Health & SCIENCE &

Weighing Caffeine's Health Effects

With coffee bars proliferating from Seattle to Boston, and the specialty coffees they feature promising to turn around a decades-long decline in American coffee consumption, the news about coffee's effects on health is surprisingly good.

A substantial amount of research, including several large studies done in the last few years, has turned up very little solid scientific evidence to indict a moderate intake of coffee or caffeine as a serious or even minor health threat.

"Some of the most serious hazards that were linked to caffeine in the past have not panned out," said Dr. James L. Mills, who studies caffeine's effects on pregnancy at the National Institute of Child Health and Human Development in Bethesda, Md.

After peaking in 1962 at 3.12 cups per person a day, coffee consumption endured a 30-year slide in popularity, finally stabilizing in the mid-1990s around 1.7 cups, according to a survey conducted last winter by the National Coffee Association.

Of course, caffeine is also present in black and green teas and in soft drinks. Eighty percent of Americans consume at least one beverage containing caffeine every day, and among Americans over 18, the per capita consumption of caffeine is about 200 milligrams a day.

Mills noted that heavy caffeine consumers - those who drink eight or more five-ounce cups of coffee a day - tend to be "very overworked, driven people who are generally not the best health risks."

For the average healthy person, about the most serious charge sci-

ence can levy against caffeine is that it may be addictive. After 18 to 24 hours, its absence, even in those who consume it moderately, sometimes results in withdrawal symptoms, including severe headaches, fatigue, depression and poor concentration.

Concerns about the effects of caffeine on pregnancy and fetal development also persist.

Despite a score of studies on the relationship between caffeine and a woman's ability to conceive and deliver a full-term, full-size, healthy infant, researchers are still arguing about the reproductive risks of relatively high doses of caffeine before or during pregnancy. All relevant studies have suffered from one or more methodological limitations that might invalidate their findings, scientists say.

And while moderate consumption - usually defined as two to four five-ounce cups of coffee daily - has thus far received a relatively clean bill of health even in people at high risk for developing heart disease or cancer, new studies have linked heavier daily intakes to heart attacks and bone loss in women.

And in men with mild high blood pressure, several recent studies have shown that a significant rise in blood pressure can occur after just two or three cups of coffee, especially if caffeine is consumed before exercising.

Along with these cautionary findings has come encouraging news about caffeine's potential role in weight control.

Caffeine raises the rate at which the body burns calories for three or more hours after it is consumed, according to studies of healthy volunteers of normal weight in Denmark. Just 100 milligrams of caffeine - the amount in one cup of coffee or two cans of cola - can raise the metabolic rate by 3 to 4 percent, and larger intakes raise it even higher. If the consumer also exercises, the caloric burn stimulated by caffeine is greater still. But caffeine is no free lunch for

amount of caffeine - 1.5 milligrams per pound of body weight - had a potent exercise-enhancing effect. Caffeine helps to mobilize body fat and make it available as fuel for exercising muscles, allowing them to work longer before they fatigue.

Caffeine, known chemically as 1,3,7-trimethylxanthine, is one of a

ulant, it makes people feel more alert, temporarily relieves fatigue and promotes quick thinking. Its contrary effects on blood vessels often render it medically useful: it dilates arteries feeding the heart, increasing blood flow, and constricts arteries in the head, helping to counter migraine headaches.

But caffeine is only one, albeit

But caffeine is only one, albeit the best known, of some 500 chemicals in coffee.

Indeed, caffeine was recently absolved of at least one of coffee's reputed ill effects - the ability to raise serum cholesterol levels. That drawback, researchers in the Netherlands say, stems not from caffeine but from the oils in coffee beans that are extracted when the grounds are boiled. Those oils are not a problem when coffee is brewed through a paper filter, because the oils are left behind.

Decaffeinated coffee has lately captured a growing body of devotees who spurn caffeine's stimulating effect but still covet coffee's flavor and social attributes. Yet, research sponsored by the National Institutes of Health and directed by Dr. H. Robert Superko while at Stanford University has suggested that decaffeinated coffee is more likely than its caffeine-rich counterpart to raise levels of artery-damaging LDL cholesterol.

He said this condition may occur because stronger-flavored coffee beans, known as robusta, are typically used to prepare decaffeinated coffee to compensate for the flavor lost in the decaffeinating process. These same beans are used to prepare instant coffees with and without caffeine. But most brewed coffee containing caffeine is prepared from milder arabica beans. This finding has not yet been confirmed by other studies.

Sorting out the health effects of drinking coffee, with or without caffeine, is complicated by the fact that coffee drinkers are, on the whole, a different breed from drinkers of other beverages, including caffeine-containing tea. At least three large studies conducted here and in Europe have shown that coffee drinking, especially at high levels, is associated with behavior that is linked to serious illnesses, like cigarette smoking.

Furthermore, decaf drinkers are different from those who drink coffee with caffeine.

In a study of 2,677 adults by Alan Leviton and Elizabeth N. Allred of Harvard Medical School and Boston Children's Hospital, which was published last year, women who drank only decaffeinated coffee behaved more like women who drank no coffee at all than like women who consumed coffee with caffeine.

Decaf drinkers in the study were more likely than other women to take vitamin supplements, eat vegetables in the cabbage family, use seat belts routinely and exercise regularly. The men who drank decaf exclusively typically weighed less and were more likely to consume a low-fat diet and to eat such vegetables.

To determine whether drinking coffee increases the risk of disease, researchers must take into account many "life style" factors, since these factors and not coffee or caffeine could be responsible.



dieters because it also effects the release of insulin, causing blood sugarto fall, which induces hunger pangs.

Caffeine's ability to bolster physical performance is well known among professional athletes.

A recent study by Dr. Terry Graham and Dr. Lawrence L. Spriet at the University of Guelph in Ontario indicated that even a moderate class of methylxanthine compounds found in 63 plant products, including tea leaves, cocoa beans and coffee beans

Similar to amphetamines but milder in its effects, caffeine stimulates the sympathetic nervous system, which regulates the body's automatic functions.

As a central nervous system stim-

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Breaking Bad Medical News

A majority of elderly people of Korean and Mexican descent would prefer not to be told they suffer from a terminal illness, while African-Americans and European Americans side with knowing the bad news, researchers reported last week.

The ethnic differences over whether physicians should disclose a poor prognosis to a patient was reflective of cultural, and not economic differences, researchers at the University of Southern California in Los Angeles said.

"This finding suggests that physicians should ask their patients if they wish to receive information and make decisions or if they prefer that their families handle such matters," study author Leslie Blackhall wrote.

The study of 800 nursing home residents found that only 35 percent of Korean Americans and 48 percent of Mexican Americans would want to be told of a terminal prognosis.

In contrast, 63 percent of blacks

and 69 percent of whites responded that they would want to be told the bad news.

Koreans and Mexicans were also less inclined to make their own decisions about whether to receive life support, preferring the choice be made by their families, the article in the Journal of the American Medical Association said.

In the same journal, a separate article about the customs of Navajo Indians found that members of the tribe — who have a powerful concept of well-being called "hozho" — want their caregivers to think and speak only positively.

Such cultural differences should be considered by ethical review boards, which are usually made up of doctors and hospital administrators, Lawrence Gostin of the Georgetown/ Johns Hopkins Program on Law and Public Health wrote in an accompanying article.

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