International Psychogeriatrics (2010), 22:1, 37–42 © International Psychogeriatric Association 2009
doi:10.1017/S1041610209991013

REVIEW

The concept of dementia: retain, reframe, rename or replace?

Alexander F. Kurz[1] and Nicola T. Lautenschlager[2]

[1]*Department of Psychiatry and Psychotherapy, Technical University Munich, Germany*
[2]*Academic Unit for Psychiatry of Old Age, University of Melbourne, Australia and School of Psychiatry and Clinical Neurosciences and WA Centre for Health and Ageing, University of Western Australia, Australia*

ABSTRACT

From antiquity the term "dementia" has denoted a state of severe acquired intellectual deterioration which significantly interferes with the fulfillment of personal, social or occupational roles, and makes the individual dependent on care and supervision by others. The medical concept of dementia refers to a pattern of cognitive and behavioral symptoms which typically arises from chronic and often progressive brain diseases. The quantitative expression of this pattern shows broad variability, and some patients fall within the boundaries of the concept whose intellectual and functional abilities are only mildly impaired. On the other hand, the concept currently has an unduly narrow qualitative bandwidth, because it is modeled after the subtype which occurs in Alzheimer's disease but does not represent a good fit for other important subtypes. In the authors' view, the concept of dementia should be retained despite its limitations, since it has an important role in directing the physician's attention to a certain group of underlying pathologies. This diagnostic role of the concept will remain important in primary care even if biological indicators for one or several etiologies will become part of the diagnostic routine in research units in the future. The medical construct has further value since it entitles patients to medical treatment, social assistance and legal protection. Although in our opinion the concept of dementia does not need to be replaced, upcoming revisions of the psychiatric classification systems will have to reframe it by emphasizing the heterogeneity of the psychopathological symptom pattern. In view of the increasing importance of early diagnosis and treatment, however, the term "dementia", which literally means "absence of mind", is no longer an appropriate and timely designation for the broad range of cognitive and behavioral limitations covered by the concept. It should be renamed, using a terminology which accommodates scientific advance and meets the requirements of medical communication while preserving the benefits for patients and their families.

Key words: dementia, concept, nomenclature, classification

Introduction

Theoretical concepts in medicine reflect the knowledge and thinking of a particular time and are subject to change as the field advances. For example, the concepts of "neurosis" and "psychosis" have been dismissed from psychiatric classification because these constructs imply etiological assumptions which have been refuted by research, and because these constructs suggest a dichotomy which is no longer helpful as a fundamental organizing principle (Beer, 1996). Similarly, the usefulness and appropriateness of the concept of dementia is called into question by progress in research. In specialized units such as memory clinics patients may receive a diagnosis of dementia at a stage of their illness where they still retain much of their intellectual capacity and functioning on everyday activities. Refined neuropsychological assessments in conjunction with laboratory tests and imaging technologies enable physicians to identify neurodegenerative brain diseases before they manifest as dementia. Furthermore, a number of brain diseases are being recognized as important causes of cognitive deterioration for which the current concept of dementia is not a good fit, because it is shaped by the subtype of Alzheimer's disease. In the present paper we discuss whether, in the light of these developments, dementia is still a valuable concept or whether it should now be abandoned.

Correspondence should be addressed to: A. F. Kurz, Klinikum rechts der Isar, Technische Universität München, Moehlstrasse 26, D-81675 Munich, Germany. Phone: +49-89-4140-4285; Fax: +49-89-4140-4923. Email: alexander.kurz@lrz.tum.de. Received 28 Jan 2009; revision requested 26 Mar 2009; revised version received 10 Aug 2009; accepted 11 Aug 2009. First published online 9 October 2009.

https://doi.org/10.1017/S1041610209991013 Published online by Cambridge University Press

A brief history of the concept of dementia

Intellectual decline in old age was known in antiquity and was regarded as a social problem rather than a medical matter (Berrios, 1996). According to the statesman Solon and the philosopher Plato, mentally impaired elderly individuals are incapable of making a will and cannot be held accountable for unlawful acts, but are also not eligible for official positions. Thus, from the earliest times, dementia has been associated with reduced civic and legal competence on the one hand, but with entitlement to support and protection on the other. The term "dementia" (Latin: *de mens*), which literally means "absence of mind", is said to have been coined by Aulus Cornelius Celsus in the first century AD and was included in the catalog of mental disorders by Claudius Galenus (AD 129–199). The cognition-centered concept of dementia dates back to Cosin who described it in 1592 as a state of memory weakness which not only involves recent events but also previous knowledge, including the meaning of words and the person's own name. In the nineteenth century, William Cullen defined dementia as a combined impairment of memory, particularly pertaining to recent events, and of judgment. As in the Roman era, dementia carried clear social and legal connotations. It was held to reduce the abilities of patients to enter into contracts, to make a will, to handle their own affairs, to be appointed to public office, and to be criminally responsible (Berrios, 1987). A medical description of dementia that approximates contemporary definitions was provided by the influential French psychiatrist Philippe Pinel (1745–1826). According to him, dementia is characterized by the inability to form associations between ideas, which leads to aimless activity, nonsensical behavior, superficial emotions, memory disorder, impaired perception of objects, reduced judgment, and word-finding difficulty. Psychiatrists in German-speaking countries at that time broadly defined dementia as a combination of impairments in judgment and memory. Some writers emphasized the deterioration of thinking (Christoph Hoffbauer, 1766–1827; Ernst von Feuchtersleben, 1806–1849) while others highlighted the memory component (Wilhelm Griesinger, 1817–1868). Nineteenth-century British psychiatrists, including James Pritchard (1786–1848), considered impairment of memory to be the primary feature of dementia (Berrios and Hodges, 2000). Until the end of the nineteenth century, the concept and the term of dementia were congruent, both referring to a state of acquired intellectual deterioration which significantly interferes with an individual's personal, social and occupational roles.

The transformation of the concept of dementia in psychiatric classification

At the beginning of the twentieth century the distinction between mental disorders caused by identifiable brain diseases and others that lacked a recognizable physical cause became an important issue in psychiatry. For the former category, the German psychiatrist Emanuel Mendel introduced the term "organic" (Mendel, 1902). Attempts were subsequently made to identify symptom patterns within the group of organic mental disorders that were specific to underlying brain diseases. The Swiss psychiatrist Eugen Bleuler contributed the observation that chronic lesions which affect extended areas of the brain are associated with a stereotyped cluster of psychopathological symptoms. He found this peculiar complex of symptoms to be distinct from other organic syndromes such as delirium or amnesia in that it involves multiple domains of cognition including memory, attention, orientation and reasoning but is not associated with clouding of consciousness (Bleuler, 1916). Bleuler considered this symptom cluster to be a basic form of mental illness, but he felt unable to find an appropriate general term for it. As a preliminary label he chose "psycho-organic syndrome", and explicitly avoided the term "dementia" because this would only have covered the severe forms of the syndrome. It is important to note that within the boundaries of its definition, Bleuler's psycho-organic syndrome shows considerable variability. The pattern of cognitive deficits and the relation between cognitive and behavioral symptoms are primarily determined by the localization and dissemination of disease (Huber, 1972), and the syndrome can occur at different levels of severity, from mild to severe.

Consistent with medical tradition, the term "dementia" was used as a descriptor of the severe part of this spectrum in the first two generations of the operational psychiatric classification systems ICD-8 and ICD-9 (World Health Organization, 1978) and DSM-I (American Psychiatric Association, 1952) and DSM-II (American Psychiatric Association, 1968). In the third revision of the DSM (American Psychiatric Association, 1987), however, two major changes were introduced to the concept of dementia. It was expanded to include forms of intellectual impairment which show the typical symptom complex of the diagnostic category at a lesser degree of severity, provided there is some impact on activities of daily living. These are mental states which Bleuler had exempted from his label of "dementia".

On the other hand, the spectrum of cognitive patterns was narrowed to a memory-prominent variant which is typical for dementia in Alzheimer's

https://doi.org/10.1017/S1041610209991013 Published online by Cambridge University Press

disease (AD) but not for intellectual decline of many other etiologies, including cerebrovascular disease, frontotemporal degeneration or subcortical lesions (Derouesné, 2003). Similar to the DSM-III, the definition of dementia in the ICD-10, released in 1994, requires disturbance of memory and encompasses mild degrees of intellectual impairment, provided they interfere with activities of daily living (World Health Organization, 2007).

The transformation of the concept of dementia in psychiatric classification has two major consequences. First, there is a mismatch between the literal meaning of dementia (absence of mind) and the broad range of mental states which are encompassed by the theoretical concept. Individuals can be allocated to the diagnostic category of dementia because they exhibit cognitive deficits and limitations on activities of daily living, but yet have retained much of their intellectual capacity, and are neither helpless nor dependent on others. Secondly, in its present operationalization, the concept imperfectly captures subtypes which do not feature cognitive decline in general, or memory impairment in particular.

The role of the concept for diagnosis

In essence, the concept of dementia covers those chronic disorders which either affect large parts of the brain or areas of strategic importance that are associated with a particular pattern of psychopathological symptoms. The precise distribution of cognitive deficits and behavioral change depends on the localization of the underlying brain disease, but the pattern is sufficiently typical to allow a differentiation between age-associated cognitive decline (O'Connor *et al.*, 1996) and syndromes such as delirium (Laurila *et al.*, 2004), amnesia, aphasia or apraxia, which arise from acute or focal brain diseases. The symptom cluster includes a decline from a previous level of memory and other cognitive domains which interferes with the subject's usual activities of daily living, and it encompasses alterations of emotional and social behavior, all occurring in the context of clear consciousness. The current definition of dementia thus incorporates a qualitative and a quantitative component. The qualitative part is the multifaceted pattern of psychopathological abnormalities, indicating either widespread or strategically positioned brain damage. The quantitative component is the sustained impairment of activities of daily living, which implies that the underlying pathology has exhausted the compensatory capacity of the brain and renders recovery unlikely though not impossible. The quantitative criterion thus limits the list of possible causes to chronic and irreversible brain diseases, with few exceptions. On the other hand, it excludes states of "mild" cognitive impairment (Winblad *et al.*, 2004), which may arise from the same brain pathologies and can exhibit similar psychopathological symptoms, although with fewer functional consequences. Both the qualitative and the quantitative features of the concept of dementia are therefore a significant barrier to the early identification of progressive brain diseases.

Owing to increased public awareness of cognitive problems in old age, more people seek – or are brought to – diagnostic evaluation at an early stage of cognitive decline when they still have available much of their intellectual capacity and functional competence. Applying the label of dementia to these individuals may raise anxiety, anger or frustration (Sachdev, 2000). It also causes discomfort and reluctance in physicians when establishing and disclosing the diagnosis (Burns and Iliffe, 2009).

According to current clinical diagnostic criteria the presence of dementia is a prerequisite for the identification of the underlying etiology. This logic of the diagnostic procedure has been explicitly formulated for AD (McKhann *et al.*, 1984; American Psychiatric Association, 2000; World Health Organization, 2007), cerebrovascular disease (Román *et al.* 1993), frontotemporal degeneration (McKhann *et al.*, 2001), and dementia with Lewy bodies (McKeith *et al.*, 1996). In research settings, the role of dementia for diagnosis will probably be modified by the development of biological indicators for brain pathologies. Presently, such markers are only available for AD. They include biochemical alterations in the cerebrospinal fluid (Hansson *et al.*, 2006), specific patterns of reduced glucose metabolism on 18F-fluorodeoxyglucose positron emission tomography (Mosconi, 2005), and increased amyloid beta deposition (Klunk and Mathis, 2008). Such novel diagnostic procedures may allow clinicians to identify neurodegenerative processes independently of their clinical manifestation, and thus uncouple etiological diagnosis from syndromal diagnosis (Dubois *et al.*, 2007). The presence of dementia would then denote a stage of the disorder at which symptoms have become so severe that activities of daily living are significantly compromised. The validity of biological indicators remains to be demonstrated. Even if proven to be sufficiently accurate, they are unlikely to play a role in primary care where most patients with dementia are being diagnosed and treated.

Since many cognitive abilities and behaviors are sub-served by specific brain areas (Kipps and Hodges, 2006), impairment of these functions provides cues for the identification of the underlying

https://doi.org/10.1017/S1041610209991013 Published online by Cambridge University Press

pathology. The potential of the psychopathological diversity of dementia as a guide to differential diagnosis is constrained, however, by the current definition of the syndrome: it is modeled after AD, over-emphasizes the impairment of memory, and inadequately covers the frontal and subcortical variants of the syndrome (Derouesné, 2003; O'Brien *et al.*, 2003; Lautenschlager and Förstl, 2007).

The role of the concept for patient management

Dementia involves deficits in multiple cognitive domains including memory. It is not a pure cognitive syndrome, since changes of affect and social behavior are key features (Burns, 2009). As a consequence of the profound and pervasive changes in intellectual ability and behavior, affected individuals cannot maintain their premorbid level of functioning and personal autonomy, are unable to fulfill their previous social or occupational roles, and require variable degrees of assistance or supervision. With the rare exception of reversible causes (Clarfield, 2003), patients must cope with permanent or even progressive disability. Accordingly, the management of dementia is a complex task and involves several different kinds of interventions. These need to be integrated in a collaborative system of care and include the patient's family members or other carers (Hogan *et al.*, 2008). Dementia is the prerequisite for prescription of the specific pharmacological treatments that are currently available (Christensen and White, 2007) and, in some countries, a prerequisite for government subsidy schemes. On the other hand, this implies that patients who suffer from cognitive and behavioral deterioration below the threshold of dementia are not entitled to treatment and support. Limitation of functional abilities, reduced personal autonomy, and behavioral changes can provide an indication for and justify the reimbursement of non-pharmacological interventions such as occupational therapy or physiotherapy. For the disease-modifying treatments that are under development, a diagnosis of dementia will not be the only and most appropriate access to pharmacological intervention. Strategies which effectively slow down the progression of neurodegenerative brain diseases should be used in minimally impaired patients with the objective of preventing or delaying severe intellectual and functional deterioration (Sano *et al.*, 2008).

The role of the concept in public health

In the context of public health, dementia refers to the enormous burden for society caused by the dramatically increasing prevalence of severe cognitive impairment in aging societies. Several countries are beginning to prepare for these health and social challenges, and some have developed specific dementia plans. The main objectives of these strategies are to improve knowledge about dementia, provide better education and training for professionals, ensure that people with dementia are properly diagnosed, and develop a range of services for people with dementia and their carers (Howe, 1997; Deutscher-Bundestag, 2002; Burns and Robert, 2009). Although there is increased public awareness of dementia (Low and Anstey, 2009), it still carries a huge stigma (Rimmer *et al.*, 2005; Burns and Iliffe, 2009). Some dementia policy programs therefore prefer the label of "Alzheimer's disease" (Montgomery *et al.*, 2002), as do most patient and carer organizations. An interesting example of re-labeling is provided by a national project in Japan. The word for dementia "chihoushou" (痴呆症), which carries the deprecatory meaning of "stupidity" or "simple-mindedness," was replaced by the more technical term "ninchishou" (認知症) which stands for "disease of knowledge and understanding". This apparently simple change of words and characters has led to more positive ways of responding to the changes of brain aging.

Conclusion

The concept of dementia refers to a major cluster of psychopathological symptoms in organic psychiatry. With few exceptions it arises from chronic or progressive diseases which affect large parts or strategic areas of the brain. We argue that this theoretical construct continues to be valuable both for diagnosis and management, irrespective of the designation attached to it. It is useful for diagnosis because it directs clinicians to an underlying chronic, irreversible or progressive brain disease. The diagnostic role of the concept is not without limitations. First, the association of dementia with a particular group of underlying causes is imperfect, and potentially reversible etiologies must not be overlooked. Second, the concept of dementia is not helpful in the identification of irreversible or progressive brain diseases at a stage of minor symptoms. Such early diagnosis will increasingly become available in research settings through the development of neurobiological indicators of brain pathologies. Third, the concept is currently biased toward the memory-dominant subtype of AD and fits only poorly other subtypes such as frontotemporal degeneration or cerebrovascular disease. This

https://doi.org/10.1017/S1041610209991013 Published online by Cambridge University Press

limitation of the concept could be corrected in future editions of the psychiatric classification systems by emphasizing the psychopathological heterogeneity of the syndrome while retaining the core features of general intellectual decline and clear consciousness.

The concept of dementia also has an important role in patient management. It implies a complex pattern of impairments including cognition, behavior and functional ability, all of which are likely to worsen over time. This means that patients require intensive and long-term support, treatment and, possibly, supervision. The interpersonal concomitants of dementia indicate that in most cases it is not just one person who is affected by it but a social group. Dementia involves patients' needs as well as benefits in terms of specific treatments and services. On the other hand, the approval of specific medications such as cholinesterase inhibitors for dementia in AD and Parkinson's disease precludes the use of these drugs in individuals who have these diseases but are still at a pre-dementia stage.

For these reasons we conclude that the medical concept of dementia is still useful but requires amendment. We feel that a change in terminology is timely. The word "dementia" is not an appropriate term for a syndrome which in current medical usage encompasses a broad spectrum of clinical severity including minor degrees of intellectual impairment. The label is particularly gloomy and distressing for patients who are still capable of managing their lives, and it causes reluctance in physicians when establishing and disclosing the diagnosis. A new nomenclature will also be needed to keep pace with advancements in science. Diagnosis and treatment will increasingly shift to stages of brain disease that are some distance from the final stages of severe intellectual deterioration and functional disability where the label of dementia might be considered appropriate (Derouesné, 2003; Trachtenberg and Trojanowski, 2008). Novel wording should also reflect the qualitative and quantitative heterogeneity of the syndrome, avoiding an undue emphasis on its cognitive components (Chiu, 1999). A new name for the spectrum of cognitive and behavioral impairment with clear consciousness must, of course, preserve the benefits for patients and carers that are currently associated with dementia.

While much may be gained from a novel terminology, little will be lost. The term dementia has met with increased public awareness but it is still fraught with stigma. Campaigns and national programs that are using the term could probably be as effective if they applied alternative verbal designations, as can be learnt from organizations and campaigns which sail under the flag of Alzheimer's disease.

Conflict of interest declaration

Nicola T. Lautenschlager is a Deputy Editor of *International Psychogeriatrics*.

Description of authors' roles

Both authors contributed to the preparation and writing of the paper.

Acknowledgment

The authors gratefully acknowledge the Japanese linguistic advice received from Friedrich A. Kurz.

References

American Psychiatric Association (1952). *Diagnostic and Statistical Manual, Mental Disorders*. Washington, DC: American Psychiatric Association.

American Psychiatric Association (1968). *Diagnostic and Statistical Manual of Mental Disorders* (2nd edn). Washington, DC: American Psychiatric Association.

American Psychiatric Association (1987). *Diagnostic and Statistical Manual of Mental Disorders* (3rd edn). Washington, DC: American Psychiatric Association.

American Psychiatric Association (2000). *Diagnostic and Statistical Manual of Mental Disorders DSM-IV-TR* (4th edn; text revision). Washington, DC: American Psychiatric Association.

Beer, M. D. (1996). The dichotomies: psychosis/neurosis and functional/organic: a historical perspective. *History of Psychiatry*, 7, 231–255.

Berrios, G. E. (1987). Dementia during the seventeenth and eighteenth centuries: a conceptual history. *Psychological Medicine*, 17, 829–837.

Berrios, G. E. (1996). *The History of Mental Symptoms: Descriptive Psychopathology since the Nineteenth Century*. Cambridge: Cambridge University Press.

Berrios, G. E. and Hodges, J. R. (2000). *Memory Disorders in Psychiatric Practice*. Cambridge: Cambridge University Press.

Bleuler, E. (1916). *Lehrbuch der Psychiatrie*. Berlin: Springer.

Bundesministerium für Familie, Senioren, Frauen und Jugend (2002). *Vierter Bericht zur Lage der älteren Generation in der Bundesrepublik Deutschland: Risiken, Lebensqualität und Versorgund Hochaltriger – unter besonderer Berücksichtigung demenzieller Erkrankungen.* Berlin: Bundesministerium für Familie, Senioren, Frauen und Jugend.

Burns, A. (2009). Another nail in the coffin of the cognitive paradigm of dementia. *British Journal of Psychiatry*, 194, 199–200.

Burns, A. and Iliffe, S. (2009). Dementia. *BMJ*, 338, b75.

Burns, A. and Robert, P. (2009). The National Dementia Strategy in England. *BMJ*, 338, n931.

Chiu, E. (1999). What's in a name – dementia or dysmentia? *International Journal of Geriatric Psychiatry*, 9, 1–4.

https://doi.org/10.1017/S1041610209991013 Published online by Cambridge University Press

Christensen, M. D. and White, H. K. (2007). Dementia assessment and management. *Journal of the American Medical Directors Association*, 8(Suppl. 2), S89–S98.

Clarfield, A. M. (2003). The decreasing prevalence of reversible dementias. *Archives of International Medicine*, 163, 2219–2229.

Derouesné, C. (2003). What is dementia? 2. A fuzzy construct. *Psychologie and Neuropsychiatrie du Vieillissement*, 1, 15–24.

Dubois, B. *et al.* (2007). Research criteria for the diagnosis of Alzheimer's disease: revising the NINCDS-ADRDA criteria. *Lancet Neurology*, 6, 734–746.

Hansson, O. *et al.* (2006). Association between CSF biomarkers and incipient Alzheimer's disease in patients with mild cognitive impairment: a follow-up study. *Lancet Neurology*, 5, 228–234.

Hogan, D. B. *et al.* (2008). Diagnosis and treatment of dementia. 4. Approach to management of mild to moderate dementia. *Canadian Medical Association Journal*, 179, 787–793.

Howe, A. L. (1997). From states of confusion to a national action plan for dementia care: the development of poicies for dementia care in Australia. *International Journal of Geriatric Psychiatry*, 12, 165–171.

Huber, G. (1972). Klinik und Psychopathologie der organischen Psychosen. In K. P. Kisker, J. E. Meyer, M. Müller and E. Strömgren (eds.), *Psychiatrie der Gegenwart* (II, 2, 71–146). Berlin: Springer.

Kipps, C. M. and Hodges, H. R. (2006). Cognitive assessment for clinicians. *Journal of Neurology, Neurosurgery and Psychiatry*, 76 (Suppl. 1), i22–i30.

Klunk, W. E. and Mathis, C. A. (2008). The future of amyloid-beta imaging: a tale of radionuclides and tracer proliferation. *Current Opinion in Neurology*, 21, 683–687.

Laurila, J. V. *et al.* (2004). Detection and documentation of dementia and delirium in acute geriatric wards. *General Hospital Psychiatry*, 26, 31–35.

Lautenschlager, N. T. and Förstl, H. (2007). Personality change in old age. *Current Opinion in Psychiatry*, 20, 62–66.

Low, L. F. and Anstey, K. J. (2009). Dementia literacy: recognition and beliefs on dementia of the Australian public. *Alzheimer's Dementia*, 5, 43–49.

McKeith, I. *et al.* (1996). Consensus guidelines for the clinical and pathological diagnosis of dementia with Lewy bodies (DLB): report of the consortium on DLB international workshop. *Neurology*, 47, 1113–1124.

McKhann, G. *et al.* (1984). Clinical diagnosis of Alzheimer's disease: report of the NINCDS-ADRDA work group under the auspices of Department of Health and Human Services Task Force on Alzheimer´s Disease. *Neurology*, 34, 939–944.

McKhann, G. M. *et al.* (2001). Clinical and pathological diagnosis of frontotemporal dementia. *Archives of Neurology*, 58, 1803–1809.

Mendel, E. (1902). *Leitfaden der Psychiatrie*. Stuttgart: Enke.

Montgomery, R. J. *et al.* (2002). Weighing the success of a national Alzheimer's disease service demonstration. *Journal of Aging Social Policy*, 14, 119–139.

Mosconi, L. (2005). Brain glucose metabolism in the early and specific diagnosis of Alzheimer's disease. FDG-PET studies in MCI and AD. *European Journal of Nuclear Medicine and Molecular Imaging*, 32, 486–510.

O'Brien, J. T. *et al.* (2003). Vascular cognitive impairment. *Lancet Neurology*, 2, 89–98.

O'Connor, D. W. *et al.* (1996). Cross-national interrater reliability of dementia diagnosis in the elderly and factors associated with disagreement. *Neurology*, 47, 1194–1199.

Rimmer, E. *et al.* (2005). Implications of the Facing Dementia Survey for the general population, patients and caregivers across Europe. *International Journal of Clinical Practice*, 59 (Suppl. 146), 17–24.

Román, G. C. *et al.* (1993). Vascular dementia: diagnostic criteria for research studies: report of the NINDS-AIREN International Workshop. *Neurology*, 43, 250–260.

Sachdev, P. (2000). Is it time to retire the term "dementia"? *Journal of Neuropsychiatry and Clinical Neuroscience*, 12, 276–279.

Sano, M. *et al.* (2008). Preventing Alzheimer's disease: separating fact from fiction. *CNS Drugs*, 22, 887–902.

Trachtenberg, D. I. and Trojanowski, J. Q. (2008). Dementia: a word to be forgotten. *Archives of Neurology*, 65, 593–595.

Winblad, B. *et al.* (2004). Mild cognitive impairment: beyond controversies, towards a consensus. Report of the International Working Group on Mild Cognitive Impairment. *Journal of International Medicine*, 256, 240–246.

World Health Organization (1978). *Mental Disorders: Glossary and Guide to their Classification in Accordance with the Ninth Revision of the International Classification of Diseases*. Geneva: World Health Organization.

World Health Organization (2007). *International Statistical Classification of Diseases and Related Helath Problems, 10th Revision*. Geneva: World Health Organization.

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