

Research article Ερευνητική εργασία

Treatment decision-making capacity in hospitalized patients with schizophrenia

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In contemporary medical ethics and clinical practice the autonomy of patients and their right to accept or refuse an offered treatment is acknowledged and respected. Prerequisite for the right of a patient to consent to any medical act is the capacity to make valid decisions regarding his/her treatment. The objective of our study was to assess –for the first time in our country– treatment decision-making capacity of hospitalized patients with schizophrenia; to explore any possible association with demographic and clinical variables; and to compare treatment decision-making capacity of patients with schizophrenia with medical patients' capacity. The sample of patients comprised of 21 patients with schizophrenia who were hospitalized in the psychiatric ward of the General Hospital of Arta, north-west Greece. Those patients' capacity was compared with treatment decision-making capacity of 78 patients hospitalized in the internal medicine ward of the same hospital. All patients' capacity was assessed within 72 hours of admission with the use of the Greek version of the MacArthur Competence Assessment Tool for Treatment (MacCAT-T), a valid and reliable tool for capacity assessment. The performance of patients with schizophrenia on the MacCAT-T was significantly worse than medical patients' performance, suggesting that patients with schizophrenia, as a group had poorer decision-making capacity compared to medical patients. Both negative symptomatology (anergia) and positive symptoms (hostility and suspiciousness), as measured with the use of the Brief Psychiatric Rating Scale (BPRS) were associated with poor performance on the MacCAT-T. Although medical patients as a group scored better in the MacCAT-T, there were several cases that lacked decision-making capacity. In conclusion, patients with schizophrenia had higher incapacity rates than medical patients during the first days of hospitalization. Lack of treatment decision-making capacity is not necessarily the rule for patients with schizophrenia, and capacity is not present in all medical patients. The ability of patients to consent to treatment should be re-assessed during hospitalization, and when restored, informed consent should be obtained by clinicians.

Key words: Autonomy, informed consent, treatment decision-making capacity, medical patients, schizophrenia.

Introduction

In Western countries the autonomy of patients and their right to accept or refuse an offered treatment is acknowledged and respected by contemporary medical ethics and clinical practice. However, patients' decision making capacity (DMC) is a prerequisite for their right to make valid treatment decisions.¹ Treatment DMC refers to the ability of the patient to drive at logical decisions through a process that requires the ability to recruit information related to the decision, to understand this information and to be guided by such a decision. Subsequently, the patient must have the ability to express his/her decision.²

The assessment of the patients' treatment DMC has emerged as one of the most important legal and ethical issues in contemporary clinical practice. In the last two decades a number of reports have addressed the DMC assessment in several patients' groups,³⁻⁵ the factors which are related to DMC,^{6,7} the need for reliable assessment tools,⁸ etc.

European countries, with the exception of the Netherlands and the Great Britain, do not have official guidelines for the assessment of DMC.⁹ In Greece the study of DMC involves some legal texts, or international literature reviews, and a few research studies.¹⁰⁻¹² In Greek legislation capacity has not be separated from the general concept of competence, which involves the ability for legal transaction, according to the Civil Law, or charge, according to the Penal Law.¹⁰ According to the Greek legislation age and health, both physical and mental, constitute the criteria for competence. People are labeled as fully competent, fully incompetent and partially competent to act, according to age and the severity of physical or mental morbidity. There is also the concept of transient incompetence, which means that at a certain time-point the person may not be capable of acting for reasons such as drug or alcohol toxicity, high fever etc.

The primary objective of the present study was to explore the capacity of patients with schizophrenia who are hospitalized in a psychiatric ward within a general hospital to make treatment decisions, according to the international definitions.² This is the first study on the treatment DMC of schizophrenia

patients in our country. Our study focused on patients with schizophrenia because those patients –along with patients with dementia– are the most susceptible to autonomy restrictions, due to lack of insight and cognitive impairment.^{6,7} A secondary study objective was to inquire for the correlation of the DMC of patients with schizophrenia with demographic and clinical variables. Another study objective was to compare DMC between inpatients with schizophrenia and patients suffering from a general medical condition who are hospitalized in the internal medicine ward of a general hospital. Those patients' treatment DMC has been recently studied by our team.¹³

Material and methods

Procedures and assessment

Our sample constituted from all patients with schizophrenia who were hospitalized in the psychiatric ward of the General Hospital of Arta, North-west Greece, over a 2-month period (November-December 2011). This is a 13-bed facility which is usually over-crowded (120% completeness for the year 2012), in which admissions are voluntary or involuntary. A group of 78 patients hospitalized in the internal medicine ward of the same hospital was used as a comparison group. The institutional board had approved the study and oral informed consent had been obtained by all participants or their relatives.

According to the study design all patients with schizophrenia aged ≥ 18 years who were admitted to our unit during the 2-month interval would be recruited. Patients were excluded if their diagnosis was delusional disorder or another psychotic disorder, if they refused to participate or if they were not Greek speaking. Patients were also excluded if there was a high risk of violent behavior toward the investigators.

The assessment of the patients' treatment DMC was held within the first 72 hours after admission. The collected data included demographic and clinical information, such as gender, age, education, family status, type of current admission (voluntary or involuntary), and total number of admissions. Patients' treatment DMC was assessed with the use

of the Greek version of the MacArthur Competence Assessment Tool for Treatment (MacCAT-T),¹² one of the most widely used tools for capacity assessment. Patients' psychopathology was measured with the use of the BPRS (Brief Psychiatric Rating Scale), a 19-question scale widely used for the evaluation of symptom severity.

The MacCAT-T¹⁴ is a semi-structured interview, usually requiring about 15 to 20 minutes to complete, plus 2–3 minutes to rate that provides relevant information disclosures to patients about their illness, the treatment options and their risks and benefits. In the present study the information about treatment involved the administration of first or second generation antipsychotic compounds. Questions to the patient require feedback, and this is used to assess the degree to which patients are understanding the information and recognizing (appreciating) the relevance of the information for their own condition. Then the clinician explores how patients are thinking through the treatment decision in order to estimate their reasoning abilities. Finally, the patient is asked to state a treatment choice, according to everything that has been considered. Then the interviewer rates the score in each of the four dimensions of the MacCAT-T; Understanding (rating 0–6), Appreciating (rating 0–4), Reasoning (rating 0–8), and Expressing a choice (rating 0–2). The Greek version of the MacCAT-T has been previously found to be reliable and valid in a sample of psychiatric patients.¹²

Statistical analysis

The correlation of categorical variables was estimated with the Pearson Chi Square and when this test could not be applied we used the Fisher's Exact Test. General linear models were used for the estimation of statistical significance in the dimensions of the MacCAT-T. For the comparison of the scores in the four dimensions of the MacCAT-T between patients with schizophrenia and patients with medical disorders we used the Bonferroni test, due to the small sample of patients with schizophrenia. Pearson's *r* coefficients were computed to assess correlations between MacCAT-T and BPRS scores. The Statistical Package of Social Sciences (SPSS v.18.0) and the STATISTICA 8.0 were used to perform all

analyses. The statistical level of significance was set at $p < 0.05$.

Results

Sample

Twenty-one patients with schizophrenia were examined. Patients were middle-aged (mean age 44.6 years) and most of them were men (62%), single (76%) and involuntarily admitted (13 patients, 62%). One-third of the patients were first-admitted patients (table 1). This sample of patients was compared with a sample of 78 patients who had been admitted to the internal medicine ward of our hospital during the same time period (table 1). Internal medicine patients were older than patients with schizophrenia, with a mean age of 61.86 years and almost half of them were men. All internal medicine patients had been admitted voluntarily and suffered from neurologic disorders (24.4%), renal disorders (21.8%), digestive disorders (16.7%) or other disorders, such as metabolic and hematologic disorders (37.2%). Seven out of the 78 internal medicine patients (9%) suffered from a mental disorder, such as schizophrenia ($n=2$), bipolar disorder ($n=1$), and depression ($n=4$).

MacCAT-T ratings

Patients with schizophrenia had a mean score of 3.98 on Understanding, 2.14 on Appreciation, 3.71 on Reasoning, and 1.61 on Expressing a choice, respectively (table 2, which also shows the mean scores of internal medicine patients on the four dimensions of the MacCAT-T). As shown in table 2, patients with schizophrenia scored significantly lower than internal medicine patients on all the dimensions of the MacCAT-T. This means that patients with schizophrenia were significantly less capable of making valid treatment decisions than patients who were admitted to the internal medicine ward.

The total score on the MacCAT-T was not obtained because according to its inventors there is no cut-off score for incapacity, and the MacCAT-T was not designed to provide by itself a simple binary capacity assessment. A low score on a single dimension of the MacCAT-T may be indicative of incapacity, even if the scores on the other dimensions are high. However,

Table 1. Patients' characteristics.

	Patients with schizophrenia (n=21)	Internal medicine patients (n=78)
Mean age (years)	44.6 (SD 12.05)	61.8 (SD 21.3)
<i>Gender</i>		
Male	13 (62.0%)	38 (48.7%)
Female	8 (38.0%)	40 (51.3%)
<i>Family status</i>		
Married	1 (4.76%)	45 (57.7%)
Divorced/widowed	4 (19.04%)	14 (17.9%)
Single	16 (76.19%)	19 (24.4%)
<i>Education (in years)</i>		
<9 years	11 (52.38%)	51 (65.4%)
>10 years	10 (37.62%)	27 (34.6%)
Involuntarily admitted	13 (62.0%)	–
<i>Number of previous hospitalizations</i>		
None	6 (28.57%)	
1–2	5 (23.78%)	
>3	10 (47.65%)	

high scores on the MacCAT-T are suggestive of higher capacity than lower scores.

On the basis of these limitations we compared the percentage of patients with schizophrenia and of internal medicine patients, who scored <3 on Understanding, ≤4 on Appreciating, <4 on Reasoning and <2 on Expressing a choice. A total of 76.3% of patients with schizophrenia compared to 92.3% of internal medicine patients scored ≥3 on Understanding. On Appreciation almost all internal medicine patients scored 4, compared to 19.04% of patients with schizophrenia. On Reasoning 76.17% of patients with schizophrenia scored ≥4, compared to 87.2% of internal medicine patients. On Expressing a choice almost all internal medicine patients (98.7%) scored 2, compared to 66.6% of patients with schizophrenia. Taken together these results suggest that patients with schizophrenia have lower capacity rates than internal medicine patients, but this does not mean that all patients with schizophrenia are incapable of making treatment decisions, whereas on some dimensions of the MacCAT-T, such as Reasoning, both groups scored almost equally high. Moreover, not all internal medicine patients are capable of making treatment decisions, according to the MacCAT-T ratings.

MacCAT-T and other variables

With the application of Bonferroni test we assessed the impact of education on the MacCAT-T dimensions of Understanding, Appreciating, Reasoning and Expressing a choice and we found that patients with schizophrenia scored statistically significant lower (p values <0.01, <0.00001, <0.0001, <0.051, respectively) than internal medicine patients, regardless of the years of education (less or more than 9 years). Age, way of admission in the psychiatric clinic (voluntarily or involuntarily), and the total number of admissions do not correlate with the scores on the MacCAT-T.

Table 3 presents the statistically significant correlations of psychopathology, as measured with the BPRS with the scores on the MacCAT-T dimensions. The total score on the BPRS was not correlated significantly with the MacCAT-T scores, but the scores on some items of BPRS were correlated with dimensions of the MacCAT-T. More specifically, the score on the Disorientation item of BPRS was found to be correlated with the scores on all MacCAT-T dimensions, whereas the score on Uncooperativeness was correlated to the score on Appreciating. Regarding the correlations of the 5 BPRS factors with the

Table 2. Scores on the dimensions of the MacCAT-T of patients with schizophrenia and internal medicine patients.

MacCAT-T dimensions	Patients with schizophrenia (n=21)	Internal medicine patients (n=78)	Bonferroni test
<i>Understanding</i>			
Mean score	3.98 (SD 1.78)	5.22 (SD 1.23)	p<0.0001
6–5.1	7 (33.3%)	57 (73%)	
5–4.1	3 (14.2%)	8 (10.3%)	
4–3.1	6 (28.5%)	7 (8.9%)	
3–2.1	2 (9.5%)	4 (5.1%)	
<2	3 (14.2%)	2 (2.5%)	
<i>Appreciating</i>			
Mean score	2.14 (SD 1.31)	3.92 (SD 0.50)	p<0.0001
4	4 (19.04%)	76 (97.4%)	
3	4 (19.04%)	1 (1.28%)	
2	5 (23.8%)	1 (1.28%)	
1	6 (28.5%)	–	
0	2 (9.5%)	–	
<i>Reasoning</i>			
Mean score	3.71 (SD 2.39)	6.20 (SD 1.92)	p<0.0001
8	–	27 (34.6%)	
7–6	4 (19%)	32 (41%)	
5–4	8 (38%)	9 (11.5%)	
3–2	4 (19%)	8 (10.2%)	
1–0	5 (23.8%)	2 (2.6%)	
<i>Expressing a choice</i>			
Mean score	1.61 (SD 0.66)	1.97 (SD 0.22)	p<0.00015
2	14 (66.6%)	77 (98.72%)	
1	4 (19.04%)	1 (1.28%)	
0	3 (14.2%)	–	

MacCAT-T scores it was found that Anergia was significantly, negatively correlated with Understanding, Reasoning, and Expressing a choice, whereas Hostility-Suspiciousness was correlated negatively to Appreciating and to Expressing a choice. It seems that both negative (Anergia) and positive symptomatology (Hostility-Suspiciousness) reduce significantly the patients' performance on the MacCAT-T.

Discussion

This is the first study in a sample of Greek patients with schizophrenia, hospitalized in a psychiatric ward of a general hospital, involving their capacity to make treatment decisions. Analysis showed that patients with schizophrenia scored significantly lower

than internal medicine patients in all the dimensions of the MacCAT-T, and this suggests that patients with schizophrenia are less capable of making treatment decisions than internal medicine patients. The results are in accordance with other published studies which report incapacity rates up to 52% in patients with schizophrenia and up to 35% in internal medicine patients,^{3–6,15} which often goes undetected by treating physicians.¹⁶ Jeste et al¹⁵ in their study which compared patients with schizophrenia and non-psychiatric patients reported that 10–52% of the schizophrenia patients and 0–18% of the non-psychiatric patients lacked DMC, as estimated with the use of the MacCAT-T. Palmer et al¹⁷ compared 59 middle- and old-aged patients with schizophrenia or

Table 3. Correlations (Pearson's) between the scores on the MacCAT-T and the scores on the BPRS for 21 patients with schizophrenia.

BPRS	Understanding	Appreciating	Reasoning	Expressing a choice
Total BPRS score	-0.121	-0.354	-0.323	-0.380
<i>Factor scores</i>				
Anergia	-0.460 (0.036)		-0.590 (0.005)	-0.561 (0.008)
Hostility-Suspiciousness		-0.558 (0.009)		-0.435 (0.049)
<i>Items</i>				
Uncooperativeness		0.647 (0.002)		
Disorientation	-0.777 (0.000)	0.560 (0.008)	-0.755(0.000)	-0.642 (0.002)

* Only significant correlations with BPRS factor and item scores are displayed (p values in parentheses). There was no significant correlation of MacCAT-T scores with other factors or items of BPRS.

schizoaffective disorder with a sample of 38 healthy subjects, with the use of the MacCAT-T, and found that patients with a psychotic disorder scored lower on the dimension of Understanding. More recently, Owen et al⁵ compared the capacity of a sample of 125 psychiatric in-patients, most of whom suffered from psychotic or severe affective disorders, with the capacity of 164 internal medicine patients, and found that 39% of psychiatric patients and 13% of the internal medicine patients were incapable of making treatment decisions. The score on Understanding was correlated to DMC in both samples. When the score on Understanding was high DMC was found to be correlated with the score on Appreciating for psychiatric patients and with the score on Reasoning, for the internal medicine patients. In a systematic review of 43 published studies on DMC in internal medicine patients Sessums et al¹⁶ found rates of incapacity to be 18–35%, which often went unrecognized by treating physicians.

The results of our study should be interpreted with caution, since the capacity of patients to make decisions about their health and their treatment is important and has implications for clinical practice; patients rated as “capable” may decide for their treatment, whereas “incapable” patients lose their autonomy and treatment decisions may be received by another party. Clearly, our study involved DMC in patients with schizophrenia as measured within the first 72 hours of hospitalization. This means that patients’ capacity does not

refer to their competence as a whole, but rather is an estimation of their abilities to drive at valid treatment decisions. Moreover, DMC in this study involves patients’ abilities within the first 72 hours of admission, at the time they were assessed, and not permanently.

The correlations of DMC as measured with the MacCAT-T with psychopathology as measured with the BPRS, showed that incapacity in patients with schizophrenia is correlated both with positive and negative symptomatology. Incapacity was correlated with disorientation, a BPRS item which refers to the general cognitive function of the patient. Disorientation was found to be correlated negatively and statistically significantly with the scores on all MacCAT-T dimensions (Understanding, Appreciating, Reasoning, Expressing a choice), in accordance with other studies.^{17,18} On the other hand, a small proportion of internal medicine patients were rated as incapable of making treatment decisions. This may mean that several factors beyond the symptomatology of schizophrenia affect patients’ DMC and should be inquired for and be taken into account by treating physicians.

Incapacity of making valid treatment decisions is not always present in patients with schizophrenia, and capacity is not always present in internal medicine patients. As a group patients with schizophrenia are less capable of making treatment decisions than internal medicine patients, yet a proportion of them maintain DMC, even if they are multi-

admitted patients. Studies on DMC in patients with schizophrenia are heterogeneous but they suggest that the diagnosis of schizophrenia does not always imply incapacity.¹⁵ Moreover, lack of DMC does not necessarily mean that patients will refuse the offered treatment. Patients with schizophrenia may often receive a treatment regimen despite that they do not agree with the information about their disorder, or they do not fully recognize the need for treatment.¹⁹

Limitations

The present study has some limitations. The sample of patients with schizophrenia is small and there is no control group of patients with other psychiatric diagnoses, such as bipolar disorder. Moreover, the sample of the study has not been matched to the control sample of internal medicine patients for gender and age. During the study period the mean age of patients who had been admitted to the internal medicine ward (61.8 years) was higher than the mean age of patients with schizophrenia (44.6 years) who had been admitted to the psychiatric ward. The recruitment of a sufficient sample size of younger internal medicine patients would have taken a much longer interval, because, by definition, physical morbidity is less common in younger peo-

ple. Importantly, higher age was associated with incapacity in internal medicine patients,¹³ and if these patients had been matched to patients with schizophrenia the observed differences would probably have been even greater. Within the group of patients with schizophrenia comparisons regarding DMC were not made between the voluntarily (n=8) and involuntarily (n=13) admitted patients, because the number would be too small to find a reliable correlation.

Implications of the study

The results of this study suggest that a significant proportion of patients with schizophrenia during early hospitalization may lack DMC. For those patients treatment decisions are made by treating psychiatrists on the basis of the patients' best interests. The capacity of patients should be reassessed in due time, and when patients would be considered as capable of making treatment decisions informed consent to treatment should be obtained. This is a way to promote the autonomy and the human rights of patients in the field of the treatment of psychotic disorders. The assessment of DMC in clinical stable, community patients with schizophrenia in contrast to the acute phase of illness is an interesting objective to be addressed by future research.

Ικανότητα λήψης θεραπευτικών αποφάσεων από νοσηλευόμενους ασθενείς με σχιζοφρένεια

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Στη σύγχρονη ιατρική ηθική και κλινική πρακτική η αυτονομία του ασθενούς και το δικαίωμά του να συναιέσει ή να αρνηθεί τη συναίνεσή του στις ιατρικές πράξεις είναι αναγνωρισμένο και σεβαστό. Η άσκηση αυτού του δικαιώματος προϋποθέτει την ύπαρξη, εκ μέρους του ασθενούς, της ικανότητας να αποφασίσει αν θα συναιέσει ή όχι στην ιατρική πράξη. Σκοπός της μελέτης ήταν να διερευνηθεί για πρώτη φορά στη χώρα μας η ικανότητα ασθενών με σχιζοφρένεια που νοσηλεύονται σε Ψυχιατρική Κλινική Γενικού Νοσοκομείου στην Ελλάδα, να αποφασίζουν για τη θεραπεία

τους και να αναζητηθούν πιθανές συσχετίσεις της ικανότητας με δημογραφικές και κλινικές μεταβλητές. Ακόμη, να συγκριθεί η ικανότητα λήψης θεραπευτικών αποφάσεων των ασθενών με σχιζοφρένεια με την αντίστοιχη άλλων ασθενών που πάσχουν από σωματικές νόσους και νοσηλεύονται σε Παθολογική Κλινική Γενικού Νοσοκομείου. Το δείγμα της μελέτης αποτέλεσαν 21 ασθενείς με διάγνωση σχιζοφρένεια που νοσηλεύονταν στην ψυχιατρική κλινική του Γενικού Νοσοκομείου Άρτας και η σύγκριση έγινε με 78 ασθενείς που νοσηλεύονταν στην παθολογική κλινική του ίδιου νοσοκομείου. Η ικανότητα των ασθενών να λαμβάνουν αποφάσεις για τη θεραπεία τους αξιολογήθηκε τις πρώτες 72 ώρες από την εισαγωγή με τη χρήση του σταθμισμένου στην ελληνική γλώσσα MacArthur Competence Assessment Tool for Treatment (MacCAT-T). Η απόδοση των ασθενών με σχιζοφρένεια ήταν σημαντικά μικρότερη σε όλα τα λήμματα του MacCAT-T, υποδηλώνοντας ότι υστερούσαν στην ικανότητα λήψης θεραπευτικών αποφάσεων σε σχέση με τους παθολογικούς ασθενείς. Τόσο η αρνητική συμπτωματολογία (ανεργία) όσο και η θετική συμπτωματολογία (επιθετικότητα-καχυποψία), όπως εκτιμήθηκαν με την κλίμακα Brief Psychiatric Rating Scale (BPRS) βρέθηκε να σχετίζονται με μειωμένη απόδοση στο MacCAT-T. Αν και οι παθολογικοί ασθενείς, ως ομάδα, απέδιδαν καλύτερα στο MacCAT-T, υπήρχαν περιπτώσεις που δεν είχαν την απαιτούμενη ικανότητα λήψης αποφάσεων για τη θεραπεία τους. Συμπερασματικά, οι ασθενείς με σχιζοφρένεια υστερούν σημαντικά σε σχέση με τους παθολογικούς ασθενείς στην ικανότητα λήψης θεραπευτικών αποφάσεων κατά τις πρώτες μέρες της νοσηλείας τους. Η υστέρηση αυτή δεν είναι δεδομένη για όλους τους ασθενείς με σχιζοφρένεια, όπως αντίστοιχα η ικανότητα λήψης αποφάσεων δεν είναι δεδομένη για όλους τους παθολογικούς ασθενείς. Η ικανότητα των ασθενών να συμμετέχουν στις θεραπευτικές αποφάσεις πρέπει να επανεκτιμάται και όταν κριθεί ότι επανήλθε, να αναζητείται η λήψη συναίνεσης των ασθενών στη χορηγούμενη αγωγή.

Λέξεις ευρετηρίου: Αυτονομία, συναίνεση, ικανότητα λήψης θεραπευτικών αποφάσεων, παθολογικοί ασθενείς, σχιζοφρένεια.

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