Analysis of Herbal Products Shows Contamination is Common

Most herbal products, available to buy as alternative medicines, may be contaminated (1). Reporting in the journal BMC Medicine researchers demonstrate the presence of contamination and substitution of plant species in a selection of herbal products using DNA barcoding.

There is currently no best practice for identifying plant species in herbal products. Traditionally plants are identified through the appearance of the whole plant. This method is not useful though when analysing processed plant material. DNA barcoding analyzes a short genetic sequence from the plant’s genome and identifies small differences that allows species identification. In this new study the researchers used barcoding to examine the plant species found in a sample of herbal plant products.

The results showed that 59 percent of the products contained plant species not listed on the labels. Over two thirds of the products tested had plant species present which were a substitution for the plants listed on the label and a third of products also contained other species that may be a filler or contamination.

According to the World Health Organization, the adulteration of herbal products is a threat to consumer safety. In this current analysis the researchers detected plant species that could pose serious health risks when consumed. The results revealed plant species with known

Over half of the samples tested contained plant species not listed on the label.

Herbal continued on page 2
Herbal (Continued from page 1)

toxicity, side effects and/or negatively interact with other herbs, supplements, or medications were present in some products.

The authors concluded that the contamination and substitution dilute the effectiveness of otherwise useful remedies, lowering the perceived value of all related products because of a lack of consumer confidence in them. ‘We

Reference:


Source: BioMed Central Press Center; Oct. 11, 2013; http://www.biomedcentral.com/presscenter/pressreleases/20131011q

Red Grapes, Blueberries May Enhance Immune Function

In an analysis of 446 compounds for their the ability to boost the innate immune system in humans, researchers in the Linus Pauling Institute at Oregon State University discovered just two that stood out from the crowd – the resveratrol found in red grapes and a compound called pterostilbene from blueberries.

Both of these compounds, which are called stilbenoids, worked in synergy with vitamin D and had a significant impact in raising the expression of the human cathelicidin antimicrobial peptide, or CAMP gene, that is involved in immune function (1).

The findings were made in laboratory cell cultures and do not prove that similar results would occur as a result of dietary intake, the scientists said, but do add more interest to the potential of some foods to suggest that the herbal industry should embrace molecular diagnostic tools such as DNA barcoding for authenticating herbal products through testing of raw materials used in manufacturing products. This would be a minor cost to industry with a limited amount of bulk product testing, which would certify a high quality, authentic product’, said Dr. Steven Newmaster of the University of Guelph and lead author of the paper.

Source: BioMed Central Press Center; Oct. 11, 2013; http://www.biomedcentral.com/presscenter/pressreleases/20131011q

Reference:


Immune continued on page 3
Improve the immune response.

The research was published in *Molecular Nutrition and Food Research*, in studies supported by the National Institutes of Health.

“Out of a study of hundreds of compounds, just these two popped right out,” said Adrian Gombart, an LPI principal investigator and associate professor in the OSU College of Science. “Their synergy with vitamin D to increase CAMP gene expression was significant and intriguing. It’s a pretty interesting interaction.”

Resveratrol has been the subject of dozens of studies for a range of possible benefits, from improving cardiovascular health to fighting cancer and reducing inflammation. This research is the first to show a clear synergy with vitamin D that increased CAMP expression by several times, scientists said.

The CAMP gene itself is also the subject of much study, as it has been shown to play a key role in the “innate” immune system, or the body’s first line of defense and ability to combat bacterial infection. The innate immune response is especially important as many antibiotics increasingly lose their effectiveness.

A strong link has been established between adequate vitamin D levels and the function of the CAMP gene, and the new research suggests that certain other compounds may play a role as well.

Stilbenoids are compounds produced by plants to fight infections, and in human biology appear to affect some of the signaling pathways that allow vitamin D to do its job, researchers said. It appears that combining these compounds with vitamin D has considerably more biological impact than any of them would separately.

Continued research could lead to a better understanding of how diet and nutrition affect immune function, and possibly lead to the development of therapeutically useful natural compounds that could boost the innate immune response, the researchers said in their report.

Despite the interest in compounds such as resveratrol and pterostilbene, their bioavailability remains a question, the researchers said. Some applications that may evolve could be with topical use to improve barrier defense in wounds or infections, they said.

The regulation of the CAMP gene by vitamin D was discovered by Gombart, and researchers are still learning more about how it and other compounds affect immune function. The unique biological pathways involved are found in only two groups of animals—humans and non-human primates. Their importance in the immune response could be one reason those pathways have survived through millions of years of separate evolution of these species.

Reference:


Source: Oregon State University News Releases; Sep. 17, 2013; http://oregonstate.edu/ua/ncs/archives/2013/sep/red-grapes-blueberries-may-enhance-immune-function
New Research Suggests that High Dietary Intake of Polyphenols are Associated with Longevity

It is the first time that a scientific study associates high polyphenols intake with a 30 percent reduction in mortality in older adults (1). The research, published in *Journal of Nutrition*, is the first to evaluate the total dietary polyphenol intake by using a nutritional biomarker and not only a food frequency questionnaire. Research was conducted by Cristina Andrés Lacueva, Montserrat Rabassa and Mireia Urpí Sardà, from the Department of Nutrition and Bromatology of the UB; Raúl Zamora Ros (ICO-IDIBELL), and experts Antonio Cherubini (Italian National Research Centre on Aging), Stefania Bandinelli (Azienda Sanitaria di Firenze, Italy) and Luigi Ferrucci (National Institute on Ageing, United States).

Polyphenols are naturally occurring compounds found largely in fruits, vegetables, coffee, tea, nuts, legumes and cereals. More than 8,000 different phenolic compounds have been identified in plants. Polyphenols have antioxidant, anti-inflammatory, anticarcinogenic, etc. effects.

The research is based on a 12-year follow-up of a population sample composed by 807 men and women aged 65 or over from Greve and Bagno (Tuscany, Italy), within the InCHIANTI study. The group of the UB analysed the effect of polyphenol-rich diets by means of a nutritional biomarker —the total urinary polyphenol (TUP) concentration— as a proxy measure of intake. To be exact, UB researchers contributes to first literature references on TUP application to epidemiological or clinical studies.

Professor Cristina Andrés Lacueva, head of the Biomarkers and Nutritional & Food Metabolomics Research Group of the UB and coordinator of the study, explains that “the development and use of nutritional biomarkers enables to make a more precise and, particularly, more objective estimation of intake as it is not only based on participants’ memory when answering questionnaire. Nutritional biomarkers take into account bioavailability and individual differences. According to the expert, “this methodology makes a more reliable and accurate evaluation of the association between food intake and mortality or disease risk”.

In conclusion, the research reported that overall mortality was reduced by 30 percent in participants who had rich-polyphenol diets (>650 mg/day) in comparison with the participants who had low-polyphenol intakes (<500 mg/day).

Raúl Zamora Ros, first author of the study, points out that “results corroborate scientific evidence suggesting that people consuming diets rich in fruit and vegetables are at lower risk of several chronic diseases and overall mortality”. Moreover, the research stresses the importance of evaluating — if possible — food intake by using nutritional biomarkers, not only food frequency questionnaires.

The Biomarkers and Nutritional & Food Polyphenols continued on page 5
Polyphenols (Continued from page 4)

Metabolomics Research Group, which participates in the project Fun-C-Food (Consolider Ingenion), collaborates actively with several national and international research groups. It focuses its activity on the analysis of new more effective and sensitive nutritional biomarkers based on the bioavailability of bioactive compounds in food and their activity, in order to associate the intake of certain foods (consumption markers) with their potential effects on people’s health.

Reference:


Excess Omega-3 Fatty Acids Could Lead to Negative Health Effects

A new review suggests that omega-3 fatty acids taken in excess could have unintended health consequences in certain situations, and that dietary standards based on the best available evidence need to be established (1).

“What looked like a slam dunk a few years ago may not be as clear cut as we thought,” said Norman Hord, associate professor in OSU’s College of Public Health and Human Sciences and a coauthor on the paper.

“We are seeing the potential for negative effects at really high levels of omega-3 fatty acid consumption. Because we lack valid biomarkers for exposure and knowledge of who might be at risk if consuming excessive amounts, it isn’t possible to determine an upper limit at this time.”

Previous research led by Michigan State University’s Jenifer Fenton and her collaborators found that feeding mice large amounts of dietary omega-3 fatty acids led to increased risk of colitis and immune alteration (2). Those results were published in Cancer Research in 2010.

As a follow-up, in the journal Prostaglandins, Leukotrienes & Essential Fatty Acids, Fenton and her co-authors, including Hord, reviewed the literature and discuss the potential adverse health outcomes that could result from excess consumption of omega-3 fatty acids (1).

Studies have shown that omega-3s, also known as long chain polyunsaturated fatty acids (LCPUFAs), are associated with lower risk of sudden cardiac death and other cardiovascular disease outcomes.

“We were inspired to review the literature based on our findings after recent publications showed increased risk of advanced prostate cancer and atrial fibrillation in those with high blood levels of

Omega-3 continued on page 6
LCPUFAs,” Fenton said.

Omega-3 fatty acids have anti-inflammatory properties, which is one of the reasons they can be beneficial to heart health and inflammatory issues. However, the researchers said excess amounts of omega-3 fatty acids can alter immune function sometimes in ways that may lead to a dysfunctional immune response to a viral or bacterial infection.

“The dysfunctional immune response to excessive omega-3 fatty acid consumption can affect the body’s ability to fight microbial pathogens, like bacteria,” Hord said.

Generally, the researchers point out that the amounts of fish oil used in most studies are typically above what one could consume from foods or usual dosage of a dietary supplement. However, an increasing amount of products, such as eggs, bread, butters, oils and orange juice, are being “fortified” with omega-3s. Hord said this fortified food, coupled with fish oil supplement use, increases the potential for consuming these high levels.

“Overall, we support the dietary recommendations from the American Heart Association to eat fish, particularly fatty fish like salmon, mackerel, lake trout or sardines, at least two times a week, and for those at risk of coronary artery disease to talk to their doctor about supplements,” he said.

“Our main concern here is the hyper-supplemented individual, who may be taking high-dose omega-3 supplements and eating four to five omega-3-enriched foods per day,” Hord added. “This could potentially get someone to an excessive amount. As our paper indicates, there may be subgroups of those who may be at risk from consuming excess amounts of these fatty acids.”

Hord said there are no evidence-based standards for omega-3 intake and no way to tell who might be at health risk if they consume too high a level of these fatty acids.

“We’re not against using fish oil supplements appropriately, but there is a potential for risk,” Hord said. “As is all true with any nutrient, taking too much can have negative effects. We need to establish clear biomarkers through clinical trials. This is necessary in order for us to know who is eating adequate amounts of these nutrients and who may be deficient or eating too much.

“Until we establish valid biomarkers of omega-3 exposure, making good evidence-based dietary recommendations across potential dietary exposure ranges will not be possible.”

Reference:

Source: Oregon State University News and Research Communications; Oct. 28, 2013; http://oregonstate.edu/ua/ncs/archives/2013/oct/excess-omega-3-fatty-acids-could-lead-negative-health-effects
Concerns Over Mercury Levels in Fish May Be Unfounded

New research from the Children of the 90s study at the University of Bristol suggests that fish accounts for only seven per cent of mercury levels in the human body (1). In an analysis of 103 food and drink items consumed by 4,484 women during pregnancy, researchers found that the 103 items together accounted for less than 17 per cent of total mercury levels in the body.

Concerns about the negative effects of mercury on fetal development have led to official advice warning against eating too much fish during pregnancy. This new finding, published in Environmental Health Perspectives, suggests that those guidelines may need to be reviewed.

Previous research by Children of the 90s has shown that eating fish during pregnancy has a positive effect on the IQ and eyesight of the developing child, when tested later in life. Exactly what causes this is not proven, but fish contains many beneficial components including iodine and omega-3 fatty acids.

After fish (white fish and oily fish) the foodstuffs associated with the highest mercury blood levels were herbal teas and alcohol, with wine having higher levels than beer. The herbal teas were an unexpected finding and possibly due to the fact that herbal teas can be contaminated with toxins.

Another surprise finding was that the women with the highest mercury levels tended to be older, have attended university, to be in professional or managerial jobs, to own their own home, and to be expecting their first child. Overall, however, fewer than one per cent of women had mercury levels higher than the maximum level recommended by the US National Research Council. There is no official safe level in the UK.

The authors conclude that advice to pregnant women to limit seafood intake is unlikely to reduce mercury levels substantially.

Speaking about the findings, the report’s main author, Professor Jean Golding OBE, said: “We were pleasantly surprised to find that fish contributes such a small amount (only seven per cent) to blood mercury levels. We have previously found that eating fish during pregnancy has many health benefits for both mother and child. We hope many more women will now consider eating more fish during pregnancy. It is important to stress, however, that pregnant women need a mixed balanced diet. They should include fish with other dietary components that are beneficial including fruit and vegetables.”

Reference:


Breastfeeding problems are extremely common among first-time moms, often causing them to introduce formula or completely abandon breastfeeding within two months, report researchers at the University of California, Davis, and the Cincinnati Children’s Hospital Medical Center (1).

Strategies should be developed for evaluating infant breastfeeding and alleviating the concerns of the new, breastfeeding mothers soon after birth, recommend the researchers, who report their findings in the journal Pediatrics.

“Findings from our study indicate that certain breastfeeding problems or concerns are experienced almost universally by first-time mothers, and some of those problems greatly increase the chances they will stop breastfeeding earlier than they planned,” said study co-author Caroline Chantry, a pediatrician at the UC Davis Medical Center, where the research with the first-time mothers was based.

“If we can enable mothers to achieve their breastfeeding goals, we will have a healthier nation,” Chantry said. She noted that although 75 percent of mothers in the United States initiate breastfeeding, only 13 percent of those women ultimately breastfeed exclusively for the recommended first six months of the child’s life.

The new study, based on a sample of 532 first-time mothers, included interviews while the women were pregnant and at six other times between birth and 60 days after the babies were born.

Ninety-two percent of the new moms reported at least one breastfeeding concern three days after birth. The most predominant concern was that the infants were not feeding well at the breast (52 percent), followed by breastfeeding pain (44 percent) and perceived lack of sufficient milk (40 percent).

The researchers collected reports of thousands of breastfeeding problems and concerns from the mothers. The concerns that were reported at interviews conducted at days three and seven after the baby’s birth were strongly associated with the moms’ subsequent decisions to supplement with formula or stop breastfeeding altogether.

“These interviews at three and seven days were conducted at a time when there may be a gap between hospital- and community-based lactation support resources,” said co-author Kathryn Dewey, a UC Davis nutrition professor and authority on maternal and infant nutrition.

“Based on these findings, we would recommend that first-time moms, in particular, need more support to alleviate breastfeeding concerns that may arise during the first two weeks after their babies are born,” Dewey said. “Such support could help allay any unwarranted concerns and provide new moms with the reassurance and assistance they need to meet their breastfeeding goals.”

Researchers on the study from the Perinatal

Breastfeeding continued on page 9
Institute at Cincinnati Children’s Hospital Medical Center were lead author Laurie Nommsen-Rivers, an assistant professor and UC Davis alumna, and nutritionist Erin Wagner.

Breastfeeding exclusively — rather than using infant formula — is recommended for the first six months after birth by the American Academy of Pediatrics because of the risks of using formula to the health of both infants and moms. For more information, visit the academy’s breastfeeding policy website at http://www2.aap.org/breastfeeding/policyOnBreastfeedingAndUseOfHumanMilk.html

The website for the U.S. Centers for Disease Control and Prevention also offers evidence-based examples of how healthcare providers and communities can support breastfeeding at http://www.cdc.gov/breastfeeding/resources/guide.htm

Reference:


Low Vitamin D Levels Raise Anemia Risk in Children

Low levels of the “sunshine” vitamin D appear to increase a child’s risk of anemia, according to new research led by investigators at the Johns Hopkins Children’s Center. The study, published in the Journal of Pediatrics, is believed to be the first one to extensively explore the link between the two conditions in children.

The researchers caution that their results are not proof of cause and effect, but rather evidence of a complex interplay between low vitamin D levels and hemoglobin, the oxygen-binding protein in red blood cells. The investigators say several mechanisms could account for the link between vitamin D and anemia, including vitamin D’s effects on red blood cell production in the bone marrow, as well as its ability to regulate immune inflammation, a known catalyst of anemia.
To capture the interaction between the two conditions, researchers studied blood samples from more than 10,400 children, tracking levels of vitamin D and hemoglobin. Vitamin D levels were consistently lower in children with low hemoglobin levels compared with their non-anemic counterparts, the researchers found. The sharpest spike in anemia risk occurred with mild vitamin D deficiency, defined as vitamin D levels below 30 nanograms per milliliter (ng/ml). Children with levels below 30 ng/ml had nearly twice the anemia risk of those with normal vitamin D levels. Severe vitamin D deficiency is defined as vitamin D levels at or below 20 ng/ml. Both mild and severe deficiency requires treatment with supplements.

When investigators looked at anemia and vitamin D by race, an interesting difference emerged. Black children had higher rates of anemia compared with white children (14 percent vs. 2 percent) and considerably lower vitamin D levels overall, but their anemia risk didn’t rise until their vitamin D levels dropped far lower than those of white children. The racial difference in vitamin D levels and anemia suggests that current therapeutic targets for preventing or treating these conditions may warrant a further look, the researchers say.

“The clear racial variance we saw in our study should serve as a reminder that what we may consider a pathologically low level in some may be perfectly adequate in others, which raises some interesting questions about our current one-size-fits-all approach to treatment and supplementation,” says lead investigator Meredith Atkinson, M.D., M.H.S., a pediatric kidney specialist at the Johns Hopkins Children’s Center.

Untreated, chronic anemia and vitamin D deficiency can have wide-ranging health consequences, including organ damage, skeletal deformities and frequent fractures, and lead to premature osteoporosis in later life.

Long known for its role in bone development, vitamin D has recently been implicated in a wide range of disorders. Emerging evidence suggests that low vitamin D levels may play a role in the development of certain cancers and heart disease and lead to suppressed immunity, the researchers note.

Anemia, which occurs when the body doesn’t have enough oxygen-carrying red blood cells, is believed to affect one in five children at some point in their lives, experts say. Several large-scale studies have found severe vitamin D deficiency in about a tenth of U.S. children, while nearly 70 percent have suboptimal levels.

“If our findings are confirmed through further research, low vitamin D levels may turn out to be a readily modifiable risk factor for anemia that we can easily tackle with supplements,” says senior study investigator Jeffrey Fadrowski, M.D., M.H.S., also a pediatric kidney specialist at Johns Hopkins.

Reference:

An intervention to improve household routines known to be associated with obesity increased, such as sleep duration and reduced TV viewing, among low-income, minority children, and the approach may be an effective tool to reduce body mass index (BMI) in that population, according to a study published by JAMA Pediatrics (1).

Racial and ethnic minority children and those who live in low-income households are disproportionately overweight and it is urgent to develop an intervention for them, Jess Haines, Ph.D., M.H.Sc., of the University of Guelph, Ontario, Canada, and colleagues, write in the study background.

“The purpose of this study was to assess the extent to which a home-based intervention, compared with a mailed control condition focused on healthful development, resulted in improvements in household routines that may be preventive of childhood overweight and obesity among racial/ethnic minority and low-income families with children aged 2 to 5 years,” the authors note.

The study assigned 121 families with children at random into intervention (n=62) or control groups (n=59). A total of 111 children-parent pairings completed the six-month follow-up assessments.

The intervention, which used home-based counseling and phone calls, was designed to change behaviors related to excess weight gain, but child weight was not discussed in the intervention.

Compared with the control group, which received educational materials, intervention participants experienced increased sleep duration (0.75 hours/day), greater decreases in TV viewing on weekend days (1.06 hours/day) and decreased BMI (-0.40), according to the study results.

“In summary, after six months, we found that the Healthy Habits, Happy Homes intervention improved sleep duration and TV viewing behaviors, as well as decreased BMI among racially/ethnically diverse children from low-income households. Future studies with a longer follow-up are needed to determine maintenance of these behavior changes,” the authors conclude.

Reference:

Researchers Find Prices and Family Interactions Influence Eating Behaviors

Expanding waistlines and rising obesity rates have led to numerous ideas for policies, such as taxes on junk food or vouchers for fruits and vegetables, aimed at getting people to eat a more healthful diet. To better understand what influences food choices, a group of Iowa State University researchers looked at how prices, parents and peers affect fruit and vegetable consumption among African-American youths (1).

In the study, published in the *Southern Economic Journal*, researchers found that parents, generally mothers, who ate more fruit influenced their children to do the same. And children had a similar impact on their parents. However, only parents seemed to affect their children’s eating behaviors when it came to vegetables. In addition, the price of fruits and vegetables were found to affect consumption.

Researchers say understanding these family interactions in relation to price can help design more effective policy interventions. People are less likely to buy fresh produce if it is more expensive than other foods. Making fruits and vegetables more affordable and available can positively impact eating behaviors of parents and youth, researchers said.

“We know that price should have an effect on consumption,” said Helen Jensen, a professor of economics. “Understanding the extent of price response is very important. In this case, knowing if these youths, their parents or peers respond to price provides information we could use to develop effective ways to increase consumption of fruits and vegetables.”

Researchers also looked at the interaction between the youths and their best friends to see if there was an effect on consumption. While studies have shown that peers tend to significantly influence other behaviors, such as substance use and abuse, researchers did not find a similarly strong impact on healthful food choices.

“The underlying mechanism of the influence may be by example. Many youths in the sample still live with their parents and may be more exposed to the parent’s food consumption than to food choices made by their best friend. Also, fruits and vegetables may be more readily available within the family context than when the youth and the best friend interact—for example, when they are at a fast food restaurant,” said Oleksandr Zhylyevskyy, an assistant professor of economics.

**Reaching a critical target audience**

Researchers analyzed data from more than 500 African-American families collected through the Family and Community Health Study, led by Carolyn Cutrona, a professor of psychology, and others. The data, collected every two to three years since 1997, assesses how individuals, families and communities affect mental health, education, careers and other outcomes over time.

Based on the FACHS data, 65 percent of parents and 61 percent of youths reported eating

Behaviors continued on page 13
whole fruit or drinking a glass of 100 percent fruit juice at least once a day. That’s compared to 76 percent of parents and 60 percent of youths who ate a daily serving of vegetables.

African-American youths are a critical audience to reach because African-Americans, as a group, are at higher risk for excess weight gain and eat fewer fruits and vegetables than other racial and ethnic groups in the United States, researchers said. For the time frame examined in this study, the youths were 19 years old on average, an age when they have more say over what they eat. The fact that their eating behaviors reflected their parents’ stresses the importance of family meals.

“I think that families do form eating habits, and some of those habits are very good and healthy, and some of those eating habits are not,” Cutrona said. “We know that a healthy diet has long-term effects on kids and we should make it easy for families to get fresh fruits and vegetables.”

Impact of intervention

Family interactions can increase the effects of policy-related changes. To better understand this multiplier effect and the potential benefits of intervention programs, researchers analyzed several hypothetical scenarios that illustrate how changing the food choices of one group might affect the other. For example, a program targeting parents to increase how often they eat fruit would indirectly increase fruit consumption among youths.

There is a similar impact for vegetables. Because price is also a factor for parents, programs that offer subsidies or coupons for produce would be an effective policy tool to influence the healthful eating choices of parents and youths.

“Knowledge of how family and peer interactions and prices affect food consumption choices can help in designing effective policy interventions to facilitate healthy eating among vulnerable groups of young people,” Jensen said.

Reference:


Debit Cards Deduct Nutrition from School Lunches

School cafeterias that accept only electronic payments may be inadvertently promoting junkier food and adding empty calories to students’ diets, say Cornell behavioral economists in the journal *Obesity* (1).

To expedite long lunch lines and enable cleaner accounting, about 80 percent of schools use debit cards or accounts that parents can add money to for cafeteria lunch transactions, write David Just and Brian Wansink, co-directors of the Cornell Center for Behavioral

School Lunch continued on page 14
School Lunch (Continued from page 13)

Economics in Child Nutrition Programs.

“There may be a reason for concern about the popularity of cashless systems,” say the researchers. “Debit cards have been shown to induce more frivolous purchases or greater overall spending.”

Just and Wansink compared purchases at school cafeterias that use debit-only systems with those that accept debit or cash. They found that students in first through 12th grades at debit/cash cafeterias consumed about 721 calories for lunch compared with 752 calories at debit-only schools.

For non-healthy food items alone – such as candy, dessert, cheeseburgers and fries – students at debit-only schools consumed 441 calories during their lunch, compared with 378 calories for students at debit/cash schools.

An ice cream sandwich here and a bag of potato chips there add up: A child can draw down debit accounts quickly, the research points out. Parents pay for several weeks’ worth of lunches in advance, often with little control over individual transactions. Parents often have difficulty gauging how long the money should last, if spent wisely.

“This may lead children to generally greater spending on lunch,” the researchers report.

The results, which are based on a study of more than 2,300 students, have important implications for schools and child obesity. A small number of schools have introduced debit systems that allow parents to regulate daily spending, which can help combat the problem. If the use of cash, as opposed to debit cards, can nudge a student into making slightly healthier choices, then perhaps a “cash-for-cookies” policy, for example, would “encourage students to think twice before making their selection,” said Just and Wansink.

Reference:


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**Eating Disorders More Common in Males Than Realized**

Parents and doctors assume eating disorders very rarely affect males. However, a study of 5,527 teenage males from across the U.S., published in *JAMA Pediatrics*, challenges this belief. Boston Children’s Hospital researchers found 17.9 percent of adolescent boys were extremely concerned about their weight and physique. These boys were more likely to start engaging in risky behaviors, including drug use and frequent binge drinking.

“Males and females have very different concerns about their weight and appearance,” says the study’s lead author Alison Field, ScD, from Boston Children’s Hospital Adolescent Medicine Division. Evaluations for eating disorders have been developed to reflect girls’ concerns with thinness but not boys’ concerns, which may be more focused on muscularity than thinness.

To better understand how symptoms of eating disorders might be linked to obesity, drug use...
and depression in males, Field and her colleagues reviewed responses to questionnaires completed as part of the Growing Up Today Study. Teens responded to surveys every 12 to 36 months from 1999 through 2010.

Boys tended to be more interested in muscularity than thinness, with 9.2 percent of males reporting high concerns with muscularity, compared with 2.5 percent concerned about thinness and 6.3 percent concerned with both aspects of appearance.

Males concerned about muscularity and who used potentially unhealthy supplements, growth hormone and steroids to enhance their physique were approximately twice as likely to start binge drinking frequently and much more likely than their peers to start using drugs. Boys concerned with thinness were more likely to develop depressive symptoms.

A total of 2.9 percent of all respondents had full or partial criteria binge-eating disorder, and nearly one-third reported infrequent binge eating, purging or overeating.

Anorexia nervosa and bulimia nervosa are characterized by an excessive influence of weight and physique on self-evaluation, with patients focused on being thin or wanting to losing weight.

Most eating disorder assessments reflect this desire for thinness and may overlook boys concerned about their weight and shape but who want to be more muscular. This may be the male equivalent of girls who are very concerned with their weight and who use vomiting or laxatives for weight control, according to Field.

“Clinicians may not be aware that some of their male patients are so preoccupied with their weight and shape that they are using unhealthy methods to achieve the physique they desire, and parents are not aware that they should be as concerned about eating disorders and an excessive focus on weight and shape in their sons as in their daughters,” says Field.

Reference:


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