



an Ounce of Prevention

ALZHEIMER'S PREVENTION THROUGH DELAY

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NEW ALZHEIMER'S DISEASE FACTS AND FIGURES AVAILABLE

2008 Alzheimer's Disease Facts and Figures by Alzheimer's Association has published in *Alzheimer's & Dementia*. New figure show that:

- As many as 5.2 million people in US are living with AD
- 10 million baby boomers (18%) will develop AD
- AD is the 7th leading cause of death
- The direct and indirect cost of AD and other dementia amount to more than \$148 billion a year

Also the figure includes comprehensive statistics on prevalence, mortality, a cost of AD care, family care giving and lifetime risk of developing AD. Full document is available at Alzheimer's Association www site at http://www.alz.org/alzheimers_disease_facts_figures.asp.

PREVENTION HIGHLIGHT

Reaction to a Dementia Diagnosis

The many benefits of an early dementia diagnosis include timely initiation of effective treatment and active participation in the future planning of personal affairs. Although early diagnosis can be helpful to individuals struggling to comprehend emerging cognitive difficulties, many clinicians feel that discussion or disclosure of a possible diagnosis may cause unnecessary distress to patients. Therefore, many clinicians opt to wait for dementia to progress into more serious stages prior to making a definite diagnosis.

A recent study, which examined the psychological effects of receiving a dementia diagnosis, found that reactions to diagnoses were much less severe than what has been feared by clinicians and others involved in impaired patient's lives. In general, rather than increasing in severity, symptoms of depression and anxiety remained stable or even decreased following a diagnosis of dementia. Receiving an official diagnosis gave patients feelings of relief due to the fact that they were now able to address a specific problem. Patients were thus motivated to learn about what treatments were available and how to approach their illness.

These findings provide additional rationale for clinicians to rigorously monitor cognitive health and to strive toward early diagnoses of dementia.

Carpenter BD, et al. JAGS. 2008; 56:405–12.

RESEARCH UPDATES

Prevalence of AD in Adult Children of Persons with AD

A study examining the prevalence of Alzheimer Disease (AD) in persons whose parents both endured the disease found that 22.6% of the adult children, with a mean age of 62 years, had developed AD. In the general population of persons older than 65 years, 6–13% of persons develop AD. Since there is a greater risk for developing the illness after age 65, it is probable that the findings underestimate the actual prevalence of the disease in offspring of two individuals with AD.

Jayadev S. et al. Arch. Neurol. 2008; 65(3):373–378.

Coffee and Its Protective Effect on the Brain

High levels of serum cholesterol and disruptions of the blood brain barrier (BBB) have all been implicated as underlying mechanisms in the pathogenesis of Alzheimer's disease. However, the protective mechanisms of caffeine are not well understood.

Using rabbits, researchers from University of North Dakota School of Medicine and Health Science examined a protective effect of chronic ingestion of caffeine against high cholesterol diet-induced disruptions of the BBB. They gave rabbits 3 mg caffeine each day – the equivalent to one cup of coffee, and rabbits were fed a cholesterol-enriched diet. After 12 weeks, rabbits with caffeine showed significantly more intact the blood-brain barrier (BBB) compared to the one without caffeine.

Chen Z et al. J. Neuroinflamm. 2008, 5:12.

A Large Abdomen In Midlife Increases the Risk of Dementia

Researchers from Kaiser Permanente have evaluated the association between midlife central obesity and risk of dementia three decades later.

A longitudinal analysis was conducted of 6,583 members of Kaiser Permanente of Northern California who had their sagittal abdominal diameter (SAD) measured between 1964 to 1973. Diagnoses of dementia were based on medical records an average of 36 years later between 1994 and 2006. Cox proportional hazard models adjusted for age, sex, race, education, marital status, diabetes, hypertension, hyperlipidemia, stroke, heart disease, and medical utilization were conducted.

The study found that a total of 1,049 participants (15.9%) were diagnosed with dementia. Compared with those in the lowest quintile of SAD, those in the highest had nearly a threefold increased risk of dementia. Those with high SAD (>25 cm) and normal BMI had an increased risk while those with low SAD (<25 cm) and normal BMI (18.5–24.9 kg/m²). Those who with obese (BMI >30 kg/m²) and with high SAD had the highest risk of dementia.

Whitmer RA, et al. Neurology. 2008: March 26 e-Publication.

Alcohol, Caffeine and Mortality

In the early 1980s, a health survey was mailed to residents of Leisure World, a retirement community in Southern California. The 13,978 people who completed the survey became members of the Leisure World Cohort Study. Since then, these participants have been followed by periodic re-survey.

Recently available longitudinal studies of these participants analyzed the relationships between mortality and the consumption of caffeine, alcohol and other non-alcoholic drinks.

Paganini-Hill et al. from the University of Southern California and UC Irvine examined the effect of alcohol intake on all-causes of mortality in the cohort over the period of 23 years. They found that both men and women who drank alcohol had decreased mortality compared with non-drinkers. Those who consumed two or more drinks per day had a 15% reduced risk of death, and the reduced risk was not limited to one type of alcohol. They also examined the effect of non-alcoholic beverage and caffeine consumption including coffee, tea, mild, soft drinks, and chocolate. Caffeine consumption exhibited a U-shaped mortality curve. Moderate caffeine consumers had a significantly reduced risk of death. Persons who drank more than 1 can/week of an artificially sweetened, but not sugar-sweetened soft drink (cola and other) had an 8 % increased risk. Neither milk nor tea had a significant effect on mortality after multivariable adjustment.

Paganini-Hill A. et al. Preventive Medicine. 2007; 44: 305-10.

Paganini-Hill A. et al. Age and Ageing. 2007; 36: 203-9.

Diabetes Increases Risk for Alzheimer's Disease

Glycemic dysregulation has been found to cause damage to vessels as well as neuronal and non-neuronal pathways in the brain. Hyperglycemia may lead to degeneration of hypothalamic and hippocampal neurons. Researchers have examined data from the Cardiovascular Health Study (CHS) Cognition Study (1992-2000) to identify a joint effect of having type 2 diabetes and ApoE4 on the risk of AD, AD with vascular dementia (mixed AD), and vascular dementia without AD.

Compared with those who had neither type 2 diabetes nor ApoE4, those with both factors had a significantly higher risk of AD (hazard ratio, 4.58; 95% confidence interval, 2.18-9.65) and mixed AD (hazard ratio, 3.89; 95% confidence interval, 1.46-10.40). These data suggest that having both diabetes and ApoE4 increases the risk of dementia, especially for AD and mixed AD.

Irie F. et al. Archives of Neurology. 2008; 65(1): 89-93.