

A Clinical Study of Competency in Psychiatric Inpatients

Stephen B. Billick, MD, Peter W. Naylor, MD, Mathew F. Majeske, MD, Woodward Burgert III, BA, and Glen P. Davis, BA

A 15-item questionnaire used to evaluate competency to consent to psychiatric hospitalization was validated using a blind forensic psychiatric interview. The statistical correlation was excellent with $p < .001$. The questionnaire also correlated highly with the Mini-Mental State Exam ($p < .05$), the Brief Psychiatric Rating Scale ($p < .05$), and the Weschler Adult Intelligence Scale-Revised vocabulary subtest ($p < .01$). This questionnaire may be a useful instrument for preliminary screening of psychiatric patients for competency to consent to hospitalization and general psychiatric treatment.

Competency to consent to hospitalization and general psychiatric treatment is of great importance in clinical psychiatry and the legal protection of patients. At Massachusetts Mental Health Center, Appelbaum *et al.*¹ developed a simple, 15-item competency questionnaire that was used to assess a patient's understanding of significant elements of his/her consent to hospitalization. Among the areas assessed are the patient's need for treatment, the roles of the physician and medication, and the patient's legal rights. In

their study, this questionnaire was administered to 50 voluntary psychiatric inpatients. More than half of these patients demonstrated poor appreciation of the nature of their condition, the nature of hospitalization, and their legal rights as patients.

Four successive clinical studies have been performed at St. Vincent's Hospital in New York City. Noriko *et al.*² replicated the Appelbaum study, administering the Competency Questionnaire (CQ) to 100 voluntary patients. This data failed to replicate the magnitude of Appelbaum's findings in that 84 per cent of the subjects fully acknowledged their psychiatric problems, and only 20 per cent denied their need to be hospitalized. However, only 65 per cent of the patients fully acknowledged their need to be in the hospital. This study also demonstrated an inability to give informed consent in patients presumed competent by law. Using

This paper was presented at the annual meeting of the American Academy of Psychiatry and the Law, Maui, HI, 1994. The study was conducted within the Department of Psychiatry at St. Vincent's Hospital and Medical Center of New York, NY. Dr. Billick is a clinical associate professor of psychiatry, New York Medical College; Dr. Majeske is an assistant professor of psychiatry, New York Medical College. Dr. Naylor was a resident in psychiatry at St. Vincent's Hospital, and Mr. Burgert and Mr. Davis were clinical research associates at St. Vincent's Hospital. Address correspondence to Dr. Stephen B. Billick, 144 West 12th Street, Room 196, New York, NY 10011.

a scale of 0 to 2, with 0 indicating an unacceptable response, 1, a partially acceptable response, and 2, a fully acceptable response. Noriko found interrater reliability was 89 per cent. When using an unacceptable (0)–acceptable (1) response scale, an interrater reliability value of 96 per cent was achieved.

Clark and Billick³ studied psychiatric patients admitted involuntarily using the 15-item CQ. They found that 53 per cent of patients thought they had psychiatric problems that required inpatient treatment. Casimir *et al.*⁴ used a slightly modified version of the CQ to assess competency to submit to psychiatric hospitalization in adolescents. They found that the level of competency in the adolescent population most closely resembled the level found by Clark and Billick in the involuntary population. Della Bella and Billick⁵ studied a comparison group of hospitalized medical patients. They found that the medical patients were much more competent than the St. Vincent's Hospital voluntary psychiatric inpatients.

The purpose of the current study was to validate the CQ using a blind clinical forensic examination, and also to correlate the CQ with the Brief Psychiatric Rating Scale (BPRS),⁶ the Mini-Mental State Exam (MMSE),⁷ and the Weschler Adult Intelligence Scale-Revised (WAIS-R) vocabulary subtest,⁸ which may provide additional indication of validation.

Method

The study was based on 37 adult psychiatric inpatients admitted to the Reiss Pavilion at St. Vincent's Hospital. En-

glish-speaking patients over the age of 18 were considered eligible for the study. All inpatients were approached within 72 hours of their hospitalization. After complete description of the study to the subjects, written informed consent was obtained. All St. Vincent's Hospital patients, regardless of their participation in the study, are informed in advance of their rights as required by New York state law. Participating subjects were then given a series of three separate, brief interviews by three of the researchers. The first researcher administered the CQ and the BPRS (each item scored 0 to 6) to participating patients. Following this initial interview, subjects were then evaluated by the trained forensic psychiatrist. The forensic psychiatrist, blind to the results of the CQ and the BPRS, independently determined whether the study subject was competent or incompetent to consent to treatment. Finally, in a third separate interview, the WAIS-R vocabulary subtest and MMSE were administered by a third member of the research team. Patients who were either discharged or refused to cooperate before completion of the three stages of the interview were grouped with the initial study refusers to form a control population.

The CQ consists of 15 questions; the administrator rated the responses as "competent" or "incompetent." The questionnaire is scored by assigning a score of 1 or 0 respectively, to these ratings for each question. An overall score is computed by adding the scores for each question.

Demographic data (see Table 1) collected included the subject's age, sex, race, religion, education, family psychiat-

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ric history, socioeconomic status (SES), DSM-III-R diagnosis, previous hospitalizations, previous St. Vincent's hospitalizations, previous St. Vincent's outpatient visits, legal status, payment source, referral source, inpatient unit, and whether assigned to the teaching service. A subject's SES was rated on a five-point scale, from I (highest) to V (lowest), according to a system developed by Hollingshead and Redlich.⁹

Chi-square analysis was used to test both the demographic variables and the test instruments for statistical significance between the clinical forensic interview-rated competent and incompetent patients. The demographics of the study refusers were also analyzed for any statistical difference from our study populations.

Results

Of the 37 patients approached for the study, there were 13 (35.1%) who refused to participate. Four patients (10.8%) were discharged before the clinical forensic interview, MMSE, or WAIS-R vocabulary subtest could be conducted. Twenty patients (54.1%) completed the clinical forensic interview, the CQ, BPRS, MMSE, and WAIS-R vocabulary subtest. Of these 20 subjects evaluated by the clinical forensic interview, 15 (75.0%) were rated competent and 5 (25.0%) were rated incompetent to consent to treatment.

The study population, demographic data, and test instrument results were analyzed to detect statistical significance between the clinical forensic interview-rated competent and incompetent populations. In chi-square statistical analysis

and comparison of these groups (refusers, competent, and incompetent patients), no statistically significant differences were found for gender, age, religion, race, legal status of admission, payment source, referral source, private versus teaching service, DSM-III-R discharge diagnosis, number of previous psychiatric hospitalizations, previous St. Vincent's Hospital psychiatric outpatient treatment, family psychiatric history, education level, or SES.

Patients' Competency Questionnaire scores correlated well with the clinical forensic interview competency assessments (see Table 2). Patients who were determined to be competent by the clinical forensic interview had higher scores on the CQ. Of the clinical interview-rated competent patients, the mean score on the CQ was 11.0 ± 3.2 , while the clinical interview-rated incompetent patients had a much lower CQ score of 4.0 ± 1.7 . This correlation attained chi-square statistical significance ($p < .001$), thus validating the CQ.

The mean MMSE score of the competent population of patients was (29.4 ± 1.4), which was higher than the mean score for incompetent patients (26.2 ± 4.9). Using chi-square tests, this difference was found to be statistically significant ($p < .05$), indicating that patients with higher scores on the MMSE tend to be more competent to consent to psychiatric treatment.

Patients who score higher on the WAIS-R vocabulary subtest also tend to be more competent to consent to treatment. The competent patient population had a higher mean score on the WAIS-R vocabulary subtest (raw score = $49.7 \pm$

Table 1
Demographic Data: Consent Refusers Versus Competent Patients Versus Incompetent Patients

		Total	Refusers	Competent	Incompetent	SIG
		Patients N = 37	N = 13	N = 15	N = 5	
Gender	Female	18 (48.6%)	7 (46.7%)	2 (40.0%)	2 (40.0%)	NS
	Male	19 (51.4%)	6 (46.2%)	8 (53.3%)	3 (60.0%)	
Age		45.9 ± 23.3	53.6 ± 25.3	37.2 ± 17.6	53.2 ± 27.5	NS
Religion	Catholic	15 (40.5%)	5 (55.6%)	6 (40.0%)	2 (50.0%)	NS
	Jewish	3 (8.1%)		3 (20.0%)		
	Protestant	6 (16.2%)	2 (22.2%)	3 (20.0%)	1 (25.0%)	
	Muslim	1 (2.7%)	1 (11.1%)			
	Other	1 (2.7%)	1 (11.1%)			
	Nonreligious	6 (16.2%)		3 (20.0%)	1 (25.0%)	
Race	Black	5 (13.5%)	1 (7.7%)	2 (13.3%)	1 (20.0%)	NS
	White	29 (78.4%)	11 (84.6%)	12 (80.0%)	4 (80.0%)	
	Hispanic	2 (5.4%)	1 (7.7%)			
	Asian/Pacific	1 (2.7%)		1 (6.7%)		
Legal status	Voluntary	31 (83.8%)	11 (84.6%)	13 (86.7%)	3 (60.0%)	NS
	Emergency	6 (16.2%)	2 (15.4%)	2 (13.3%)	2 (40.0%)	
Payment source	Medicaid	17 (45.9%)	3 (23.1%)	10 (66.7%)	3 (60.0%)	NS
	Medicare	6 (16.2%)	4 (30.8%)		1 (20.0%)	
	Commercial	3 (8.1%)	2 (15.4%)	1 (6.7%)		
	Blue Cross	2 (5.4%)	1 (7.7%)	3 (20.0%)	1 (20.0%)	
	Self-pay	8 (21.6%)	3 (23.1%)	1 (6.7%)		
Referral source	Emergency Room	18 (48.6%)	6 (46.2%)	8 (53.3%)	1 (20.0%)	NS
	Walk-in clinic	3 (8.1%)	1 (7.7%)	2 (13.3%)		
	Medical transfer	1 (2.7%)		1 (6.7%)		
	Outside referral	9 (24.3%)	5 (38.5%)	2 (13.3%)	1 (20.0%)	
	Family/self	5 (13.5%)	1 (7.7%)	1 (6.7%)	3 (60.0%)	
	Other	1 (2.7%)		1 (6.7%)		
Unit assigned to in hospital	Reiss 2	17 (45.9%)	7 (53.8%)	5 (26.7%)	3 (60.0%)	NS
	Reiss 4	6 (16.2%)	2 (15.4%)	3 (20.0%)	1 (20.0%)	
	Reiss 5	14 (37.8%)	4 (30.8%)	8 (53.3%)	1 (20.0%)	
Teaching service	Yes	31 (83.8%)	9 (69.2%)	15 (100%)	4 (80.0%)	NS
	No	6 (16.2%)	4 (30.8%)		1 (20.0%)	
DSM-III-R discharge diagnosis	Schizophrenia	9 (24.3%)	4 (30.8%)	3 (20.0%)	2 (40.0%)	NS
	Schizoaffective	4 (10.8%)	1 (7.7%)	3 (20.0%)		
	Bipolar manic	4 (10.8%)	2 (15.4%)	2 (13.3%)		
	Substance abuse	2 (5.4%)		2 (13.3%)		
	Depression	9 (24.3%)	3 (23.1%)	4 (26.7%)	1 (20.0%)	
	Organic mood	5 (13.5%)	1 (7.7%)	1 (6.7%)	2 (40.0%)	
	Organic mood/HIV	1 (2.7%)				
	Bipolar depressed	1 (2.7%)	1 (7.7%)			
	Other	2 (5.4%)	1 (7.7%)			

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Table 1—Continued

		Total Patients N = 37	Refusers N = 13	Competent N = 15	Incompetent N = 5	SIG
Previous hospitalizations	None	11 (29.7%)	4 (30.8%)	3 (20.0%)	1 (20.0%)	NS
	One	11 (29.7%)	5 (38.5%)	3 (20.0%)	2 (40.0%)	
	Two	6 (16.2%)	2 (15.4%)	3 (20.0%)	1 (20.0%)	
	Three	2 (5.4%)		2 (13.3%)		
	Four	2 (5.4%)		2 (13.3%)		
	Five or more	5 (13.5%)		2 (13.3%)		
Previous SVH hospitalizations	Yes	16 (43.2%)	5 (41.7%)	9 (60.0%)	2 (40.0%)	NS
	No	20 (54.1%)	7 (58.3%)	6 (40.0%)	3 (60.0%)	
Previous SVH outpatient treatment	Yes	2 (5.4%)	1 (8.3%)	1 (6.7%)		NS
	No	34 (91.9%)	11 (91.7%)	14 (93.3%)	5 (100%)	
Family psychiatric history	Yes	14 (37.8%)	7 (58.3%)	4 (30.8%)	2 (50.0%)	NS
	No	18 (48.6%)	5 (41.7%)	9 (69.2%)	2 (50.0%)	
Education	Up to grade 12	8 (21.6%)	4 (36.4%)	3 (21.4%)		NS
	HS diploma	9 (24.3%)	3 (27.3%)	3 (21.4%)	2 (40.0%)	
	GED	1 (2.7%)			1 (20.0%)	
	Some college	11 (29.7%)	3 (27.3%)	6 (42.9%)	1 (20.0%)	
	College graduate	3 (8.1%)	1 (9.1%)	1 (7.1%)		
	Postgraduate	2 (5.4%)		1 (7.1%)	1 (20.0%)	
Socioeconomic status	I	1 (2.7%)			1 (20.0%)	NS
	II	5 (13.5%)	2 (15.4%)	3 (21.4%)		
	III	17 (45.9%)	4 (30.8%)	8 (57.1%)	3 (60.0%)	
	IV	10 (27.0%)	4 (30.8%)	3 (21.4%)	1 (20.0%)	
	V	3 (8.1%)	3 (23.1%)			

SIG, significance; NS, not significant; SVH, St. Vincent's Hospital.

11.6, scaled score = 10.9 ± 2.6). This comparison between competency assessments and performance on the WAIS-R vocabulary subtest did indicate statistical significance ($p < .01$).

The mean BPRS score of competent patients was 8.5 ± 5.8 , compared with a much higher mean BPRS score of incompetent patients, which was 14.6 ± 5.0 . The statistical significance of this trend ($p < .05$) was comparable to that of the trend between competency assessments and MMSE scores. Using standard subgroupings of the BPRS for positive symptoms,

negative symptoms, activation, anxiety/depression, and thought disorder, when individually compared with competency versus incompetency, no statistical significance was achieved for any subgroup. The BPRS as a global score was the only statistically significant correlation.

Table 3 shows the linear correlation between the WAIS-R vocabulary subtest, the MMSE, the BPRS, and the CQ. There was no statistically significant linear correlation between MMSE total score and scores on the WAIS-R, the BPRS, or the CQ. When the WAIS-R was compared

Table 2
Assessment Instrument Performance: Competent Patients Versus Incompetent Patients

Assessment Instrument Score	Competent (N = 15)	Incompetent (N = 5)	Statistical Significance
Competency Questionnaire	11.0 ± 3.2	4.0 ± 1.7	<i>p</i> < .001
MMSE	29.4 ± 1.4	26.2 ± 4.9	<i>p</i> < .05
BPRS	8.5 ± 5.8	14.6 ± 5.0	<i>p</i> < .05
WAIS-R raw score	49.7 ± 11.6	26.0 ± 15.0	<i>p</i> < .01
Wais-R scaled score	10.9 ± 2.6	6.0 ± 3.4	<i>p</i> < .01

with the BPRS, the results yielded no statistical significance, although there was significance between the WAIS-R score and the CQ score (WAIS-R raw score = *p* < .04; WAIS-R scaled score = *p* < .05). The strongest correlation was found between the BPRS and the CQ (*p* < .002).

Analysis of sensitivity and specificity were done using both the clinical forensic interview and MMSE as the standards. Comparing the CQ with the clinical forensic interview, using a CQ score of =7 or >7 as "competent," produced a sensitivity of 1.0, false negative of 0.0, specificity of 0.80, and false positive of 0.20. Using a CQ score =5 or >5 as "competent" produced a sensitivity of 0.8, a false negative of 0.2, a specificity of 1.0, and a false positive of 0.0. Using an MMSE score of <24 for positive central nervous

system (CNS) pathology and a CQ of =7 or >7 as "competent" produced a sensitivity of 1.0, a false negative of 0.0, a specificity of 0.8, and a false positive of 0.2. Using an MMSE of <24 for positive CNS pathology and a CQ of =5 or >5 as "competent" produced a sensitivity of 0.8, a false negative of 0.2, a specificity of 1.0, and a false positive of 0.0. These results further validate the CQ as a screening device.

Discussion

Competency to consent to medical treatment is an especially critical issue in psychiatry because of special concerns for the liberties of patients who are often incapable of self-advocacy, and because it is the very nature of psychiatric illness that often impairs the patients' ability to

Table 3
Correlation of Assessment Instruments

	WAIS-R Raw Score	WAIS-R Scaled Score	BPRS Total Score	Competency Questionnaire Total Score
MMSE total score	NS	NS	NS	NS
WAIS-R raw score			NS	<i>p</i> < .04
WAIS-R scaled score			NS	<i>p</i> < .05
BPRS total score				<i>p</i> < .002

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give informed consent to treatment for that illness. This study sought to validate the Competency Questionnaire by comparing its results with those of a blind clinical forensic interview assessment of competency, the MMSE, the BPRS, and the WAIS-R vocabulary subtest.

In early 1990, the U.S. Supreme Court decided *Zinermon v. Burch*,¹⁰ ruling that hospital admission staff must inquire into the competency to consent of a patient who is presented for voluntary admission. This decision has the potential to affect many voluntary admissions throughout the United States. Because the Court in *Zinermon* did not specify the precise nature of the inquiry that should be used to explore a patient's competency status, competency screening questionnaires may be helpful in protecting the clinician and the patient.

Although our study sample size was small, we were surprised at the level of statistical significance obtained. However, further research is warranted for both the questionnaire and also the question and nature of competency in different settings. Based on the results of this study, a patient with a CQ score of >7 might be categorized as competent to consent to psychiatric treatment. A patient with a CQ score of <5 might be labeled incompetent to consent to psychiatric treatment. Patients with a CQ score between 5 and 7 would require further clinical investigation. Again we emphasize that future research with larger study populations is necessary in order to refine these preliminary cut-off values.

Conclusion

The Competency Questionnaire developed by Appelbaum *et al.*¹ is a valid and useful instrument to be used in screening for competency to consent to psychiatric hospitalization and treatment. The CQ correlates well with a blind forensic interview evaluation of competency and standard psychiatric assessments.

References

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