

research highlights

Salad Eaters More Likely to Achieve High Nutrient Levels, but Few Are Biting

REGULAR SALAD EATERS are significantly more likely to achieve high nutrient levels in the bloodstream and meet recommended dietary allowances (RDA) for vitamin C, according to a UCLA School of Public Health/Louisiana State University epidemiologic study.

Published in the September edition of the peer-reviewed *Journal of the American Dietetic Association*, the study analyzed dietary data on more than 17,500 men and women and found that consumption of salad and raw vegetables correlates with higher concentrations in the bloodstream of folic acid, vitamins C and E, lycopene and alpha and beta carotene. The study also found that each serving of salad consumed correlates with a 165% higher likelihood of meeting the RDA for vitamin C in women and 119% greater likelihood in men.

This was the first study to examine the relationship between normal salad consumption and nutrient levels in the bloodstream, and also the first to examine the dietary adequacy of salad consumption using the latest nutritional guidelines of the Food and Nutrition Board of the National Academy of Sciences. The findings blunt concerns about the human body's ability to absorb nutrients from raw vegetables, as well as concern that the structure and characteristics of some plants undercut nutritional value.

"The consistently higher levels of certain nutrients in the bloodstream of salad-eaters suggest these important components of a healthy diet are being well-absorbed from salad," says Dr. Lenore Arab, visiting professor of epidemiology at the UCLA School of Public Health and co-author of the study with Dr. L. Joseph Su, assistant professor at the LSU School of Public Health. "The findings endorse consumption of salad and raw vegetables as an effective strategy for increasing intake of important nutrients."

Arab and Su found that daily salad consumption is not the norm in any group, and is particularly uncommon among African Americans. "We have so many food choices in this country," Arab says. "Increasing vegetable consumption is a wise strategy for composing a nutrient-rich diet. In fact, our findings suggest that eating just one serving of salad or raw vegetables per day significantly boosts the likelihood of meeting the recommended daily intake of certain nutrients."

The study examined the relationship between reported salad consumption and blood serum nutrient levels, as well as dietary adequacy in pre- and post-menopausal women and men of comparable ages. The research team analyzed dietary data from 9,406 women and 8,282 men ages 18-45 and 55-plus contained in the National Health and Nutrition Examination Survey III conducted in 1988-1994. Salad consumption was based on reported intake of salad, raw vegetables and salad dressing.



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Hypertension Risk Grows as Work Hours Increase

UCLA AND UC IRVINE RESEARCHERS have published the first evidence suggesting that self-reported hypertension increases the more hours per week that workers put in, with those who clock more than 50 hours a week being 29% more likely to report hypertension than those who work fewer than 40. Publishing in the journal *Hypertension*, the researchers also reported that nearly one in five working Californians said they log more than 50 hours a week.

The research team from the UCLA and UC Irvine Centers for Occupational and Environmental Health used data from the California Health Interview Survey (based in the UCLA School of Public Health) to study the role played by the work environment in causing hypertension and coronary artery disease. The survey responses of 24,205 working California adults were analyzed.

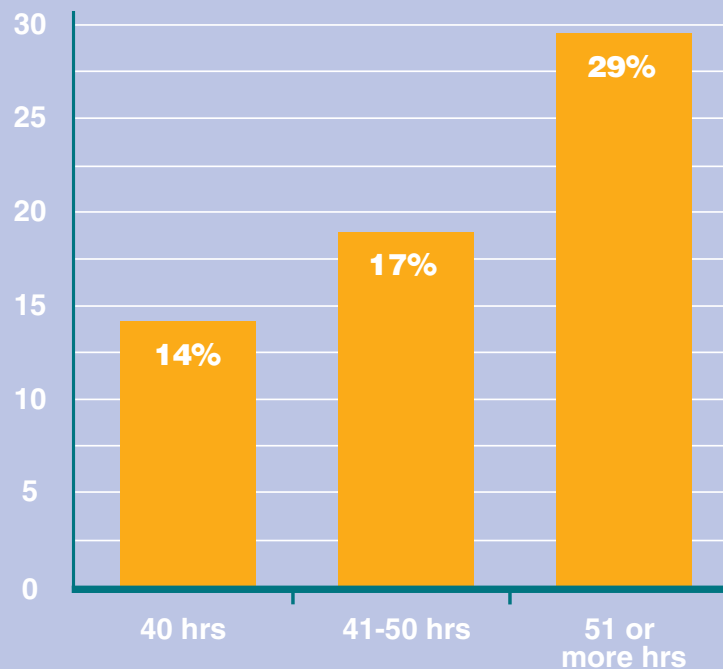
Previous research has shown that by the age of 60, three of five American workers will have developed hypertension, a major risk factor for stroke and cardiovascular disease.

“Work can negatively impact our health, an impact that goes well beyond the usual counts of injuries and exposure to toxic chemicals that we more commonly associate with occupational health,” says Dr. Peter Schnall, director of the Center for Social Epidemiology, a member of the UCLA Center for Occupational and Environmental Health, and one of the study authors. “It turns out that the way work is organized – its pace and intensity, the space it allows or doesn’t for realizing a sense of self-efficacy and self-esteem, the level of control over the work product or process, the sense of justice or injustice, and job security or growth – can be as benign or ‘toxic’ to the health of workers as the chemicals one breathes in the air.”

It was unclear from the study whether the long working hours per se are responsible for the increased hypertension risk. Based on past findings, the authors estimated that job strain – work characterized by high demands and low control – accounts for one-fourth of all heart disease-related illness and death among working people after controlling for individual risk factors such as personality, diet, obesity, and cigarette smoking. This might explain why clerical and unskilled workers had far higher rates of diagnosed hypertension – 23% and 50%, respectively – than did white-collar workers who worked the same number of hours.

“Tomorrow’s jobs must be deliberately crafted to allow the full development of the human spirit through work that encourages – not discourages – human potential,” says Schnall. “A key characteristic will be the full participation of all working people in the decision-making processes surrounding the organization of work.”

Increased Likelihood of Self-Reported Hypertension When Working 40 or More Hours a Week vs. 11-39 Hours Per Week



Exposure to High Levels of Outdoor Air Pollution Linked to Greater Risk of Death in Infants' First Year

HIGH LEVELS OF OUTDOOR AIR POLLUTION in the South Coast Air Basin of Southern California are associated with increased risk of death during an infant's first year of life, according to the findings of a research team headed by Dr. Beate Ritz, associate professor of epidemiology at the UCLA School of Public Health.

Ritz and colleagues obtained birth and death certificates for infants who died between 1989 and 2000. For every infant who died during that period, they matched 10 living control subjects and estimated average air pollution concentrations for periods preceding each subject's death using data from existing air monitoring stations in the basin.

Their results, published in the journal *Pediatrics*, found links between exposure to carbon monoxide (CO) and particles in the basin and risk of respiratory-related death during the first year of life. Infants exposed to the highest CO levels two weeks prior to death (in the top 25% of exposure) experienced an almost threefold increase in risk of respiratory-related death between the ages of 28 days and three months compared to infants who were exposed to low levels of CO (in the lowest 25%). Infants with the highest particle levels two weeks prior to death had an approximately 40% increase in risk of respiratory-related death during the ages of 4-12 months. Risk of respiratory-related death more than doubled for infants 7-12 months of age who were exposed to high particle levels in the prior six months. Low birth-weight and premature infants appeared to be more susceptible to air pollution-related deaths.

The findings concur with previous studies around the world that have reported associations between air pollution and risk of respiratory-related death in infants.

"Although post-neonatal respiratory-related infant death is rare – about two per 10,000 live births in our study group – the potential for disease prevention through further air pollution abatement may be substantial, since millions of infants are exposed to similar or greater air pollution concentrations worldwide," notes Ritz.

The researchers also estimated that infants with high nitrogen dioxide (NO₂) levels two months before death were 44% more likely to die of Sudden Infant Death Syndrome (SIDS) than those with low NO₂ levels. Previous studies have reported conflicting findings for this outcome, and the mechanisms by which air pollution may act to cause SIDS are still to be uncovered.



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Marriage Lowers Risk of Dying Young; Social Connectedness the Likely Factor

MARRIAGE IS A POWERFUL PREDICTOR OF LIFE EXPECTANCY, with adults who never marry having a 58% higher likelihood of dying early than those who are married and living with their spouse, according to a study headed by Dr. Robert Kaplan, professor and chair of health services at the UCLA School of Public Health.

The study, which used U.S. Census data and death certificates for 67,000 adults between 1989 and 1997 and was published in the *Journal of Epidemiology*

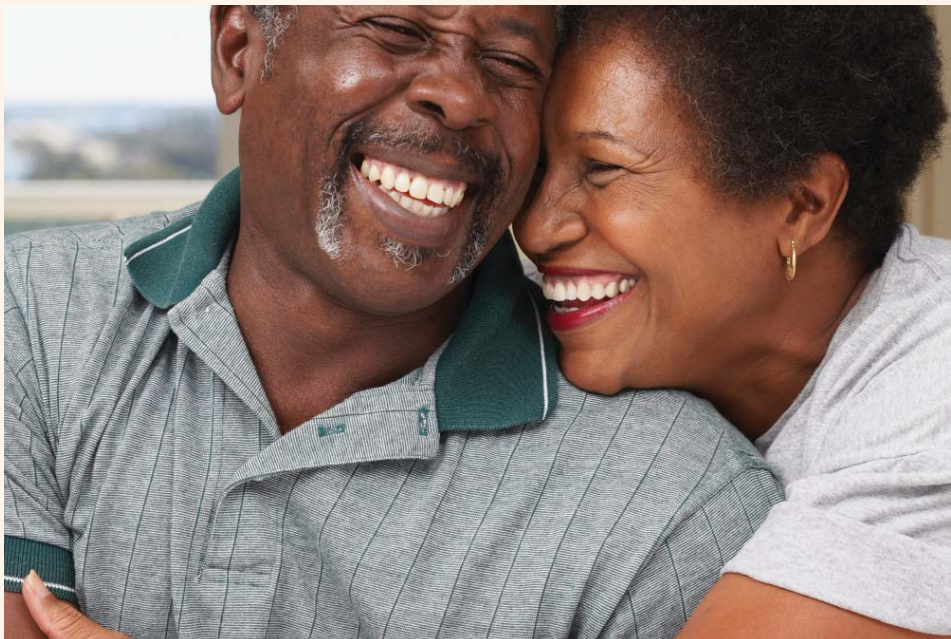
and *Community Health*, also found that widowers were nearly 40% more likely to die than same-aged marrieds during the study period, and that those who had been divorced or separated were 27% more likely to die than married adults in the same age group.

“The risks of being never married rival the risks of having increased blood pressure or high cholesterol,” Kaplan and colleagues concluded.

Kaplan also found that the protective effects of marriage are stronger for men than for women. Bachelors between the ages of 19 and 44 were found to be twice as likely to die as married men in the same age group – an outcome that could not be explained by “risky” behaviors: Unmarried men were only slightly more likely to smoke and less likely to drink alcohol regularly; exercised more; and were less overweight than their married counterparts. The risk of dying early was found to be three times less among never-married women under 35 than it was for never-married men under 35.

While previous research has shown that unmarried adults have a higher probability of early death than adults who are married, this was the first study to differentiate between those who never marry and those who are separated and divorced. The findings associating never having married with the highest probability of early death reinforce the conclusion that social connectedness – more likely with marriage – appears to confer key health benefits, Kaplan says. The study noted that widowed and divorced people are more likely to have children and are thus more likely to be socially connected than never-married adults.

“We showed that the impact of social isolation is not constrained to the elderly,” Kaplan says. “In fact, it is comparatively stronger early in life. This phenomenon may have been overlooked in previous studies because early death is uncommon.” The project evaluated a significantly larger sample than has been used in earlier studies.



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Weight Obsession Can Undermine Motivation to Exercise

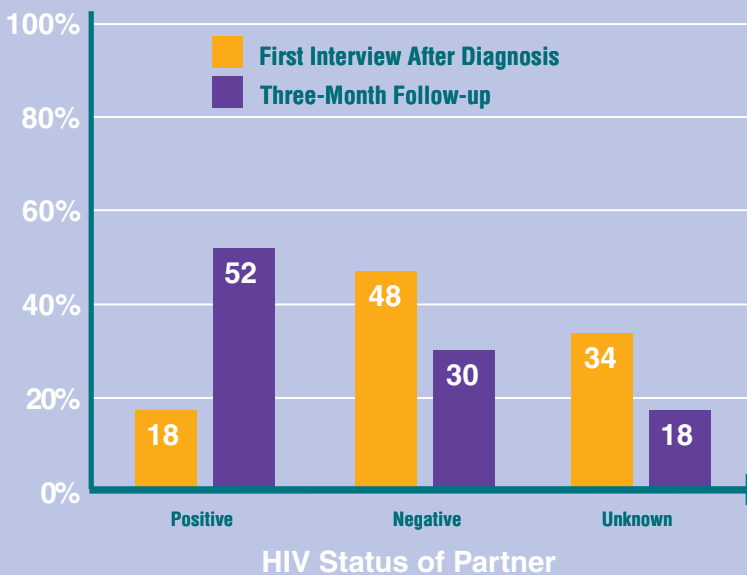
OUR MEDIA AND CULTURAL OBSESSION with achieving a certain weight does little to convince couch potatoes of any size to abandon their favorite sofa cushions and get active, according to a UCLA School of Public Health study. In fact, the study concludes, those messages may actually undermine motivation to adopt exercise and other healthy lifestyle habits.

Publishing in the June edition of the peer-reviewed journal *Obesity*, the research team, headed by Dr. Antronette Yancey, associate professor of health services at the school, found that women are more likely to categorize themselves as overweight than men, both overall and within each ethnic group analyzed. African Americans are least likely and whites most likely to consider themselves overweight. Yancey and colleagues found that even among many adults of average or normal weight – men in particular – a self-perceived weight problem correlates with sedentary behavior.

White women of average weight were the only ethnic-gender group studied in which the proportion of sedentary individuals was not higher among those who consider themselves overweight vs. those who consider themselves average weight, the study showed. White women were also the only ethnic-gender group in which average-weight individuals constitute the majority.

The researchers noted that in addition to cultural expectations, greater access to fitness programs, “walkable” neighborhoods, quality child and elder

Reported HIV Status of Partners of Newly HIV-Infected Men Who Have Unprotected Anal Intercourse with Men



care, and flexible work hours all help make the choice to be active easier for white women overall than for their Latina and African American counterparts.

“These data suggest that our society’s emphasis on weight loss rather than lifestyle change may inadvertently discourage even non-obese people from adopting or maintaining the physical activity necessary for long-term good health,” says Yancey. “All groups may benefit from messages that shift the focus away from a specific target weight and associated calorie counting, and instead promote increased physical activity and healthy eating habits.”

The study used data from the 2002-03 Los Angeles County Health Survey, a random telephone survey conducted by the Los Angeles County Department of Health Services. Among the specific findings:

- The prevalence of overweight and obesity among adult Angelenos by race/ethnicity and gender was fairly typical of national samples. The combined prevalence of overweight and obesity was highest in African Americans and Latinos, intermediate in whites, and lowest in Asians-Pacific Islanders. The pattern was consistent among both men and women within each group.
- 73% of overweight/non-obese and 24% of average-weight women considered themselves overweight, compared with 45% of overweight/non-obese and 6% of average-weight men.
- 41% of overweight/non-obese African Americans identified themselves as overweight, compared with 61% of overweight/non-obese whites.
- Overweight self-perception, vs. average-weight self-perception, correlated with sedentary behavior among average-weight adults (45% vs. 33%), overweight adults (43% vs. 34%), average-weight and overweight men (38% vs. 28%), overweight whites (42% vs. 30%), and African Americans and Latinos (42% vs. 34%).

Newly HIV-Infected Men Who Have Sex With Men Report Reduced Risk Behaviors in First Three Months

NEWLY HIV-INFECTED MEN who have sex with men reported a modest but significant decrease in risk behaviors in the first three months after diagnosis, according to the findings of a study by Dr. Pamina Gorbach, associate professor in residence of epidemiology at the UCLA School of Public Health, and collaborators at UC San Diego’s Antiviral Research Center and Harbor-UCLA Hospital.

Beginning in 2002, the researchers invited individuals being enrolled in an ongoing clinical cohort study of those with acute or early HIV infection in The Southern California Primary Infections Program multi-site NIAID Acute HIV Infection and Early Disease Research Program to complete a computer-assisted self interview approximately six weeks after their HIV diagnosis and then every three months for the first year, and every six months after that. More than 95%

of those interviewed were men who have sex with men (MSM). The researchers were interested in whether these men would change their behavior over time as a result of the diagnosis.

Nearly half reported fewer sexual partners in the three months following their initial interview than in the three previous months. “This suggests that the HIV diagnosis and/or symptomatic illness associated with HIV seroconversion precipitated a drop, although not elimination of transmission risk,” says Gorbach.

In addition to fewer total numbers of partners, significantly fewer anonymous and one-time partners were reported. Unprotected anal intercourse

occurred frequently within the primary partnerships – and more often than in other types of partnerships – raising concerns about transmission within these primary partnerships. The results were published in the *Journal of Acquired Immune Deficiency Syndromes*.

“As access to technologies that allow for detection of early HIV infection increases, new prevention strategies for individuals diagnosed with recent HIV infection that support them in achieving rapid behavior change are urgently needed for those with new partnerships, and especially for those with primary partners, to help them negotiate a balance between protecting that partner and achieving the intimacy perceived to be acquired from unprotected intercourse,” says Gorbach.

The collaboration has continued beyond the results published in the first paper, with more than 240 individuals joining the cohort and some having been followed for more than three years. Gorbach and colleagues are now analyzing data on those who have completed at least one interview after one year or more to see whether the changed behavior reported in the initial study persists beyond the first three months following diagnosis. Other papers on this study are also in press looking at the role of substance use and Internet sex-seeking in risky behavior reported by these men at enrollment.

Correcting Refractive Error Improves Vision-Specific Quality of Life in Older Persons

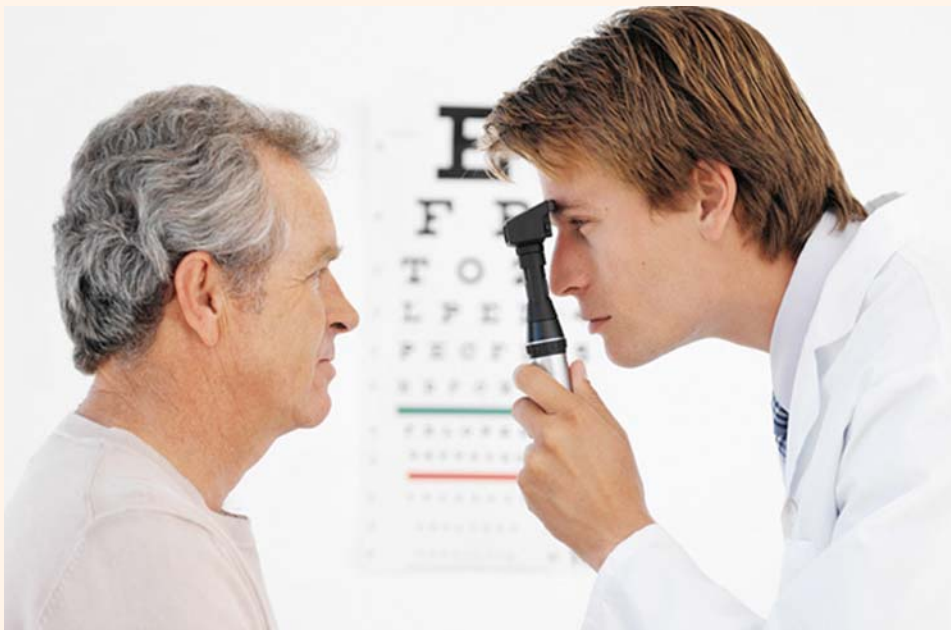
CORRECTION OF UNCORRECTED REFRACTIVE ERROR improves the vision-specific quality of life of community-dwelling older persons, according to the findings of a research team led by Dr. Anne L. Coleman, professor of epidemiology in the UCLA School of Public Health and professor of ophthalmology at UCLA’s David Geffen School of Medicine.

Uncorrected refractive error affects 25%-54% of adults ages 40-80 in the United States and is the most common cause of visual impairment in older individuals. Visual impairment is one of the leading causes of physical decline with aging; if left untreated, it can increase the risk of functional decline, social isolation, falls, hip fractures, accidents, and mortality.

Coleman’s research team screened 1,309 adults at 48 different locations, including senior community centers, senior apartment buildings, senior assisted living facilities, health fairs, and Native American cultural centers in Los Angeles County. The UCLA Mobile Eye Clinic was brought to each location to provide eye examinations for eligible participants, 65 or older, whose distant or near vision could be improved by at least two lines of acuity. Participants were randomized to receive a prescription and voucher for free eyeglasses and/or magnifiers either immediately or after a three-month follow-up visit. Participants were evaluated in their homes three months after randomization.

The study, published in the *Journal of the American Geriatric Society*, found that participants who had received new prescriptions and vouchers for eyeglasses/magnifiers experienced better self-reported general vision, near vision, distance vision, mental health, perceptions of vision-related quality of life, and preservation of independence with activities of daily living, than participants in the group that waited to receive their prescriptions and vouchers.

“Since the correction of uncorrected refractive error in older individuals may improve their vision-related quality of life and help preserve their independence, we may want to rethink our current policies regarding the provision of eyeglasses and/or magnifiers to older individuals,” says Coleman.



Participants who immediately received new prescriptions and vouchers for eyeglasses/magnifiers reported better mental health and preservation of independence with activities of daily living than those who had to wait.