depression that have been connected with DEQ in previous studies.[11–14] Finally, we compared the scores in the two scales between the two groups. The aforementioned analyses were carried out with the SPSS-25 and AMOS-version 21.

Results

Factor structure

With respect to sample characteristics, a Kolmogorov-Smirnov ($p>0.05$) and a Shapiro-Wilk's test ($p>0.05$) and the inspection of the histograms, normal Q-Q plots and boxplots showed that the factors' scores were approximately normally distributed for both samples. Furthermore, skewness and kurtosis values were less than 2 for every item of the RDEQ dependency and self-criticism.[39]

With relation to factor structure, initially, the multivariate normality of the RDEQ items was verified through a critical ratio <5.[40] Successively, the two-factor model was evaluated using CFA. It showed a good fit to the data according to the fit indices, $x^2(148)=353.76$, $p<0.001$, x^2/df=2.39, GFI=0.95, TLI=0.95, CFI=0.96, RMSEA=0.04, SRMR=0.05. Then, we examined configural invariance for the two samples and obtained adequate goodness of fit,[41] according to the following indices: $x^2(296)=478.23$, $p<0.001$, x^2/df=1.62, GFI=0.94, TLI=0.93, CFI=0.94,

RMSEA=0.03, SRMR=0.05. Moreover, the chi-square difference between the configural and the metric model ($x^2(315)=505.89$, $p<0.001$, $x^2/df=1.61$, GFI=0.93, TLI=0.93, CFI=0.93, RMSEA=0.03, SRMR=0.06) was found non-significant (p=0.105). The difference between these invariances, in terms of their model fit indexes, that was less than the cut-off of 0.01 in the CFI and RMSEA, is nonsubstantial and ascertains metric invariance.[42] Finally, the chi-square difference between the metric and the scalar structure $x^2(334)=531.54$, $p<0.001$, $x^2/df=1.59$, TLI=0.93, CFI=0.93, RMSEA=0.03, SRMR=0.06) was also found non-significant (p=0.130).

Internal consistency, convergent and divergent validity

Internal consistency (Cronbach's alpha) was calculated, 0.84 for dependency and 0.87 for self-criticism, which was good (table 1). The correlation between the two RDEQ factors was significant in the total sample and both groups, clinical, and community, r=0.49, r=0.27, r=0.29, respectively. We checked for collinearity and the VIF values were acceptable and did not exceed 5. Furthermore, dependency and self-criticism showed low to moderate positive correlation with depression, r=0.21, r=0.43, and r=0.15, r=0.44, and negative with self-esteem, r=–0.12, r=–0.53, and r=–0.17, r=–0.52, and secure attachment, r=–0.02, r=–0.30, and r=–0.08, r=–0.20, in the clinical and the community group, respectively. We finally found that dependency showed greater associations with preoccupied than detached attachment in the clinical, r=0.45, r=0.29, the community sample, r=0.40, r=0.23, and the total sample (table 2), and that self-criticism showed greater associations with detached than preoccupied attachment in the clinical, r=0.32, r=0.17, the non-clinical group, r=0.23, r=0.02, and the total sample (table 2).

To analyze convergent validity, we also evaluated the multivariate relationships among the two RDEQ subscales and the other variables. Dependency attained greater significance in predicting preoccupied attach-

Table 1. Means, standard deviations, and internal consistency of the RDEQ items.

RDEQ Items	Mean	SD	Corrected item-total correlation	Alpha if deleted
Dependency				
I become frightened when I feel alone	4.01	2.20	0.64	0.82
I would feel like I'd be losing an important part of myself if I lost a very close friend	5.70	1.54	0.31	0.85
I have difficulty breaking off a relationship that is making me unhappy	3.83	2.19	0.71	0.82
I often think about the danger of losing someone who is close to me	5.14	1.91	0.43	0.84
I constantly try, and very often go out of my way, to please or help people I am close to	4.97	1.75	0.50	0.83
I find it very difficult to say "No" to the requests of friends	5.30	1.64	0.59	0.82
I worry a lot about offending or hurting someone who is close to me	4.82	1.83	0.64	0.82
Anger frightens me.	4.16	2.09	0.44	0.84
After a fight with a friend, I must make amends as soon as possible	4.96	1.61	0.58	0.82
After an argument, I feel very lonely	4.35	1.98	0.72	0.81
Self-Criticism				
I often find that I don't live up to my own standards or ideals	3.97	1.95	0.66	0.85
Many times I feel helpless	4.01	2.13	0.65	0.85
There is a considerable difference between how I am now and how I would like to be	4.37	2.07	0.65	0.85
I tend not to be satisfied with what I have	3.97	2.04	0.55	0.86
No matter how close a relationship between two people is, there is always a large amount of uncertainty and conflict	4.61	1.85	0.64	0.85
Often, I feel I have disappointed others	3.76	1.99	0.60	0.86
I never really feel secure in a close relationship	3.46	2.07	0.56	0.86
Often, I feel threatened by change	4.03	2.00	0.56	0.86
I am very satisfied with myself and my accomplishments	3.61	1.71	0.57	0.86

Table 2. Correlation coefficients (Pearson's r) among the RDEQ factors and the validity measures in the total sample.

Factors	RDEQ Dependency	RDEQ Self-Criticism
BDI Depression	0.46*	0.73*
CAMIR Secure Attachment	–0.15*	–0.45*
CAMIR Preocupied Attachment	0.54*	0.48*
CAMIR Detached Attachment	0.28*	0.51*
RSES Self-Esteem	–0.40*	–0.74*

*p<0.01, RDEQ: Reconstructed Depressive Experiences Questionnaire, BDI: Beck Depression Inventory, CAMIR: Cartes de Modèles Individuels de Relations, RSES: Rosenberg Self-Esteem Scale

ment than self-criticism, whereas self-criticism played a more significant role in the detached attachment and in self-esteem than dependency (table 3).

Group comparisons

We compared the scores of the two RDEQ factors in the MD and the community sample. Patients with MD scored significantly higher, M=5.48 (SD=0.98), than non-patients, M=4.49 (SD=0.98), t (712)=13.49, p<0.001, on dependency, and M=5.02 (SD=1.09), M=3.19 (SD=0.94), t(712)=24.08, p<0.001, on self-criticism.

Discussion

The scope of the present, preliminary in nature, study was to validate the RDEQ. The two-factor structure was corroborated by the confirmatory factor analysis. The two-factor model provided adequate fit to the data. Configural invariance was good as evidenced by the good model fit measures. Metric and scalar invariance were also supported across the two groups.

The factor analysis revealed two factors, firstly dependency, that reflects loneliness, fear of loss and abandonment, the desire for care, and a general sense of discomfort with separation and, secondly, self-criticism, that refers to achievement strivings, concerns about approval and recognition, loss of satisfaction, a sense of failure for the unsuccessful attempt to reach the ideals and standards one sets, and threat by change. Intercorrelations between the two scales were found below the threshold of 0.60, that Zuroff et al[43] consider as pragmatically and theoretically problematic, thus providing evidence of the orthogonality of the two personality dimensions.

In addition, the current study delineated the factor structure of RDEQ with both patients with MD and non-clinical participants. Thereupon, we may assume that it is in accordance with Blatt,[1] who considered depression as a disruption from normal psychological development, and dependency and self-criticism as personality traits that can be pronounced in clinical as well as community groups.

Consistent with prior research[7] our findings indicate low to moderate significant correlations between the RDEQ scales and BDI, CAMIR, and RSES and provided evidence of convergent validity. It was also noticed that dependency is more strongly related with the preoccupied attachment. Self-criticism was more strongly connected with the detached attachment and with self-esteem, since self-critical people are more focused on feelings of insecurity, failure to achieve goals, and ambivalence about oneself.[44,45] Further, the positive correlations of

Table 3. Multiple regressions of RDEQ scales on depression, preoccupied and detached attachment, and self-esteem.

Predictor	Predicted value	F	Adj R^2	β	p
1. RDEQ Dependency	BDI Depression	194.15	0.21	0.46	<0.001
2. RDEQ Self-Criticism		427.18	0.54	0.66	<0.001
1. RDEQ Dependency	CAMIR Preoc. Attach.	297.24	0.38	0.54	<0.001
2. RDEQ Self-Criticism		215.58	0.29	0.33	<0.001
1. RDEQ Dependency	CAMIR Detach. Attach.	50.30	0.06	0.26	<0.001
2. RDEQ Self-Criticism		122.66	0.26	0.50	<0.001
1. RDEQ Dependency	RSES Self-Esteem	137.86	0.16	–0.40	<0.001
2. RDEQ Self-Criticism		438.34	0.55	–0.71	<0.001

Preoc. Attach.: Preoccupied Attachment, Detach. Attach.: Detached Attachment, RDEQ: Reconstructed Depressive Experiences Questionnaire, BDI: Beck Depression Inventory, CAMIR: Cartes de Modèles Individuels de Relations, RSES: Rosenberg Self-Esteem Scale

both scales with the BDI displayed RDEQ's good convergent validity, because the two factors appear to measure forms of depression concerning issues of relatedness and self-definition.[1] Divergent and convergent validity were established by the RDEQ scales' negative correlations with secure attachment and by the significant prediction of depression from the RDEQ scales, correspondingly. Lastly, the internal consistency measure of both scales was satisfactory.

The results also showed greater associations between dependency and depression in the group of patients than in the community one. This is in congruence with earlier findings,[7] but it did not apply to self-criticism. Many studies with clinical and non-clinical samples have noted[4,21] weaker associations between dependency and depressive symptoms in both samples than between self-criticism and depression, but the results are not unequivocal.[46]

Limitations include the heterogeneous clinical sample which may affect the properties of the two scales, and the self-report questionnaires which may inflate associations due to shared variance. Lastly, we did not explore the full scale's psychometric properties, notwithstanding that the item reduction may be an advantage in cases of the questionnaire's administration to low-energetic patients.[21]

However, the present study pointed out that the RDEQ remains a promising instrument in measuring two distinct depressive experiences, with many research implications in clinical and community samples. It offers investigators the opportunity to use continuous rather than dichotomous variables in research and to focus on life experiences that may lead to depression. The relationship between depression and stressful interpersonal and achievement life events, that is useful in understanding the dynamic interaction between diathesis and stress, can also be achieved by this questionnaire.[46] Additionally, RDEQ has therapeutic implications. Specifically, research has demonstrated that patients' pretreatment predominant personality style has a different significant impact on the therapeutic outcome, for example, the self-critical patients' negative representations of others interfere with the relationship with their therapists.[47] In that way RDEQ may enable therapists to evaluate the different needs and response of the two depressogenic types to treatment. The two dimensions have facilitated the assessment of various forms of inpatient and outpatient treatment for major depression in the Riggs-Yale Project, the Menninger Psychotherapy Research Project[45] and the National Institute of Mental Health Treatment of Depression Collaborative Research Program.[46]

Additional research with inventories, that measure the two polarities, is required to provide evidence for convergent validity. Ensuing research could include other questionnaires regarding diverse personality variables, interpersonal functioning, distress, defense mechanisms, etc. Further studies need to be undertaken with RDEQ and the full scale of DEQ and address issues of factor structure, validity, and stability of the two personality traits as well as the efficacy factor. Overall, the findings obtained in the present study demonstrated that the RDEQ is a valid tool in distinguishing and assessing the two constructs of dependency and self-criticism.

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APPENDIX
Reconstructed Depressive Experiences Questionnarre
Ανακατασκευασμένο Ερωτηματολόγιο Καταθλιπτικών Εμπειριών

Οδηγίες: Παρακάτω παρατίθεται ένας αριθμός δηλώσεων που αφορούν προσωπικά χαρακτηριστικά και γνωρίσματα. Διαβάστε την κάθε πρόταση και αποφασίστε εάν συμφωνείτε ή διαφωνείτε και σε ποιον βαθμό. Εάν συμφωνείτε έντονα, κυκλώστε το 7. Εάν διαφωνείτε έντονα, κυκλώστε το 1. Το μέσο σημείο, εάν είστε ουδέτερος/η ή αναποφάσιστος/η, είναι το 4.

1. Συχνά διαπιστώνω ότι δεν αντεπεξέρχομαι στα προσωπικά μου πρότυπα και ιδανικά. A	1	2	3	4	5	6	7
2. Πολλές φορές αισθάνομαι αβοήθητος/η. A	1	2	3	4	5	6	7
3. Υπάρχει σημαντική διαφορά ανάμεσα στο πώς είμαι τώρα και στο πώς θα ήθελα να είμαι. A	1	2	3	4	5	6	7
4. Έχω την τάση να μην είμαι ικανοποιημένος/η με αυτά που έχω. A	1	2	3	4	5	6	7
5. Φοβάμαι όταν αισθάνομαι μόνος/η. E	1	2	3	4	5	6	7
6. Θα αισθανόμουν σαν να έχανα ένα σημαντικό μέρος του εαυτού μου, εάν έχανα έναν πολύ κοντινό μου φίλο. E	1	2	3	4	5	6	7
7. Δυσκολεύομαι να διακόψω μια σχέση που με κάνει δυστυχισμένο/η. E	1	2	3	4	5	6	7
8. Συχνά σκέφτομαι τον κίνδυνο να χάσω κάποιο κοντινό μου πρόσωπο. E	1	2	3	4	5	6	7
9. Όσο κοντινή και αν είναι μια σχέση ανάμεσα σε δύο ανθρώπους, πάντα περιέχει μεγάλο βαθμό αβεβαιότητας και σύγκρουσης. A	1	2	3	4	5	6	7
10. Συχνά νιώθω ότι έχω απογοητεύσει τους άλλους. A	1	2	3	4	5	6	7
11. Διαρκώς προσπαθώ, και πολύ συχνά παρεκκλίνω από τα σχέδιά μου, για να ευχαριστήσω ή να βοηθήσω τους ανθρώπους με τους οποίους έχω στενή σχέση. E	1	2	3	4	5	6	7
12. Το βρίσκω πολύ δύσκολο να πω «όχι» όταν ένας φίλος μού ζητά κάτι. E	1	2	3	4	5	6	7
13. Ποτέ δεν αισθάνομαι πραγματικά ασφαλής σε μια κοντινή σχέση. A	1	2	3	4	5	6	7
14. Συχνά νιώθω να απειλούμαι από τις αλλαγές. A	1	2	3	4	5	6	7
15. Ανησυχώ πολύ μήπως προσβάλλω ή πληγώσω κάποιο κοντινό μου πρόσωπο. E	1	2	3	4	5	6	7
16. Ο θυμός με φοβίζει. E	1	2	3	4	5	6	7
17. Μετά από έναν καυγά με κάποιον/α φίλο/η, πρέπει να επανορθώσω το συντομότερο δυνατόν. E	1	2	3	4	5	6	7
18. Μετά από μια λογομαχία, αισθάνομαι πολύ μόνος/η. E	1	2	3	4	5	6	7
19. Είμαι πολύ ικανοποιημένος/η με τον εαυτό μου και με τα επιτεύγματά μου. A (AB)	1	2	3	4	5	6	7

A: Αυτοκριτική, E: Εξαρτητικότητα, AB: Αντίστροφη Βαθμολόγηση

Ερευνητική εργασία

Παραγοντική δομή και ψυχομετρικές ιδιότητες της ελληνικής εκδοχής του Ανακατασκευασμένου Ερωτηματολογίου Καταθλιπτικών Εμπειριών

Αντώνιος Καλαματιανός, Λίσσυ Κανελλοπούλου

Τμήμα Ψυχολογίας, Εθνικό και Καποδιστριακό Πανεπιστήμιο Αθηνών, Αθήνα

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ΠΕΡΙΛΗΨΗ

Το Ανακατασκευασμένο Ερωτηματολόγιο Καταθλιπτικών Εμπειριών (ΑΕΚΕ) είναι μια κλίμακα αυτο-αναφοράς για την εκτίμηση των καταθλιπτικών εμπειριών και ειδικότερα της εξαρτητικότητας και της αυτοκριτικής, δηλαδή, των χαρακτηριστικών ευαλωτότητας για κατάθλιψη. Αποτελεί σύντομη εκδοχή του ευρέως χρησιμοποιούμενου ΕΚΕ που κατασκευάστηκε για την ανίχνευση του ανακλητικού και του ενδοβλητικού, καταθλιπτικού, χαρακτηριολογικού στυλ. Ωστόσο, έχει αμφισβητηθεί η εγκυρότητα του ΕΚΕ και έχουν κατασκευαστεί διάφορες συντομευμένες εκδοχές του. Έχει βρεθεί ότι το ΑΕΚΕ διατηρεί τα χαρακτηριστικά της αρχικής κλίμακας και επιδεικνύει τα καλύτερα ψυχομετρικά στοιχεία. Ο στόχος αυτής της μελέτης ήταν να αξιολογήσει τις ψυχομετρικές ιδιότητες της ελληνικής έκδοσης. Το ΑΕΚΕ μεταφράστηκε και χορηγήθηκε η τελική εκδοχή, μαζί με ερωτηματολόγια που μετρούν την κατάθλιψη (Ερωτηματολόγιο Κατάθλιψης του Beck-BDI), την πρόσδεση (Κάρτες των Ατομικών Μοντέλων Σχέσης-CAMIR) και την αυτοεκτίμηση (Κλίμακα Αυτοεκτίμησης του Rosenberg-RSES) σε ένα κλινικό και ένα κοινοτικό δείγμα 714 ατόμων. Η επιβεβαιωτική ανάλυση παραγόντων απέδωσε μια δομή δύο παραγόντων που αντιπροσωπεύει τις διαστάσεις της προσωπικότητας, την εξαρτητικότητα και την αυτοκριτική. Τα ευρήματα έδειξαν ότι αυτό το μοντέλο προσαρμόζεται καλά στα δεδομένα και έχει καλή εσωτερική συνέπεια με την τιμή του Cronbach alpha να είναι 0.84 και 0.87, αντιστοίχως. Η συνάφεια μεταξύ των παραγόντων του ΑΕΚΕ έδειξε ότι οι δύο κλίμακες είναι ορθογώνιες και διακριτές. Επιπλέον, η ελληνική εκδοχή παρουσίασε χαμηλές έως μέτριες σημαντικές συσχετίσεις με τα BDI, CAMIR και RSES και ικανοποιητική συγκλίνουσα και αποκλίνουσα εγκυρότητα. Το ΑΕΚΕ φαίνεται να είναι κατάλληλο εργαλείο για ερευνητική χρήση και αναμένεται να διευκολύνει την εξέταση των καταθλιπτικών διαστάσεων προσωπικότητας σε ελληνόφωνους πληθυσμούς.

ΛΕΞΕΙΣ ΕΥΡΕΤΗΡΙΟΥ: Κατάθλιψη, Ερωτηματολόγιο Καταθλιπτικών Εμπειριών, ευαλωτότητα, εξαρτητικότητα, αυτοκριτική.

Συγγραφέας επικοινωνίας: Αντώνιος Καλαματιανός, Φιλοσοφική Σχολή (γραφείο 527), Εθνικό και Καποδιστριακό Πανεπιστήμιο Αθηνών, Πανεπιστημιούπολη, 157 84 Αθήνα, Διεύθυνση e-mail: akalamt@psych.uoa.gr

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Brief communication

Psychopharmacology of patients with multiple sclerosis in Greece during the period 2017–2019

Christos Bakirtzis,[1] Maria-Valeria Karakasi,[2] Marina-Kleopatra Boziki,[1] Theodoros Moysiadis,[3] Dimitra Tsakona,[3] Barbara Fyntanidou,[4] Georgios Papazisis,[5] Eleftherios Thireos,[6] Nikolaos Grigoriadis[1]

[1]*Multiple Sclerosis Center, Second Department of Neurology, Aristotle University of Thessaloniki, Thessaloniki,*
[2]*Third Department of Psychiatry, Aristotle University of Thessaloniki, Thessaloniki,*
[3]*Institute of Applied Biosciences, Center for Research and Technology Hellas, Thessaloniki,*
[4]*Department of Anesthesiology and ICU, Aristotle University of Thessaloniki, Thessaloniki,*
[5]*Department of Clinical Pharmacology, Aristotle University of Thessaloniki, Thessaloniki,*
[6]*Athens Medical Society, Athens, Greece*

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ABSTRACT

Multiple Sclerosis (MS) is highly comorbid with mental disorders in any disease stage, while psychiatric manifestations may precede the onset of neurological symptoms as well as diagnosis. Neuropsychiatric comorbidities are associated with an elevated risk of MS disability progression, and therefore, people with multiple sclerosis (PwMS) with psychiatric comorbidities often experience a significantly lower functional status, perform worse in objective neuropsychological assessment, are less likely to adhere to pharmacological treatment, and exhibit higher levels of disruption of their supportive social environment as compared with "non-psychiatric" PwMS. The present study aims to estimate the nationwide use of psychopharmacological agents by PwMS in Greece. Prescription records of the nationwide digital prescription database were analyzed, in order to identify PwMS that have received prescriptions of an antipsychotic, an antidepressant, an anxiolytic or a psychostimulant during a 2-year study period. Pseudo-anonymized prescription records of PwMS (n=21218) were extracted from the Greek nationwide prescription database, dating from June 2017 to May 2019. According to this national level study, psychopharmacological agents are frequently prescribed in PwMS. Antidepressants were prescribed in 36.1% of the study sample, followed by anxiolytics (16.23%), psychostimulants (4.97%) and antipsychotics (3.76%). The proportion of patients under treatment with these agents was increasing with age. Selective serotonin reuptake inhibitors, second generation antipsychotics and benzodiazepines were the most often prescribed agents in each drug category and especially in younger age groups, possibly indicating a better efficacy/side-effect equilibrium, while modafinil was the only psychostimulant prescribed aiming to ameliorate levels of fatigue. A pharmacological preference for antidepressants and psychostimulants was observed in the 40-60 age group ($p = 0.02$), while antipsychotics and anxiolytics were more frequently prescribed in the >60 age group ($p<0.001$). Serotonin-norepinephrine reuptake inhibitors were mostly prescribed within the 40-60 age-group. Benzodiazepines were less favored among the >60 age-group. This study highlights the increased prevalence of mental disorders in this patient group. Adequate treatment and monitoring of psychiatric symptomatology, may improve long-term outcomes of the disease, however caution is needed regarding potential drug interactions and side effects.

KEYWORDS: Multiple sclerosis, psychopharmacology, benzodiazepines, antidepressants, antipsychotics, psychostimulants.

Corresponding author: Maria-Valeria Karakasi, AHEPA University General Hospital, GR-541 24 Thessaloniki, Greece • e-mail: valeria28289@hotmail.gr

Introduction

Multiple Sclerosis (MS) is highly comorbid with mental disorders.[1] Psychiatric manifestations are occasionally noted to precede the onset of neurological symptoms and MS diagnosis,[2,3] while acute psychiatric symptoms have been reported as signs of MS-related inflammatory events.[4,5] Psychiatric symptomatology may be present in any disease stage and negatively affects daily functioning of people with MS (PwMS).[6]

Whether psychiatric manifestations in MS are directly attributed to autoimmune mechanisms or constitute common comorbidities is still a matter of debate. Various researchers suggest an association between depression, anxiety and MS related brain inflammation. Possible pathogenesis involves the localized production of cytokines in the brain, which contribute to neuronal and oligodendral damage, modulate the serotonergic and noradrenergic circuits and activate responses of the neuroendocrine system.[7] Similarly, an autoimmune driven alteration of synaptic transmission within dopaminergic and glutamatergic pathways, leading to a disequilibrium between inhibitory-excitatory mechanisms, has been proposed as a mechanism of psychotic symptoms in MS.[8] Furthermore, hypothalamic-pituitary-adrenal (HPA) axis dysfunction evident by increased cerebrospinal fluid (CSF) levels is common in multiple sclerosis and associated with increased severity of MS.[9,10] Leukocyte-induced neuronal damage to the hypothalamus or a secondary effect of a global stress response to disease are suspected, but its exact underlying mechanism has not yet been confirmed.[9,10] In addition, the biopsychosocial medical model is being considered for pathogenesis, development, symptomatology and exacerbations in the course of MS.[11] Neuroimmunological studies have detected alterations of clinical significance in lymphocytes and cytokines of PwMS under different pressures, while most evidence-based studies have indicated that chronic psychosocial pressures such as interpersonal conflicts, lack of social support, grief, anxiety and depression are closely intertwined with relapses of MS and have been also identified as risk factors for clinical worsening including psychiatric symptomatology. Therefore, all in all, autoimmunity, dysfunction of the hypothalamic–pituitary–adrenal axis and perceived psychosocial stressors have been suggested as possible underlying mechanisms triggering MS related psychiatric manifestations.[9–11] Fatigue, a commonly reported symptom among PwMS, is also attributed to autoimmune mechanisms. The proposed fatigue generation model includes the effect of pro-inflammatory cytokines in homeostatic and interoperable centers within cortico-striato-thalamo-cortical networks, resulting in their dysfunction.[12]

Immunomodulatory agents and immunosuppressants commonly used to treat PwMS do not have an impact on psychiatric manifestations; therefore, treatment of such symptoms includes non-pharmacological approaches and psychopharmacological agents (PAs).[13] Throughout literature it is reported that the use of psychiatric medications specifically in this population is poorly studied, and therefore, no high-quality data exists from this particular population. General principles are often reported, such as avoiding strong sedatives, anticholinergics, or drugs that may cause orthostatic hypotension.[14] Interestingly, various studies have suggested a potential neuroprotective and anti-inflammatory role of some antidepressants.[15,16] Treatment for the range of mood disorders has been reported to include primarily selective serotonin reuptake inhibitors (SSRIs), as most well-tolerated antidepressants, as first-line therapy, while tricyclic antidepressants (TCAs) and monoamine oxidase inhibitors (MAOIs) are intended for second-line therapies.[17] Regarding fatigue, off-label treatments, including the psychostimulant modafinil, are often prescribed to PwMS in order to ameliorate subjective feeling of tiredness and exhaustion, although their effectiveness is still questionable.[18]

In this study, we aimed to investigate frequency and trends regarding the prescribed PAs in Greek PwMS, using administrative data of the nationwide digital prescription database and to enlighten which psychopharmacological substances seem to be mostly used in the treatment of PwMS psychiatric symptoms. The study was performed according to the ethical standards of the Declaration of Helsinki and was approved by the Greek Ministry of Health, in accordance with the national legislation on Data Protection (32129/24-04-2019).

Material and Method

Data collection

Pseudo anonymized prescription records of PwMS (n=21218; F:M ratio 1.93:1; 65.8% female PwMS) were extracted from the Greek nationwide prescription database, dating from June 1, 2017, to May 31, 2019. The identification of PwMS and the methodology used have been previously described.[19] In this study, we extended the analysis, in order to identify those PwMS who have received prescriptions of an antidepressant, anxiolytic, antipsychotic or psychostimulant, using the same methodology, during this study period. According to the national legislation on Data Protection, participants informed consent was not applicable for this study.

Limitations

According to the studied database, analysis was performed in relation to pharmacological substances. In the majority of instances, the only ICD-10 classification code used in the electronic prescription system is code "G35," standing for MS, and thus, it may not always be clear why each separate medication is prescribed (symptomatically). Specifically, antiepileptic drugs may be prescribed to help PwMS as for the symptoms of neuropathic pain, trigeminal neuralgia, epilepsy, migraine, anxiety and/or affective disorders as mood stabilizers. Therefore, an analysis based on ICD-10 codes would be uncertain and inaccurate. Due to all aforementioned reasons, antiepileptics were also excluded from the analysis.

Other qualitative variables, such as the degree of disability, the type and the duration of the disease, are data that cannot be extracted from the prescribing system. Furthermore, the analysis was not performed on the basis of gender as it was based on primary data extracted from the initial MS prevalence study for northern Greece not including the gender of each anonymized patient.

Statistical analysis

Relationships between the use of specific psychotropic drug classes and age variables of PwMS were examined, classified both in terms of symptomatic use and distinct pharmacological action. Statistical significance was tested with Fisher's exact test and Mann-Whitney U test. All tests were performed in IBM SPSS software 25.0, were two-tailed, and the significance level was set at $p<0.05$.

Results

The study sample consisted of 21218 PwMS (65.8% females, mean age 46.6±13.5). PAs prescribed to PwMS were mainly agents commonly used for disorders of the affective rather than psychotic spectrum (ratio 15.3:1, $p<0.001$). Antidepressants were the most common PAs administered (36.10%) and were prescribed 2.22 times more frequently than anxiolytics (16.23%), which in turn were prescribed 3.27 times more frequently than psychostimulants (4.97%), which were in turn prescribed 1.32 times more frequently than antipsychotics (3.76%). A statistically significant difference occurred in the comparison of all classes of PAs with each other (Fisher's exact; $p<0.01$) with respect to the overall frequency of use in the sample group of PwMS (table 1).

Identified cases were further divided into 4 age groups (under 18, 18–39, 40–60, over 60). Although antidepressants were the most common PAs administered followed by anxiolytics, psychostimulants, and antipsychotics across all age groups (figure 1), certain pharmacological concentration shifts were noted by age-group, and thus, significant differences emerged between PAs in relation to age. Among PwMS under 18 years of age, although at very low levels as expected, and among PwMS between 18-39 years of age, all prescriptions of PAs followed equivalent patterns without significant differences. Higher concentrations were noted for psychostimulants and antidepressants in the 40-60 age group, as compared to the other psychopharmacological agents (psychostimulants: antipsychotics ratio

Table 1. Number and percentage of people with multiple sclerosis under treatment with psychopharmacological agents in Greece.

	Age group				
Drug classification	<18 n: 133	18-39 n: 6,342	40–60 n: 11,244	>60 n: 3,499	Overall n: 21,218
Antipsychotics					
Typical	0	11	42	26	79
Atypical	0	105	400	214	719
Total	0	116	442	240	798
Antidepressants					
SSRIs	4	707	2800	1058	4569
SNRIs	0	215	1208	447	1870
Other	2	173	740	306	1221
Total	6	1095	4748	1811	7660
Anxiolytics					
Benzodiazepines	1	396	1758	737	2892
Other	0	75	300	177	552
Total	1	471	2058	914	3444
Psychostimulants	0	147	671	237	1055

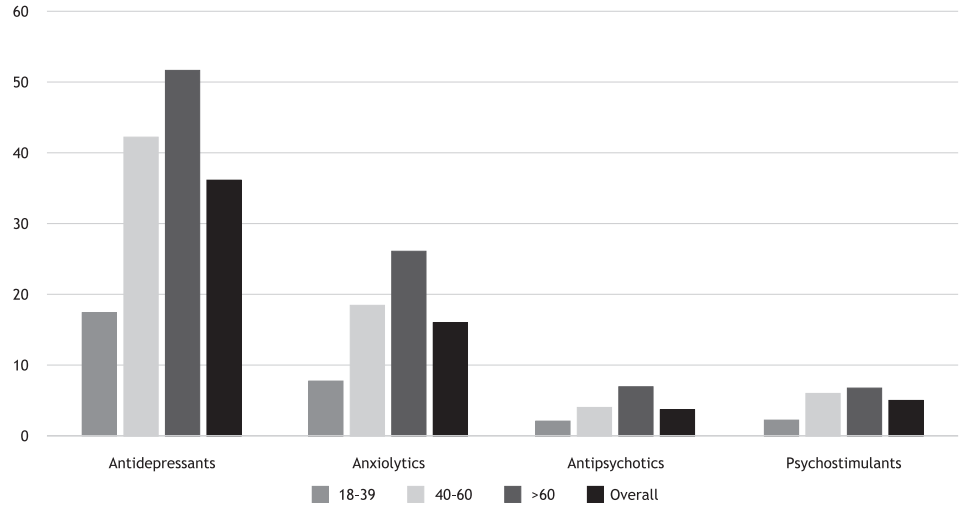

Figure 1. Percentage of Greek people with multiple sclerosis under treatment with psychopharmacological agents, by age group.

1.15:1, p<0.001; antidepressants: antipsychotics ratio 1.12:1, p<0.001; anxiolytics: antipsychotics ratio 1.08:1, p=0.02). On the contrary, among patients of the >60 age-group, a pharmacological spectrum shift was noted towards antipsychotics and anxiolytics (antipsychotics: psychostimulants ratio 1.34:1, p<0.001; anxiolytics: psychostimulants ratio 1.18:1, p<0.01).

Regarding antidepressants, most patients in all age groups were treated with selective serotonin reuptake inhibitors (SSRIs, 21.53%), followed by serotonin–norepinephrine reuptake inhibitors (SNRIs, 8.81%, SSRIs: SNRIs ratio 2.44: 1, p<0.001), followed by other antidepressants such as tricyclic antidepressants and noradrenergic and specific serotonergic antidepressants (SSRIs: "Others" ratio, 3.74: 1, p<0.001; SNRI: "Others" ratio, 1.53: 1, p<0.001). With respect to anxiolytic treatment, the majority of PwMS regardless of age group were treated with benzodiazepines (13.63%) as compared to other anxiolytics such as buspirone (2.60%; ratio 5.24:1, p<0.001). Regarding antipsychotic medications, second generation antipsychotics (SGAs) were more frequently prescribed than first-generation antipsychotics (3.39% vs 0.37%; ratio 2.57:1, p<0.001). About 5% of PwMS in this study were prescribed a neurostimulant (modafinil), with occurrence rates increasing with age.

Supplementary material is available in the present article, within which the reader has the opportunity to view a table representation of statistical data extracted from all variable comparisons, the percentage representing each numerical value within the sample, the ratio of the compared sets and the statistical significance of each comparison.

Discussion

The present study has yielded a considerable rate of PwMS treated with PAs, increasing proportionally with age, a finding consistent with the relevant literature.[18] Antidepressants and anxiolytics were the most common PAs, confirming previous studies.[13,20,21] In the 40–60 age group, a pharmacological preference was noted for treatments with excitatory action aiming more at mobilization, improvement of mood and functionality, indicating that the majority of PwMS in this group may experience psychomotor retardation (depressive symptoms). Conversely, in the over-60 age group, a shift to treatments with more sedative, hypnogogic and anxiolytic action was observed, aiming to treat psychomotor anxiety, irritability or agitation. SSRIs, benzodiazepines, and SGAs were preferred in each PA category respectively, possibly indicating a better efficacy – side-effect equilibrium.[22–24] According to this study results, psychostimulants are prescribed by Greek physicians in a small though considerable amount of PwMS (in comparison to the other pharmacological categories), as an attempt to ameliorate levels of fatigue.

Neuropsychiatric comorbidities are associated with elevated risk of MS disability progression, while they may implicate the results of clinical trials.[25] PwMS with psychiatric comorbidities perform worse in objective neuropsychological assessment[26] and are less likely to adhere to pharmacological treatment.[3] They often experience a significantly lower functional status and higher levels of disruption of their supportive social environment[27] as compared with "non-psychiatric" PwMS. Consequently, their employment status is worse[28] and

the overall quality of life is significantly lower,[29] even when factors such as levels of disability and fatigue are controlled. In addition, high levels of stress and anxiety have been associated with increased occurrence of relapses and infections in PwMS.[30] Therefore, a multidimensional approach and adequate pharmacological treatment of psychiatric symptomatology is suggested, in order to improve long term disease outcomes and patients' overall quality of life.[6]

PAs are widely used in order to treat effectively psychiatric disturbances of PwMS. Although generally safe, caution may be needed, when they are administered in PwMS under immunomodulatory treatment. For instance, teriflunomide used as a first-line treatment in MS may reduce the exposure of agents metabolized by CYP1A2 such as duloxetine.[31] Clinicians' alertness may be needed when PAs that potentially induce QT interval prolongation are administered with concomitant immunomodulators, such as fingolimod, that may also disturb heart rhythm.[32] Furthermore, benzodiazepines, anticholinergics and antiepileptics may induce or exacerbate cognitive impairment often seen in MS,[33] while interferons and corticosteroid therapies have been linked with a possible worsening of a pre-existing affective disorder.[34,35] Therefore, monitoring and dose adjustments may be needed when prescribing PAs in PwMS.

This study was performed on the basis of administrative data of a nationwide prescription database, since, up to now, to the authors' knowledge, a nationwide registry for PwMS in Greece does not exist. Consequently, correlations between the use of PAs and levels of MS related disability, disease type and duration could not be performed. Comorbid disease coding misclassifications by physicians may lead to inaccurate results, when administrative data are used for epidemiological studies.[36] Thus, in this study, we did not use the ICD-10 classification in order to explore psychiatric comorbidities of PwMS. Instead, we performed our analysis on the basis of the active substances prescribed. Still, the findings of this study are in accordance with previous published studies regarding comorbid conditions in MS, where neuropsychiatric conditions such as depression and anxiety, are frequently observed amongst PwMS. Antiepileptics that are also used as mood stabilizers were excluded from the analysis, since it is not always clear whether they are prescribed for epileptiform abnormalities or affective episodes through this particular database (due to the lack of clear diagnosis recording). Antiepileptics are often prescribed in PwMS as symptomatic treatments for multiple sclerosis for numbness, atypical headache, neuropathic pain, trigeminal neuralgia, and mood disorders. It is worth noting that epilepsy is 3.5% and bipolar disorder (BD) 8.4% co-morbid with MS. In addition, BD and epilepsy also show a comorbidity of 6.2%.[37–39]

Conclusion

The present national level study highlights the frequent use of PAs in PwMS. psychiatric disorders seem to commonly occur during this chronic disease. Despite numerous studies, the pathogenesis of these disorders remains unclear and has not yet been identified as an indicator of disease, comorbidity or both. Nevertheless, their diagnosis and adequate treatment may contribute to an optimal disease course.

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Σύντομο άρθρο

Ψυχοφαρμακολογία των ασθενών με πολλαπλή σκλήρυνση στην Ελλάδα κατά την περίοδο 2017–2019

Χρήστος Μπακιρτζής,[1] Μαρία-Βαλέρια Καρακάση,[2] Κλεοπάτρα-Μαρίνα Μποζίκη,[1] Θεόδωρος Μωυσιάδης,[3] Δήμητρα Τσάκωνα,[3] Βαρβάρα Φυντανίδου,[4] Γεώργιος Παπαζήσης,[5] Ελευθέριος Θηραίος,[6] Νικόλαος Γρηγοριάδης[1]

[1]*Κέντρο Πολλαπλής Σκλήρυνσης, Β΄ Πανεπιστημιακή Νευρολογική Κλινική, Αριστοτέλειο Πανεπιστήμιο Θεσσαλονίκης, Θεσσαλονίκη,*

[2]*Γ΄ Πανεπιστημιακή Ψυχιατρική Κλινική, ΠΓΝΘ ΑΧΕΠΑ, Αριστοτέλειο Πανεπιστήμιο Θεσσαλονίκης, Θεσσαλονίκη,*

[3]*Ινστιτούτο Εφαρμοσμένων Βιοεπιστημών, Κέντρο Έρευνας και Τεχνολογίας Ελλάδος, Θεσσαλονίκη,*

[4]*Τμήμα Αναισθησιολογίας και Μονάδας Εντατικής Θεραπείας, ΠΓΝΘ ΑΧΕΠΑ, Αριστοτέλειο Πανεπιστήμιο Θεσσαλονίκης, Θεσσαλονίκη,*

[5]*Τμήμα Κλινικής Φαρμακολογίας, Αριστοτέλειο Πανεπιστήμιο Θεσσαλονίκης, Θεσσαλονίκη,*

[6]*Ιατρική Εταιρεία Αθηνών, Αθήνα*

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ΠΕΡΙΛΗΨΗ

Η πολλαπλή σκλήρυνση παρουσιάζει υψηλή συννοσηρότητα με ψυχικές διαταραχές σε οποιοδήποτε στάδιο της νόσου, ενώ οι ψυχιατρικές εκδηλώσεις μπορεί ακόμη και να προηγούνται της εμφάνισης οποιασδήποτε νευρολογικής συμπτωματολογίας και συνεπακόλουθα και της διάγνωσης. Τα νευροψυχιατρικά συνοδά νοσήματα παρουσιάζουν, επίσης, συσχέτιση με αυξημένο κίνδυνο εξέλιξης της αναπηρίας, και ως εκ τούτου, τα άτομα αυτά συχνά παρουσιάζουν σημαντικά χαμηλότερο επίπεδο λειτουργικότητας, έχουν χαμηλότερη απόδοση στη νευροψυχολογική κλινική αξιολόγηση, είναι λιγότερο πιθανό να συμμορφώνονται με τη φαρμακοθεραπεία και επιπλέον παρουσιάζουν σημαντικά υψηλότερα επίπεδα διαταραχής του υποστηρικτικού τους κοινωνικού περιβάλλοντος σε σύγκριση με τους «μη ψυχιατρικούς» ανθρώπους με πολλαπλή σκλήρυνση. Η μελέτη στοχεύει στην εκτίμηση της εθνικής χρήσης ψυχοφαρμακολογικών παραγόντων από άτομα με πολλαπλή σκλήρυνση στον ελληνικό πληθυσμό. Αναλύθηκαν τα αρχεία της εθνικής ψηφιακής βάσης δεδομένων συνταγογράφησης, προκειμένου να εντοπιστούν άτομα με σκλήρυνση κατά πλάκας που έχουν συνταγογραφηθεί αντιψυχωσικές, αντικαταθλιπτικές, αγχολυτικές ή ψυχοδιεγερτικές θεραπείες κατά τη διετή διάρκεια της μελέτης. Ανωνυμοποιημένα αρχεία ηλετρονικής συνταγογράφησης ασθενών με πολλαπλή σκλήρυνση (n=21218) εξήχθησαν από τη βάση δεδομένων ΗΔΙΚΑ σε εθνικό επίπεδο, από τον Ιούνιο του 2017 έως τον Μάιο του 2019. Σύμφωνα με αυτήν τη μελέτη σε εθνικό επίπεδο, οι ψυχοφαρμακολογικοί παράγοντες συνταγογραφούνται συχνά σε άτομα με σκλήρυνση κατά πλάκας. Αντικαταθλιπτική αγωγή συνταγογραφήθηκε στο 36,1% του δείγματος μελέτης, ακολουθούμενο από αγχολυτικά (16,23%), ψυχοδιεγερτικά (4,97%) και αντιψυχωσικά (3,76%). Το ποσοστό των ασθενών που έλαβαν θεραπεία με αυτούς τους παράγοντες παρουσίασε αύξηση ανάλογη με την ηλικία. Οι εκλεκτικοί αναστολείς επαναπρόσληψης σεροτονίνης, τα αντιψυχωσικά δεύτερης γενιάς και οι βενζοδιαζεπίνες ήταν οι πιο συχνά συνταγογραφούμενοι παράγοντες σε κάθε κατηγορία φαρμάκων, και ειδικά σε νεότερες ηλικιακές ομάδες, υποδεικνύοντας πιθανώς καλύτερη ισορροπία αποτελεσματικότητας / ανεπιθύμητων δράσεων, ενώ η μονταφινίλη ήταν το μόνο ψυχοδιεγερτικό που συνταγογραφήθηκε στοχεύοντας τη βελτίωση των επιπέδων αισθήματος κόπωσης. Μια φαρμακολογική προτίμηση για αντικαταθλιπτικά και ψυχοδιεγερτικά παρατηρήθηκε στην ηλικιακή ομάδα 40-60 ($p = 0,02$), ενώ τα αντιψυχωσικά και τα αγχολυτικά έδειξαν υψηλότερη προτίμηση στην ηλικιακή ομάδα > 60 ($p <0,001$). Αυτή η μελέτη υπογραμμίζει τον αυξημένο επιπολασμό ψυχικών διαταραχών σε αυτήν την ομάδα ασθενών. Η επαρκής θεραπεία και παρακολούθηση της ψυχιατρικής συμπτωματολογίας, μπορεί να βελτιώσει τα μακροπρόθεσμα αποτελέσματα της νόσου, ωστόσο απαιτείται προσοχή όσον αφορά στις πιθανές αλληλεπιδράσεις και ανεπιθύμητες δράσεις.

ΛΕΞΕΙΣ ΕΥΡΕΤΗΡΙΟΥ: Σκλήρυνση κατά πλάκας, πολλαπλή σκλήρυνση, ψυχοφαρμακολογία, βενζοδιαζεπίνες, αντικαταθλιπτικά, αντιψυχωσικά, ψυχοδιεγερτικά.

Συγγραφέας επικοινωνίας: Μαρία-Βαλέρια Καρακάση, Γενικό Πανεπιστημιακό Νοσοκομείο Θεσσαλονίκης ΑΧΕΠΑ, 541 24 Θεσσαλονίκη, Διεύθυνση e-mail: valeria28289@hotmail.gr

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Brief communication

The influence of family's cohesion and adaptability in family satisfaction of parents with a child with autism spectrum disorder

Iraklis Grigoropoulos

Department of Early Childhood Education and Care International Hellenic University, Thessaloniki, Greece

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ABSTRACT

The current study examined whether there was significant relationship among family functioning (cohesion and adaptability) and overall family satisfaction in parents with a child with autism spectrum disorder. It was predicted that poor family adaptive functioning, poor family cohesion along with other family-related variables (child diagnosis, parents' marital status, and other siblings in the family) would predict lower levels of family satisfaction. 73 mothers and 27 fathers of a child with ASD participated in this study. Google forms were used in this electronic web research. Data were collected using the Family Adaptability and Cohesion Evaluation Scale (FACES–III) and the Family satisfaction scale (FSS). This study's results demonstrate that family adaptability along with a child's autism spectrum disorder diagnosis may be significant predictors of family satisfaction. Findings report the significance of identifying discrepancies in family functioning as they provide an insight into how family members not only view but also how they interact with each other which in turn can inform clinical interventions and the therapeutic work.

KEYWORDS: Autism spectrum disorder, family functioning, family satisfaction, parental role.

Introduction

The lifelong nature of autism has deep implications on parents of children with the disorder, resulting in a wide range of challenges. Research findings comparing the stress of a family with a child with autism to families of children with other disorders (e.g., Down syndrome) demonstrate that those with a child with autism experience more stress, depression, and anxiety.[1,2] Parents who have a child with autism report their difficulties and stressors as a twenty-four-hour job through the child's entire lifetime.[1,2] Previous research data show that parents of children with autism are at a high risk for marital discord.[3] They also seem to report greater levels of depression and lower levels of marital intimacy.[4,5]

Family satisfaction is a vital construct, and it has been widely used in studies of normal and problematic family functioning.[6] According to Ghanizadeh et al[7] children with ASD may have a variety of difficulties which in turn could influence their parent's family satisfaction and subsequently family life. In parallel, family functioning and family satisfaction are essential regarding the interactions between children with autism spectrum disorder (ASD) and their parents.[8] According to Olson et al,[9] family cohesion is defined "as the emotional bonding that family members have toward one another" while adaptability is a measure of the family's capacity to adjust in response to a stressful situation.[10]

Overall, taking care of a child with autism spectrum disorder (ASD) has been associated with various neg-

Corresponding author: Iraklis Grigoropoulos, Department of Early Childhood Education and Care International Hellenic University, GR-57 400 Sindos, Thessaloniki, Greece • e-mail: griraklis@gmail.com

ative outcomes for parents namely heightened levels of stress and depression.[11,12] Nevertheless, much less is known about the couple relationship.[13]

The present study aimed to explore parental relationship satisfaction in families where one child has ASD. Specifically, it was examined if poor family adaptive functioning, poor family cohesion along other family-related variables (child's diagnosis: Asperger's disorder/ASD, parents' marital status, and other siblings in the family) could predict lower levels of family satisfaction.

Material and Method

Participants and procedure

Participants completed the questionnaire as a part of an online survey which was distributed through internet websites and media. Participation was voluntary and anonymous. Participants were informed about the aims of the study to ensure informed consent. The research was distributed for a limited period and until the number of 100 participants was reached. It was conducted from May 15 till June 15, 2019. This study adhered to all ethical guidelines of the institution to which the researcher belongs to.

Measures

Data were collected using the Family Adaptability and Cohesion Evaluation Scale (FACES–III)[9] and the Family satisfaction scale (FSS).[6] FACES-III is a self-administered measure that evaluates the cohesion and adaptability of the families (with or without a child with a severe disability). Cohesion is defined as the degree of emotional bonding between family members, and adaptability refers to the ability of the family system to change in response to situational and developmental stress. FACES-III is designed to be given twice. One form asks participants to describe their family and the following asks how they would like their family to be. Therefore, it is a 20-item scale, which estimates the real and ideal type of family functioning. Each item was scored on a 5-point response option that ranged from "1=rarely" to "5=always." The scale was first completed with the instruction 'Describe your family now'. Afterward, participants were asked to respond to 'Ideally, how would you like your family to be? Established norms show that high scores on the two dimensions refer to balanced types of families, moderate scores to mid-range types, and low scores to extreme types of families. The FACES III scale has been standardized and adapted to Greek by Bibou et al.[14]

In this study, the reliability of internal consistency (Cronbach's a) was 0.82 for cohesion and 0.84 for adaptability.

The FSS6 is a 14-item instrument composed of items designed to measure family cohesion and adaptability. Each item was scored on a 5-point Likert scale (1=dissatisfied, 2=somewhat dissatisfied, 3=generally satisfied, 4=very satisfied, 5=extremely satisfied). Total scores range from 14 to 70. The FSS6 has been standardized and adapted to Greek by Papadi.[15] In this study, the reliability of internal consistency of the FSS (Cronbach's a) was 0.79.

Results

Descriptive analysis

Most of the 73 participating mothers were above 36 years old whereas most of the 27 fathers were above 36 years old. Age ranged from 33 to 58 (M=44.36, SD=8.41). Most of the participants were married (71) and had more than one child (69). Parents reported that 81 children with ASD had a diagnosis of autism and 19 were reported as having a diagnosis of Asperger's syndrome. Diagnoses in this study were assigned according to DSM-IV-TR[16] criteria by child psychiatric units.

Multiple regression analysis

Multiple linear regression analysis was used to examine the association between predictor variables (FACES-III: real family cohesion, FACES-III: real family adaptability, children's diagnosis, other children in the family, parents' marital status) and the FSS. The total score obtained from the FSS scale was used as the dependent variable. The assumptions of regression analysis were tested and were not violated.[17] The analysis showed that there was a collective significant effect between predictor variables and the dependent variable ($F(5,94)=2.68$, $p<0.05$, $R^2=0.078$). The individual predictors were examined further and indicated that FACES-III: real family adaptability ($t=2.30$, $p=0.023$) and children's diagnosis ($t=2.05$, $p=0.043$) were significant predictors in the model (table 1).

Discussion

This study's results show that higher levels of family satisfaction are related to the family's adaptability levels and also with their child's ASD diagnosis (Asperger syndrome). Adaptability (the family's ability to change its power structure, role relationships, and rules to respond to situational or developmental needs)[9,18] was found to be a critical factor in predicting family satisfaction in this study's sample. After all, following a diagnosis of ASD, families encounter a continuing process of adaptation in all aspects of their child's life and development.[19,20]

Table 1. Multiple regression analysis for family adaptive functioning, family cohesion, child's diagnosis, parents' marital status, and other siblings in the family predicting family satisfaction.

Predictor variables	B	SE	β	t	p
Real family cohesion	0.279	0.151	0.182	0.184	0.869
Real family adaptability	0.449	0.195	0.233	2.30	0.007
Child's diagnosis	0.127	0.062	0.198	2.05	0.032
Other children in the family	0.034	0.120	0.027	0.280	0.374
Parents' marital status	0.004	0.127	0.005	0.035	0.972

This study's findings coincide with previous research data demonstrating that family adaptability may be a basic factor of resilience and positive outcomes in raising children with ASD.[21]

This study's practical implications show that families with a child with ASD may have the potential to be greatly benefited from early interventions targeted also in couples relationship and family satisfaction. The longitudinal examination of these relationships along with the impact of other significant factors such as family's financial constraints, lack of social support, and the shortcomings of health policies could be another significant area of research. In all, a measure of family functioning of this type, which is easy and quick to complete, could be used to offer a way of monitoring a family's efforts to cope with a demanding situation and respond to its members' psychosocial needs. Overall, families are complicated systems and it is very challenging to find effortless evaluation methods which are of practical assistance to the clinician while offering meaningful information about the family.

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Σύντομο άρθρο

Η επίδραση της οικογενειακής συνοχής και προσαρμοστικότητας στην οικογενειακή ικανοποίηση γονέων με παιδί με διαταραχή αυτιστικού φάσματος

Ηρακλής Γρηγορόπουλος

Τμήμα Αγωγής και Φροντίδας στην Πρώιμη Παιδική Ηλικία, Διεθνές Πανεπιστήμιο της Ελλάδας, Θεσσαλονίκη

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ΠΕΡΙΛΗΨΗ

Η παρούσα μελέτη διερεύνησε την ύπαρξη σημαντικών στατιστικά σχέσεων μεταξύ της οικογενειακής λειτουργίας (συνοχή και προσαρμοστικότητα οικογένειας) και της συνολικής οικογενειακής ικανοποίησης σε γονείς με παιδί με διαταραχή αυτιστικού φάσματος. Θεωρήθηκε ότι η κακή προσαρμοστική λειτουργία της οικογένειας, η κακή οικογενειακή συνοχή μαζί με άλλες μεταβλητές που αφορούν στην οικογένεια (διάγνωση, η οικογενειακή κατάσταση των συμμετεχόντων και η ύπαρξη και άλλων παιδιών στην οικογένεια) θα προέβλεπαν χαμηλότερα επίπεδα οικογενειακής ικανοποίησης. Εβδομήντα τρεις μητέρες και 27 πατέρες παιδιού με διαταραχή αυτιστικού φάσματος συμμετείχαν στη μελέτη. Για τη διεξαγωγή της μελέτης χρησιμοποιήθηκε η εφαρμογή Google forms. Τα δεδομένα συλλέχθηκαν χρησιμοποιώντας την κλίμακα οικογενειακής προσαρμοστικότητας και συνοχής (FACES – III) και την κλίμακα οικογενειακής ικανοποίησης (FSS). Τα αποτελέσματα της μελέτης δείχνουν ότι η προσαρμοστικότητα της οικογένειας, καθώς και η διάγνωση του παιδιού αποτελούν σημαντικό παράγοντα πρόβλεψης της οικογενειακής ικανοποίησης. Τα αποτελέσματα της έρευνας τονίζουν τη σημασία του εντοπισμού των προβλημάτων της οικογενειακής λειτουργίας καθώς παρέχουν μια εικόνα όχι μόνο για το πώς τα μέλη της οικογένειας αντιλαμβάνονται τις μεταξύ τους σχέσεις αλλά και πώς αλληλεπιδρούν μεταξύ τους, εικόνα η οποία μπορεί να αποβεί ιδιαίτερα χρήσιμη στις κλινικές παρεμβάσεις και τη θεραπευτική εργασία.

ΛΕΞΕΙΣ ΕΥΡΕΤΗΡΙΟΥ: Διαταραχή αυτιστικού φάσματος, οικογενειακή λειτουργία, οικογενειακή ικανοποίηση, γονικός ρόλος.

Συγγραφέας επικοινωνίας: Ηρακλής Γρηγορόπουλος, Τμήμα Αγωγής και Φροντίδας στην Πρώιμη Παιδική Ηλικία, Διεθνές Πανεπιστήμιο της Ελλάδας, 574 00 Σίνδος, Θεσσαλονίκη, Διεύθυνση e-mail: griraklis@gmail.com

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Brief communication

Sleep quality in caregivers of patients with end-stage renal disease

Aikaterini Arvaniti,[1] Stylianos Panagoutsos,[2] Paschalis Steiropoulos,[3] Angeliki Zoumpouli,[4] Konstantia Kantartzi,[2] Maria Samakouri[1]

[1]*Department of Psychiatry, Democritus University of Thrace, Alexandroupolis,*
[2]*Department of Nephrology, Democritus University of Thrace, Alexandroupolis,*
[3]*Department of Pulmonology, Democritus University of Thrace, Alexandroupolis, Greece*
[4]*South London and Maudsley NHS Foundation Trust, London, UK*

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ABSTRACT

The aim of this study was to evaluate the self-reported quality of sleep among caregivers of patients who are receiving hemodialysis (HD) and peritoneal dialysis (PD). In 64 caregivers of patients of the University General Hospital of Evros in Northeastern Greece, who were receiving HD and PD, the following instruments were administered: Pitsburgh Sleep Quality Index (PSQI), Zung Depression Rating Scale (ZDRS), Self-Anxiety Scale (SAS), Well – Being Index (WHO- 5). The mean PSQI value of caregivers was 5.27±3.40 and 39% of them had poor sleep quality. "Poor sleepers" had significantly lower levels of quality of life (p=0.02), elevated levels of anxiety (p=0.006) and higher scores in the depression scale (p=0.009) compared to "good sleepers". In the regression analysis depression was found to have the greatest contribution to the variability of 'sleep quality' (standardized beta = 0.62, p<0.001) and quality of sleep seemed to improve as years of dialysis that the patient underwent increased (standardized beta=−0.28, p=0.007). Physicians should screen caregivers' sleep quality, especially during the first stages of the illness.

KEYWORDS: Sleep quality, caregivers, hemodialysis, peritoneal dialysis.

Introduction

Many physical illnesses and psychiatric disorders, but also psychological reactions to common stressful life events, can influence the quantity and quality of sleep. Inadequate sleep can reduce the ability to think and to regulate emotions, it can also cause memory problems and can weaken the immune system.[1] Moreover, sleep disturbances may increase the proneness to accidents or injuries and negatively affect the life-work balance and the general health and safety.[2] It is well known that people involved in the care of patients with chronic illnesses usually have more sleep disturbances than the general population.[3]

The number of patients with chronic kidney disease and the accompanying need for renal replacement therapy has increased significantly and is affecting around 35% of those over 70 years.[4] The literature dealing with sleep problems of caregivers of patients with chronic kidney disease is still quite limited.

The aim of this study was to evaluate the self-reported quality of sleep among caregivers of patients on hemodialysis (HD) and peritoneal dialysis (PD).

Material and Method

Sample

The sample of this study consisted of 64 caregivers of HD and PD patients. The patients were receiving HD and PD in the two dialysis units of the University General Hospital of Evros in Northeastern Greece. The study

Corresponding author: Aikaterini Arvaniti, Department of Psychiatry, University General Hospital of Alexandroupolis, 681 00 Dragana, Alexandroupolis, Greece • e-mail: aarvanit@med.duth.gr

was approved by the local ethical committee of the University General Hospital of Evros and informed consent was obtained from the study participants.

Questionnaires

The following instruments were administered:

1. Pittsburgh Sleep Quality Index (PSQI): This is a self-rated scale that measures the subjective reports of people's quality of sleep and sleep disturbances during the last month.[5] PSQI is an established international instrument for both assessment and prognosis of sleep disturbances in psychiatric and non-psychiatric patients, used in both clinical practice and research. Scores ≤5 indicate a good quality of sleep.
2. Zung Depression Rating Scale (ZDRS): This is a self-rated scale and consists of 20 items. The higher the score, the worse the depression. The validation of the Greek version was performed by Fountoulakis et al (2001).[6]
3. Self-Anxiety Scale (SAS): This is a self-rated scale which consists of 20 items. The higher the score, the worse the anxiety. The validation of the Greek version of SAS was performed by Samakouri et al (2012).[7]
4. Well-Being Index (WHO-5): This is a questionnaire that consists of 5 items and which measures the person's current quality of life. The lower the score, the worse the quality of life. WHO-5 has been adequately studied in terms of its psychometric properties and has been translated in more than 30 languages.[8]

Also, demographic and clinical data were collected: age, gender, education, occupation, income, BMI, hours of daily care, affinity/ relationship to the patient, whether other carers were also involved in patient's care, total duration of time of the patient in dialysis, type of dialysis.

Statistical analysis

Statistical comparisons among "good sleepers" and "poor sleepers" were performed using the t test when data were normally distributed (WHO and SAS scores); otherwise, the Mann-Whitney U test was performed (ZDRS scores). Normality of the data was determined with the use of the Shapiro-Wilk test and quantile – quantile (Q-Q) plots. In order to determine the specific factors of the sleep quality, a backward multiple regression analysis was used. Model diagnostics were examined using residual plots versus predicted plots and Q-Q plots. Our models were also checked for multicollinearity by estimating the variance inflation factor (VIF). All model assumptions were met adequately. Independent variables were demographic and clinical data, as well as measurement scores. A $p<0.05$ was considered statistically significant. Statistical analyses were performed using SPSS Statistics 24.0 (IBM).

Results

Description of the sample

The mean age of the sample of caregivers was 56±13 years (min=24 years and max=79 years), the majority of which is women (64%). Forty-five per cent have only finished primary school. It appears that offsprings (28%) and spouses (27%) tend to be the main caregivers. Seventy-three per cent of the participants were overweight (BMI>25). The average of daily care was 2 hours (SD=0.86); the range varying from 1 to 4 hours of daily care. The majority of the participants (62.5%) reported that they receive additional help from other caregivers. Half of the sample did not answer the question about their income. From the patients associated with the caregivers of the current study 86% were undergoing hemodialysis and 14% peritoneal dialysis. The mean duration of patient time in dialysis was 5.47 years (SD=4.60).

Sleep quality

According to their PSQI scores, 25 (39%) caregivers had poor sleep quality, although only four of them had reported sleep disturbances, when asked, before the completion of the test. The mean PSQI value of caregivers was 5.27±3.40. "Poor sleepers" had significantly lower levels of quality of life, significantly elevated levels of anxiety and significantly higher scores in the depression scale (table 1).

In the regression analysis (backward elimination method) was found that from all the factors that were included in the analysis (demographic and clinical variables, as well as measurement scores), it was mainly three, namely: the carer's age, the duration that the patient was undergoing dialysis and self-rating scores of depression, that explained 43% of the sleep quality variability. Depression was found to have the greatest contribution to the variability of sleep quality ($\beta=0.21$, standardized beta=0.62, $p<0.001$) (table 2).

Discussion

There has been a limited amount of research into the sleep of caregivers of patients undergoing dialysis.[9,10] In our study the percentage of caregivers with poor sleep quality was 39% and their mean PSQI value was 5.27±3.40. These values indicate milder sleep impair-

Table 1. Comparison between "Good" and "Poor" sleepers

	Good sleepers (PSQI≤5) (N=39)	Poor Sleepers (PSQI>5) (N=25)	p
WHO-5 Mean (±SD)[1]	15.90 (±5.88)	12 (±7.07)	0.02
SAS Mean (±SD)[1]	32.03 (±6.65)	37.76 (±9.31)	0.006
ZDRS Median (range)[2]	32 (21–50)	37 (21–57)	0.009

WHO-5: Well-Being Index, SAS: Self-Anxiety Scale, ZDRS: Zung Depression Rating Scale
[1]T-test was used, [2]Mann Whitney U test was used

Table 2. Factors affecting sleeping quality – Multiple regression analysis

Variables	β	SE (β)	95% CI	Standardized beta	p
Age	–0.05	0,026	(–0,10–0.002)	–0.21	0.04
Patient's time on dialysis	–0.21	0,07	(–0.36–0.06)	–0.28	0.007
ZDRS	0.21	0,04	(0.14–0.28)	0.62	<0.001
Gender	0.25	0.72	(–1.20–1.69)	0.04	0.73

F (4,58)=11,02, p<0,001, R^2=43,2%
ZDRS: Zung Depression Rating Scale

ment comparing to those in relative studies.[9,10] However, the mean score of PSQI does not seem to differ much in a relevant study focusing on caregivers of patients with a mild cognitive impairment.[11]

Among all the factors that were included in the regression analysis, three explained 43% of the sleep quality variability, namely the carer's age, the duration that the patient was undergoing dialysis and self-rating score of depression. More precisely, the increase in the depression scores in ZDRS was associated with a significant increase in the scores of the sleep quality scale (that means poorer sleep quality), whereas an increase of the age and the duration that the patient is on dialysis were associated with significantly lower scores in the PSQI (that means better sleep quality). Depression seems to have the most important contribution in the variability of PSQI.

The bidirectional association between depression and bad sleep quality has been widely acknowledged in literature.[12,13] In our study, there was an unexpected result, namely the fact that quality of sleep seemed to improve as years of dialysis that the patient underwent increased. One could expect that accumulation of tiredness would have a negative effect on sleep quality. However, this finding could be explained as caregiver's acceptance and adjustment with the patient's illness as years pass by. It is likely that the first period after the diagnosis and the decision about dialysis, including the acquaintance with the process of dialysis, potentially has a harmful effect on sleep quality than the next period when a routine and some adjustment to the processes are established. Initially caregivers have to undertake their caring duties abruptly and potentially under extreme circumstances whereby they not only have to deal with a personal shock, but also need to provide psychological support to the patient. Furthermore, it appears that there is no specific guidance or help from the health system in their undertaking such a big and difficult task.[14] Physicians should screen caregivers for depression and poor sleep quality, especially during the first stages of the illness and help them by providing support interventions and therapeutic strategies on maintaining and improving their health and quality of life while performing their caregiving duties. These findings evoke many questions about potential interventions during first period mentioned above (potentially at the beginning of dialysis).

Important limitations in our study were: (a) the data collection finished earlier than planned because of the negative reaction mainly of the female patients. It is likely that there is a stigma attached to the term "caregiver", especially when used about people who until recently had another role in relation to them (e.g., spouse, son), (b) the results are based on self-rated questionnaires so it is hard to objectify the findings.

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Σύντομο άρθρο

Ποιότητα ύπνου σε φροντιστές ασθενών με νεφρική ανεπάρκεια

Αικατερίνη Αρβανίτη,[1] Στυλιανός Παναγούτσος,[2] Πασχάλης Στειρόπουλος,[3] Αγγελική Ζουμπούλη,[4] Κωνσταντία Κανταρτζή,[2] Μαρία Σαμακουρή[1]

[1]*Πανεπιστημιακή Ψυχιατρική Κλινική, Ιατρική Σχολή, Δημοκρίτειο Πανεπιστήμιο Θράκης, Αλεξανδρούπολη,*

[2]*Πανεπιστημιακή Νεφρολογική Κλινική, Ιατρική Σχολή, Δημοκρίτειο Πανεπιστήμιο Θράκης, Αλεξανδρούπολη,*

[3]*Πανεπιστημιακή Πνευμονολογική Κλινική, Ιατρική Σχολή, Δημοκρίτειο Πανεπιστήμιο Θράκης, Αλεξανδρούπολη,*

[4]*South London and Maudsley NHS Foundation Trust, Λονδίνο, Hv. Βασίλειο*

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ΠΕΡΙΛΗΨΗ

Σκοπός αυτής της μελέτης ήταν να αξιολογήσει την ποιότητα ύπνου μεταξύ των φροντιστών ασθενών με νεφρική ανεπάρκεια τελικού σταδίου, που υποβάλλονται σε αιμοκάθαρση (ΑΜΚ) και περιτοναϊκή κάθαρση (ΠΚ). Σε 64 φροντιστές ασθενών του Πανεπιστημιακού Γενικού Νοσοκομείου Έβρου, στη Βορειοανατολική Ελλάδα, οι οποίοι υποβάλλονται σε αιμοκάθαρση (ΑΜΚ) και περιτοναϊκή κάθαρση (ΠΚ), χορηγήθηκαν τα ακόλουθα ερωτηματολόγια: Pittsburgh Sleep Quality Index (PSQI), Zung Depression Rating Scale (ZDRS), Self-Anxiety Scale (SAS), Well-Being Index (WHO-5). Η μέση τιμή της κλίμακας PSQI των φροντιστών ήταν 5,27±3,40 και το 39% από αυτούς είχαν κακή ποιότητα ύπνου. Οι φροντιστές με κακή ποιότητα ύπνου είχαν σημαντικά χαμηλότερα επίπεδα ποιότητας ζωής (p=0,02), αυξημένα επίπεδα άγχους (p=0,006) και υψηλότερα σκορ στην κλίμακα κατάθλιψης (p=0.009) σε σύγκριση με τους φροντιστές με καλή ποιότητα ύπνου. Στην ανάλυση παλινδρόμησης διαπιστώθηκε ότι η κατάθλιψη είχε τη μεγαλύτερη συμβολή στη μεταβλητή της «ποιότητας του ύπνου» (standardized beta=0,62, p<0,001). Η ποιότητα του ύπνου του φροντιστή φαίνεται ότι βελτιώνεται καθώς τα χρόνια της αιμοκάθαρσης στα οποία υποβάλλεται ο ασθενής αυξάνονται (standardized beta=−0,28, p=0,007). Οι επαγγελματίες υγείας πρέπει να ελέγχουν την ποιότητα του ύπνου των φροντιστών, ειδικά κατά τα πρώτα στάδια της νόσου των ασθενών που αυτοί φροντίζουν.

ΛΕΞΕΙΣ ΕΥΡΕΤΗΡΙΟΥ: Ποιότητα ύπνου, φροντιστές, αιμοκάθαρση, περιτοναϊκή κάθαρση.

Συγγραφέας επικοινωνίας: Αικατερίνη Αρβανίτη, Ψυχιατρική Κλινική, Πανεπιστημιακό Γενικό Νοσοκομείο Αλεξανδρούπολης, 681 00 Δραγάνα, Αλεξανδρούπολη, Διεύθυνση e-mail: aarvanit@med.duth.gr

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Letter to the Editor

The effects of parental divorce on children

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To the Editors,

Family is very important for development of children. Divorce is a life event with a high level of stress for the entire family. Children are dependent on parents and disadvantaged during divorce because it is out of their control.[1] Herein, we present our observations about children whose parents separated or divorced to increase the awareness of physicians about the negative effects of divorce.

Individuals affected by parental divorce have a higher risk of developing a variety of mental health conditions including emotional and behavioral disorders, poor school performance, depression, anxiety, suicidal ideation, suicide attempt, distress, smoking and substance abuse.[2,3] Externalizing problems in girls precede and predict later parental divorce. Post-divorce problems in children vary by raters, and may depend on the time lapse since divorce.[4] Lansford et al[5] noted that early parental divorce/separation is more negatively related to trajectories of internalizing and externalizing problems than is later divorce/separation, whereas later divorce/separation is more negatively related to grades. In another study, divorce in parents was significantly associated with higher alcohol use disorder, higher cigarette dependence and higher water pipe dependence in adolescents.[6] In the study of Tullius et al[7] the levels of both internalizing and externalizing problems were significantly higher in the period after parental divorce, but not in the period before divorce, with a persistent and increasing effect over the follow-up periods compared to adolescents not experiencing divorce. Zeratsion et al[8] reported that parental divorce in late adolescence does not lead to mental health problems, as has been shown before, while such problems may prevail among young adolescents. This does not mean that parental divorce creates less problems in late adolescence than before but these youths might have developed adjustment abilities against health effects as divorce have turned to be more common. In our clinical practice, we have also observed various emotional, behavioral, psychosomatic, and conversion disorders in children, particularly in preadolescents and adolescents, before and/or after a separation or divorce of parents.

Children often lack information and skills to overcome the challenges that the divorce carries. Conflicting relationships between parents make up the biggest obstacle that makes it difficult for a child to successfully deal with changes in the family. Even though parents deal with heavy feelings, it is desirable to put them the child and his interests in the first place. In order to stabilize the family system, 2 to 4 years are usually needed.1Physicians can assist families by providing support and advice, and advocating for children within systems that serve separating families. Physicians can provide information so that individuals who work with such children recognize, and are sensitive to, their individual needs, and provide supportive and nurturing experiences for the children in schools, camps and sporting activities. These efforts will promote better mental health outcomes for children affected by their parents' separation.[9] The most important way to minimize emotional harm to children involved in a separation and divorce is to ensure that children maintain a close and secure relationship with both parents, unless there is spousal or child abuse or neglect, or parental substance abuse.[9] Age-appropriate explanation and counseling for the child and advice and guidance for the parents, as well as recommendation of reading material, may help reduce the potential negative effects of divorce. Often, referral to professionals with expertise in the social, emotional, and legal aspects of the separation and its aftermath may be helpful for these families.[10] An example of paragraph from a reading material for parents is as follows: The most comprehensive centre of man's worldly life, and its mainspring, and a paradise, refuge, and fortress of worldly happiness, is the life of the family. Everyone's home is a small world for him/her. And the life and happiness of his/her home and family are possible through genuine, earnest, and loyal respect and true, tender, and self-sacrificing compassion. This true respect and genuine kindness may be achieved with the idea of the members of the family having an everlasting companionship and friendship and togetherness, and their parental, filial, brotherly, and friendly relations continuing for all eternity in a limitless life, and their believing this.[11]

In conclusion, we would like emphasize that various psychosocial, psychosomatic and conversion disorders may be seen in children affected by parental divorce. Physicians interested in child health can notice parents' separation problems during evaluation of children. Referral to professionals with expertise in separation may be helpful for conflicting parents.

Hüseyin Çaksen
Divisions of Pediatric Neurology and Genetics and Behavioral-Developmental Pediatrics, Department of Pediatrics, Necmettin Erbakan University, Meram Medical Faculty, Meram, Konya, Turkey

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