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A Clinical Study of Competency to Consent to Hospitalization and Treatment in Geriatric Inpatients*

ABSTRACT: This study used a Competency Questionnaire modified for medical surgical patients (CQ-Med). Twenty-nine patients (ages 65–94 years) admitted to a geriatric medicine unit were studied. Along with the CQ-Med, patients were administered several WAIS-R subtests, the Blessed Dementia Scale (BDS), and Mini Mental State Exam (MMSE). Additionally, a blind forensic evaluation for competency to consent to hospitalization and treatment was performed for the purpose of validation of the CQ-Med. Results of the study found that, as expected, increased age was correlated with decreasing performance on the CQ-Med and decreased findings of competence by clinical exam. However, there was great variability within each age group, demonstrating individual differences in the progress of declining competency. CQ-Med scores also correlated well with the WAIS-R subtest raw and scaled scores. Scores on the MMSE and BDS were less well correlated. The CQ-Med may be a useful adjunct in assessing declining competency in geriatric patients.

KEYWORDS: forensic science, forensic psychiatry, capacity, gerontology, memory, intelligence

To be competent is to be “capable.” Although they are used interchangeably in the literature, the terms “competence” and “capacity” are technically different (1). Competency as a legal construct “refers to the legal acknowledgement by the state of one’s capability, by the granting of autonomous rights” (2). Competency law is not based solely on one’s capability, but primarily upon one’s age. As a matter of convenience, human society has chosen age as one marker of capacity. As a measure of capability, however, age requirements both deny rights to some who are truly capable, and grant rights to some with limited capacity.

Simply agreeing to a medical procedure or treatment is not considered sufficient for legal and informed consent. Legal consent requires that the individual be legally recognized as being able to consent. Agreement from a person not able to give consent legally is termed “assent.” One of the hallmarks of legal and informed consent is that the individual has “appreciation” of the consequences of his or her decisions, i.e., the ability to understand the ramifications of his or her choices. Informed consent requires disclosure of potential risks, benefits, and alternatives to treatments, and nontreatment, and that the person’s consent or refusal be made voluntarily and while in a competent state (1).

Appelbaum et al. (3) developed a simple, *a priori* 15-item Competency Questionnaire (CQ) to assess adult patients’ competency to consent to psychiatric hospitalization. Billick et al. (4) validated the CQ in voluntary psychiatric inpatients using a blind forensic psychiatric examination, and also found a high correlation with the vocabulary subtest of the Wechsler Adult Intelligence Scale-Revised (WAIS-R). There are also studies using non-English

versions of the CQ to test competency to consent to hospitalization in adults (5,6).

Casimir and Billick (7) created CQ-ChP, an adolescent version of the CQ using two additional questions for parental participation and decisions. Using the instrument to study adolescent psychiatric inpatients, the authors proposed the importance of specific areas of competence: while adolescents appeared to have a poor understanding of the most general determinants of their hospitalization, they performed more favorably on the legally oriented criteria than had the previously studied adult population. A subsequent study by Billick and others (8), also using the CQ-ChP in child psychiatric inpatients, supported the idea of developmental acquisition of competence. Billick et al. (9) modified the 17-item questionnaire of Casimir and Billick (7) to create a 19-item questionnaire (CQ-Peds) developed for use with pediatric outpatients. Age was strongly correlated with performance on the CQ-Peds, as were scores on the WISC-R subtests (9).

Billick’s group created a modified version of the CQ (CQ-Med) for assessing the competence of general medical patients to consent to hospitalization (10). Their study found that general hospital inpatients have CQ-Med scores comparable to CQ scores by adult psychiatric inpatients. To date, there are a limited number of studies of competency of geriatric psychiatric patients to consent to hospitalization or treatment (11,12), and no known studies using the CQ. Studies of treatment competence in the elderly are reviewed elsewhere (13).

The purpose of this study is to evaluate the validity of the CQ-Med as a useful instrument in discerning which geriatric patients are competent to give consent to hospitalization or treatment. As in Billick et al. (4), it will be compared to the current standard assessment of competence, the forensic psychiatric examination. In addition to validating the CQ-Med, this study will also compare the CQ-Med validation to the CQ validation, determine other demographic and psychiatric correlations, and explore other variables which may correlate with the ability to consent to hospitalization and treatment.

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Methods

Participants

The study was based on 29 geriatric inpatients at St. Vincent's Hospital in New York. Potential subjects were evaluated in the order of their admission to the medical service. Demographic data collected included age, gender, ethnicity, and level of education. Inclusion criteria included patients aged 65 or older and patients who read and signed informed consent to participate. Subjects were excluded if they did not speak English fluently (as some of the instruments are normalized on English speakers), or if they were unable to give coherent responses to items on study instruments. The study was approved by the Institutional Review Board of St. Vincent's Hospital and Medical Center.

Procedures

After providing informed consent, subjects were evaluated within 72 h of admission. All subjects underwent a clinical exam for competency to consent to treatment, conducted by a geriatric psychiatry fellow. This exam was blinded from the administration of the 15-item CQ-Med (10), which was conducted by the team psychiatrist or psychologist. Responses were scored as either a "0" (not competent) or "1" (competent), with a score >11 being considered competent. A previous study of the CQ showed high inter-rater reliability (14). The order of administration of the clinical evaluation and CQ-Med were reversed throughout the study to control for practice effects. Other assessments that were collected in patients included the Mini Mental State Exam (MMSE) (15), Blessed Dementia Scale (BDS) (16), Information-Concentration-Memory Test, and WAIS-R subtests (Vocabulary, Comprehension, and Digit Span) (17).

Data Analysis

The CQ-Med was validated by comparing results with the clinical exam. The CQ-Med was also compared to previous CQ findings in similar studies of adults. The cut-off scores from the CQ were pro-rated to determine equivalent cut-off scores for the CQ-Med. The results were then compared to determine whether the norms that apply to adults apply to the elderly. To determine whether other variables were correlated with the ability to consent, linear correlations were assessed between all of the variables. In particular, the results of the CQ-Med and clinical exam were compared with demographic variables (age, gender, educational level) and results of psychological tests, the MMSE, and other dementia tests. A *post-hoc* analysis was performed to produce multiple comparisons between all of the groups and to look at any possible covariance among the many variables.

Results

A total of 29 patients, ages 65–94 (mean age = 81.31 ± 7.02 years) participated, with 18 women and 11 men. With regards to ethnicity, the majority of subjects were Caucasian ($n = 25$), followed by African-American ($n = 3$), then Hispanic ($n = 1$). Subjects completed varying levels of education: elementary school ($n = 6$); high school ($n = 11$); college ($n = 6$); and unknown ($n = 6$).

Results of analyses showed that the clinical competency exam, CQ-Med scores, and BDS scores were not correlated with age, gender, or educational level. MMSE scores ($r = -0.508$, $p = 0.044$,

$n = 16$) and concentration scores ($r = -0.460$, $p = 0.027$, $n = 23$) were correlated negatively with age. WAIS-R vocabulary scaled ($r = -0.697$, $p = 0.004$, $n = 15$) and raw ($r = -0.648$, $p = 0.009$, $n = 15$) scores also had a negative correlation with age, as did WAIS-R comprehension scaled ($r = -0.759$, $p = 0.002$, $n = 15$) and raw ($r = -0.759$, $p = 0.002$, $n = 15$) scores.

Validation of the CQ-Med to the clinical exam showed a sensitivity of 0.80 (8/10) and specificity of 0.60 (3/5), with a false positive rate of 0.40 (2/5) and false negative rate of 0.20 (2/10). The CQ-Med was also correlated with the Information-Memory-Concentration test and other select intelligence and memory tests (Table 1), but not as well correlated with the MMSE. In addition, analysis showed that the clinical exam was correlated with the MMSE, Information-Memory-Concentration test, and other concentration, memory, and intelligence tests (Table 2).

The BDS was not correlated with either the clinical competency exam or the CQ-Med. The BDS, however, was correlated with the MMSE and other memory and concentration tests (Table 3).

TABLE 1—Correlations of the CQ-Med with selected tests.

Test	Number (n)	Correlation Coefficient (r)	p
Mini Mental State Exam	16	0.464	0.071
Memory Test Score	23	0.421	0.046
Information-Memory-Concentration	23	0.463	0.026
Information Test Score	23	0.524	0.010
Comprehension Scaled Score	15	0.562	0.029
Comprehension Raw Score	15	0.534	0.040
Clinical Competency Exam	15	0.580	0.023
Predicted IQ	15	0.713	0.003
Vocabulary Scaled Score	15	0.781	0.001
Vocabulary Raw Score	15	0.802	<0.001

TABLE 2—Correlations of the clinical exam with selected tests.

Test	Number (n)	Correlation Coefficient (r)	p
CQ-Med Score	15	0.580	0.023
Minimum Clinical Competency	15	0.563	0.029
Broad Clinical Competency	15	0.518	0.048
Legal Competency	15	0.342	0.212
Mini Mental State Exam	10	0.730	0.016
Information-Memory-Concentration	13	0.780	0.002
Comprehension Scaled Score	7	0.872	0.010
Comprehension Raw Score	7	0.870	0.011
Concentration Test Score	13	0.867	<0.001
Information Test Score	13	0.680	0.010
Memory Test Score	13	0.603	0.029
Predicted IQ	7	0.837	0.019
Digit Span Raw Score	7	0.778	0.040

TABLE 3—Correlations of the blessed dementia scale with selected tests.

Test	Number (n)	Correlation Coefficient (r)	p
Mini Mental State Exam	10	0.696	0.025
Concentration Test Score	20	-0.682	0.001
Information-Memory-Concentration	20	-0.665	0.001
Information Test Score	20	-0.661	0.002
Memory Test Score	20	-0.475	0.034

Discussion

This study evaluated patients on a geriatric inpatient hospital unit using a modified version of the CQ for medical patients, the CQ-Med, to determine whether capacity was associated with advancing age and correlated with memory, intelligence, and comprehension. The investigation found that, as expected, increasing age was, in general, associated with lower competency scores. The CQ-Med also correlated with subtests of the WAIS-R, in particular comprehension and vocabulary. The CQ-Med did not, however, correlate with the MMSE and BDS, and there was variability in competency scores with age. The benefit of the CQ-Med over similar instruments is that it takes only a few minutes to administer and is simple to learn. A nonpsychiatrist or nonpsychologist can be taught the instrument, possibly obviating the need for psychiatric consultation from medical services. Limitations of the study included the small sample size, failure to obtain rating of all scales on all subjects, absence of a control group, and lack of comparison of the CQ-Med with other competency instruments, such as the MacArthur Competence Assessment Tool-Treatment (MacCAT-T) (18). It is worth noting that a small study by Gilman and Billick (19) did report a correlation ($r = 0.87$) in a small ($n = 13$) sample of psychiatric inpatients. One study comparing three capacity instruments reported that different measures have greater agreement in certain areas of competence, such as understanding and ability to express a choice, but less agreement in the area of appreciation (20). Comprehensive reviews comparing competency studies and varying competence instruments can be found elsewhere (21,22).

The finding of decreased competence with increasing age is not surprising, although there is a complex relationship between age and competence and competence and cognitive decline. Previous studies have reported that competency assessments have low reliability when the physician examiners base their judgments on different cognitive skill sets, but that reliability improves when evaluators are trained on the legal standard for competency (23,24). In addition, one study of geriatric patients used physician ratings, ratings of family members, and case vignettes, to report that there is disagreement about competency among patients and family members, with physicians being judged most lenient and family members most stringent (25). This emphasizes the importance of family involvement in evaluation and treatment of the geriatric population.

In 2008, the Institute of Medicine released a report addressing the issue of the rapidly growing number of aging Americans and made recommendations on how to prepare for the expected increase in healthcare needs (26). The report predicts that between 2005 and 2030 the population of adults over age 65 will almost double from 37 million to 60 million, while the number of geriatric internists and psychiatrists is expected to rise <10% (26). Thus, even with efforts to recruit more doctors into the field, there will be a shortage of healthcare providers specializing in geriatrics. These sobering statistics reinforce the importance of enhancing the competence of all healthcare providers in treating elderly patients. Developing valid and reliable instruments to assess competency is a crucial part of detecting and treating impaired patients in a timely manner.

Conclusion

In a group of geriatric medical patients, the CQ-Med correlated well with the clinical exam for competency and with WAIS-R subtests, but was not significantly correlated with the MMSE and BDS, suggesting variability in competence across age and cognitive

status. The CQ-Med can be performed quickly and easily. Because it has been shown to have good validity (versus clinical exam), the CQ-Med would be useful as a competency screening instrument in geriatric patients. A larger scale, controlled trial that includes patients with dementia and other psychiatric disorders would help clarify the utility of this instrument in assessing competency in a geriatric population.

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