

Psychiatric Diagnoses in a Sample of Outpatient Psycho-Geriatric New Referrals with Suspected Mild Cognitive Impairment

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Abstract: Psychiatric symptoms/syndromes are frequent in Mild Cognitive Impairment (MCI). However, only a few studies reported full psychiatric diagnoses in MCI. We describe the nosology and prevalence of psychiatric diagnoses in a group of 102 consecutive patients evaluated for suspected MCI and finally re-classified into dementia, MCI and No Cognitive Impairment. Psychiatric diagnoses were frequent in MCI and the other groups as well, however they were qualitatively different in each group.

Keywords: DSM-IV, psychiatric diagnoses, mild cognitive impairment (MCI), dementia, outpatient psycho-geriatric setting.

INTRODUCTION

The term mild cognitive impairment (MCI) is used to describe a group of elderly subjects who have cognitive impairments, often involving memory, not of sufficient severity to warrant the diagnosis of dementia [1]. Psychiatric disturbances are common in MCI [2, 3] even though they do not constitute part of its formal definition that emphasizes self and/or informant cognitive complaints, impairment in performance of objective cognitive tasks and essentially preserved activities of daily living [4, 5]. They might affect etiologic considerations, clinical presentation, outcome, and treatment. With the aid of psychiatric and neuropsychiatric rating scales the prevalence of symptoms, symptom-groups and syndromes could be established in community and clinical samples. Psychiatric symptoms in MCI are estimated to range between 36.2 and 86.8 percent [6-9], depending on the various definitions and methodologies for assessment. However, only a few studies [3, 10, 11] attempted to apply, even in part, official psychiatric diagnoses to their study samples of MCI and other subjects. In a population-based study, Forsell *et al.* [10] used DSM-III-R [12] criteria for the diagnosis of depression (with no further specification regarding this diagnosis), as well as a list of psychotic and anxiety symptoms derived from the above manual. In a clinical setting, Gabryelewicz *et al.* [11] defined major and minor depressive episodes according to DSM-IV criteria [13]. They excluded some individuals with severe major depression because these may have contributed to observed cognitive difficulties. In addition, they provided no specific definition and classification of depressive episodes, and reported only depression but no other types of psychopathology. Similarly,

in a sample of dementia clinic referrals Lopez *et al.* [3] used DSM-IV criteria for major depression but provided no further specification of their diagnoses. Thus far, only Kumar *et al.* [14] used specifically evaluated DSM-IV criteria for major and minor depressive syndromes in a small sample of community-dwelling, relatively young (60-64) subjects. Importantly, however, current nomenclature deals with disorders rather than syndromes.

The present study aims to describe the nosology and prevalence of DSM-IV axis I non-cognitive diagnoses in individuals referred for further evaluation for suspected MCI in the context of an outpatient psycho-geriatric setting, with special reference to the psychiatric diagnoses in those individuals finally diagnosed with MCI.

MATERIALS AND METHODS

The patient population referred to our outpatient psycho-geriatric service includes mainly patients with cognitive impairment and individuals with depressive and anxiety disorders, treatable on an ambulatory basis. Each new referral undergoes a comprehensive multidisciplinary assessment process (geriatric psychiatrist, geriatrician, social worker, nurse). Laboratory investigations, including imaging studies, are suggested in each case to exclude potentially treatable causes for cognitive impairment and physical causes for emotional disorders. For those subjects with very early or early stages of cognitive impairment an MCI clinic was established, where subjects with a working diagnosis of suspected MCI undergo further evaluation. Subjects for the present study were recruited from these clinic referrals. The cognitive states of subjects with suspected MCI were further evaluated with the Hebrew version of the Cambridge Cognitive Examination – Revised (CAMCOG-R) [15, 16] (range 0-105; 80/81 published cut-off point for cognitive impairment [15]), out of which an MMSE score can be generated

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(range 0-30; 23/24 published cut-off point for cognitive impairment [17]). Psychiatric data were obtained with a modified Hebrew version of CAMDEX-R. The Cambridge examination for mental disorders of the elderly-revised (Heinik *et al.*, in preparation), sections A (interview with patient), C (interviewer observations) and H (interview with informant). CAMDEX-R items makes it possible to derive various DSM-IV diagnoses [15]. This entire workup is usually completed within 1-2 months. The study protocol was approved by the local Helsinki committee.

For the purposes of the present study, DSM-IV [13] axis I operational criteria were used for cognitive and psychiatric diagnoses. When inapplicable, the criteria included in the DSM-IV “criteria sets and axes provided for further study” were used (e.g., minor depressive disorder, mixed anxiety-depressive disorder). MCI diagnosis was established according to the Winblad *et al.* [5] criteria operationalized in the following order: 1. Not demented according to DSM-IV criteria, 2. Self and/or informant report of cognitive decline. 3. Impairment on objective cognitive task (defined as CAMCOG-R total score below the 25th percentile compared to normative values by age-group, sex and educational level [18]. 3. Preserved basic activities of daily living/ minimal impairment in complex instrumental functions. 4. Not normal. Consensus regarding diagnosis was reached by two geriatric psychiatrists.

A total of 102 consecutive persons with suspected MCI were assessed. The overall mean age of the sample was 76 years (SD = 6.3), and the mean years of education was 12

(SD = 3.3). Females constituted 50%. Final cognitive diagnoses were: dementia - 49 individuals (48%; of which 63% with Alzheimer’s type, 8% with vascular dementia, 10% with mixed type, 19% with other type dementia), mild cognitive impairment (MCI) - 36 individuals (35%) and no cognitive impairment (NCI) - 17 individuals (17%). Mean MMSE score in the total group was 26.37 (SD = 2.27), and 24.81 (SD = 1.79) in the dementia group, 27.6 (SD = 1.76) in the MCI group, 28.12 (SD = 1.36) in the NCI group. The mean total CAMCOG-R scores in the total sample were 82.73 (SD = 9.36), with 76.31 (SD = 7.96) in the dementia group, 86.25 (SD = 5.38) in the MCI group, and 93.41 (SD = 5.04) in the NCI group. The one-way Analyses of Variance (ANOVA) revealed significant group effects on the MMSE score (F (2)=37.8, p<0.001) and the CAMCOG-R total score (F (2)=48.6, p<0.001).

RESULTS

Table 1 shows that the total sample was almost equally divided into persons who received a psychiatric diagnosis or demonstrated DSM-IV predominant psychiatric features in dementia, and persons who had no psychiatric diagnosis. Most individuals within the dementia group did not receive any additional psychiatric functional diagnosis, and predominant psychiatric features (mostly depressive with or without anxiety) were found in under half (43%) of this group. In the MCI and NCI groups, DSM-IV psychiatric diagnoses were found in 61% and 59% of the sample, respectively. Within the MCI group, categories suggested for possible inclusion in DSM-IV, such as minor depressive

Table 1. Psychiatric Diagnoses and Predominant Features

	Dementia (n=49)	MCI (n=36)	NCI (n=17)	Total (n=102)
No psychiatric diagnosis	28 (57%) ^a	14(39%)	7(41%)	49(48%)
Total psychiatric diagnoses	21(43%)	22(61%)	10(59%) ^b	53(52%)
Major depressive disorder (MDD)	-	5(22.7%)*	3(30%)*	8(15%)*
Dysthymic disorder	-	2(9%)*	-	2(3.7%)*
Bipolar disorder	-	1(4.5%)*	-	1(1.9%)*
Post traumatic stress disorder (PTSD)	-	1(4.5%)*	1(10%)*	2(3.7%)*
Generalized anxiety disorder	-	-	1(10%)*	1(1.9%)*
Anxiety disorder NOS	-	1(4.5%)*	1(10%)*	2(3.7%)*
Adjustment disorders ^c	-	1(4.5%)*	5(50%)*	6(11.3%)*
Minor depressive disorder	-	5(22.7%)*	-	5(9.4%)*
Mixed anxiety-depressive disorder	-	6(27.2%)*	-	6(11.3%)*
Dementia predominant psychiatric features:				
With delusions	2(9.5%)*	-	-	2(3.7%)*
With depressed mood	15(71.4%)* ^d	-	-	15(28%)*
With behavioral disturbance	4(19%)*	-	-	4(7.5%)*

Abbreviations

MCI-Mild cognitive impairment; NCI-No cognitive impairment; NOS-Not otherwise specified. Dash indicates the absence of a specific psychiatric diagnosis/feature.

*Out of total psychiatric diagnoses in each diagnostic group.

Notes

^aDenotes uncomplicated dementia.

^bOne person had two psychiatric diagnoses (adjustment disorder and PTSD).

^cWith the following subtypes: MCI – 1 with both depression and anxiety; NCI – 3 with depression, 1 with anxiety, 1 with both.

^dIncludes 4 persons with predominant depression and anxiety and 2 with predominant anxiety. DSM-IV offers no separate classification for dementia and anxiety, hence included under depression.

disorder and mixed anxiety-depressive disorder accounted for 50% of psychiatric diagnoses. This group included 1 person with Major Depressive Disorder (MDD) with psychosis in partial remission and 1 person with bipolar disorder in remission. Within the NCI group, adjustment disorders prevailed. MDD was almost equal in frequency in the MCI and NCI groups. Thus, diagnoses suggesting psychosis and behavioral disturbance were noted in a minority of individuals in our MCI sample compared with the dementia group (4.5% vs 28.6%). In the MCI group minor mood disorders (dysthymic, adjustment, minor depressive and mixed-anxiety depressive disorders) were more common than major depression (63.4% vs 22.7%).

DISCUSSION

We investigated the nosology and prevalence of psychiatric diagnoses in a sample of subjects with suspected MCI seen at a specialized outpatient psycho-geriatric setting. The sample in total demonstrated reasonable performance on the cognitive tasks (mean scores for both tests above the published cut-off points for dementia), hence a suspected MCI diagnosis. However, a second in-depth evaluation led to reclassification of the original working diagnosis into dementia, MCI and NCI groups.

Psychiatric diagnoses were frequent in all three groups and highest in the MCI group (61%). This finding is congruent with the significant amount of psychiatric symptoms/syndromes reported in this disorder [2, 3, 6-11,14]. However, the nature of the psychiatric diagnoses was qualitatively different in the three groups. In the NCI group the psychiatric diagnoses were minor traditional diagnoses (e.g., mostly adjustment disorders which might explain some diagnostic shifts during the diagnostic work-up from suspected MCI to NCI). In the MCI group suggested new minor diagnoses were significant, whereas in the dementia group predominant psychiatric features were found, though they did not amount to a full functional psychiatric diagnosis. It has been suggested [8, 19] that neuropsychiatric symptoms in MCI are quantitatively and qualitatively intermediate to that of healthy participants and those with dementia, and are therefore reminiscent of the clinical, neuroimaging and neuropsychological profile of MCI [19]. However this statement is true with regard to dementia of the Alzheimer type, amnesic MCI, and controls who are essentially free of any disturbances whatsoever. This is not the situation concerning our sample in which dementia etiology was heterogeneous and the NCI group was defined on the basis of cognitive functioning rather than on the exclusion of other disorders. Thus, we cannot commit as for the "intermediacy" of the MCI group concerning the psychiatric diagnoses.

Our findings concerning the low prevalence of diagnoses suggesting psychosis in MCI are in accordance with Chan *et al.* [2] and with Lopez *et al.* [3], both studies having demonstrated lower prevalence of psychosis and disruptive behavior in MCI compared with dementia patients, as well as with Lyketsos *et al.* [8] and Geda *et al.* [19] who reported symptoms of psychosis (delusions, hallucinations) and of disruptive behavior to be significantly lower in MCI compared with mild Alzheimer disease patients, albeit higher than in normal controls [19] and in MCI compared with dementia [8]. Similarly, minor depression was reported to be more

prevalent in MCI than major depression, both in a clinical sample (26.5% vs 19.6% [11]) and in a community sample (17.2% vs 3.4% [14]), and this was the case in the present study as well (63.4% vs 22.7%). The above stands for the minor nature of the psychiatric diagnoses we found among MCI subjects.

As for limitations of this study: First, the number of subjects in the total sample and in each diagnostic group was relatively small; Second, the study population was biased toward those subjects and caregivers cooperative enough to undertake prolonged cognitive assessment, as well as to those subjects in which demographics (schooling, fluency in language), sensory (appropriate sight and hearing capacity), physical (motor ability), and psychiatric conditions, are favorable for inclusion in such an assessment; Third, the definition of cognitive impairment we used differs from other psychometric definitions of MCI in which more stringent cut-points were used (e.g., -1.5 SD [3], -1 SD, beneath the 16th percentile [20]). Fourth, the use of the entire DSM-IV multi-axial assessment would have probably provided us with a more comprehensive view of subjects and their ailments.

Even-though these limitations preclude generalization of our findings, the current work nonetheless demonstrates that psychopathology, expressed in clinical diagnoses, is common, heterogeneous and mostly mild in MCI. This might have repercussions regarding the psychiatric treatment of MCI. In fact, psychiatric diagnoses more than mere symptoms/syndromes should be evaluated in order to provide proper management of the MCI patient. The relationship between psychiatric symptoms, syndromes and full diagnoses in MCI warrants further investigation.

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