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### Food and Nutrition

#### **Exposure to soy-based formulas in infancy has no effects on reproductive function in young adulthood.**

Soy is naturally high in isoflavones, a type of phytoestrogen. There has been concern in recent years regarding the potential for soy isoflavone consumption during infancy, a sensitive stage of development, to affect reproductive function later in life, particularly as some animal research suggests that these plant compounds can influence sexual development. Although an estimated one in five babies is fed a soy-based formula, to date, few studies have looked for adverse consequences associated with its use in humans as compared to isoflavone-free cow milk formula.

Researchers from the University of Pennsylvania examined data collected from approximately 700 people between the ages of 20 and 34 whose infant feeding practices had been recorded as part of another study. The scientists found that type of formula was not significantly associated with a wide variety of both reproductive as well as other health parameters, including adult height, weight, pubertal maturation, age at menarche, and fertility. Women fed soy formulas were slightly more likely to have longer menstrual periods and more menstrual discomfort, but were no more likely to seek medical attention for pain associated with menstruation.

Overall, the authors concluded that "exposure to soy formula does not appear to lead to different general health or reproductive outcomes than exposure to cow milk formula." These results, while encouraging, will need to be confirmed by others. Older age cohorts will need to be studied as well.

Source: Strom, B.L., R. Schinnar, et al. 2001. Exposure to Soy-Based Formula in Infancy and Endocrinological and Reproductive Outcomes in Young Adulthood. *JAMA*. 286:807-814.

**Contributed by:** Sarah Ash, Ph.D., Assistant Professor, Departments of Animal Science and Family and Consumer Sciences, NC State University.

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### **Inadequate intake of nutrients common and associated with low dietary variety in rural, independently living elderly.**

It is well known that the elderly are at risk for inadequate nutrient intake due to a wide variety of physiological, psychological, economic, and other factors. Researchers at the University of Iowa evaluated nutrient consumption among a group of rural, non-institutionalized elderly, age 79 and older. Adequate intake was defined as greater than or equal to 67 percent of the RDA or AI for each nutrient. Results indicated that 84 percent were consuming inadequate intakes of vitamin D, 78 percent were inadequate for vitamin E, 75 percent for folate, 72 percent for magnesium, and almost two thirds were not getting enough calcium. Vitamin D, calcium, and magnesium are all critical to bone health, and folate may help to reduce the risk for cardiovascular disease. Thus this large number of individuals with extremely low levels of intake has significant public health ramifications. In addition, more than 25 percent were inadequate for vitamin B-6, vitamin C, and zinc. Few reported supplement use, though obviously many could have benefited from a multivitamin, multimineral product. The researchers also confirmed what other studies have found: the greater the variety in the diet, the greater the likelihood that nutrient intakes were being met. Thus, as the authors conclude, there needs to be a greater effort to encourage the elderly need to eat a wide variety of foods, and perhaps also to take daily dietary supplement.

Source: Marshall, T.A., P.J.Stumbo, J.J. Warren, and X.J. Xie. 2001. Inadequate nutrient intakes are common and are associated with low dietary variety in rural, Community-Dwelling Elderly. 2001. *J. Nutr.* 131:2192-2196.

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## Health

### **Antibacterial household products: Are they good for you?**

Antibacterial substances are available in over 700 products -- cleaners, toothbrushes, chopsticks, and even mattresses. Their overuse could increase the number of resistant strains of microorganisms. Resistant strains can be difficult to treat in the event of illness. Interestingly, no current data demonstrate any health benefits from using antibacterial-containing cleaners in a healthy household.

Besides resistance, the overuse of antibacterial substances has another potential consequence. Some studies revealed a possible association between infections in early childhood and decreased incidence of allergies. This hygiene hypothesis suggests that persons raised in an environment overly protective against microorganisms had increased frequency of allergies, cases of asthma, and eczema. Excessive hygiene may interfere with the normal maturation of the immune system by eliminating the stimulation by commensal microflora.

Because microorganisms cannot be eliminated from the environment and overuse of antibacterial substances can have harmful consequences, it is recommended that healthy individuals be prudent in their use of these products.

Source: Levy, S.B. 2001. Antibacterial Household Products: Cause for Concern. Presentation from the 2000 Emerging Infectious Diseases Conference in Atlanta, GA. [http://www.cdc.gov/ncidod/eid/vol7no3\\_supp/levy.htm](http://www.cdc.gov/ncidod/eid/vol7no3_supp/levy.htm)

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### **U.S. women of childbearing age susceptible to *T. gondii* infection**

The Centers for Disease Control and Prevention tested 17,658 individuals who participated in the third National Health and Nutrition Examination Survey for *Toxoplasma gondii* antibodies. Among individuals 12 years and older, the age-adjusted seroprevalence of *T. gondii* was 22.5 percent; for females 15-44 years, it was 15.0 percent. This suggests that 85 percent of U.S. women are susceptible to acute *Toxoplasma* infection during childbearing years, therefore, their infants are susceptible to congenital toxoplasmosis. Toxoplasmosis can result in a spontaneous abortion, a stillborn child, or a child born with some degree of mental or physical retardation.

*Toxoplasma gondii*, a protozoal disease, is usually transmitted by contact with the urine or feces of house cats or by eating undercooked meats. To prevent toxoplasmosis, women of childbearing age, especially pregnant women, should

- minimize contact with soiled kitty litter,
- wear gloves while gardening and wash hands thoroughly after gardening, and
- not eat raw or undercooked meats.

**Source:** Jones, Jeffrey L., Deanna Kruszon-Moran, Marianna Wilson, Geraldine McQuillan, Thomas Navin, and James B. McAuley. 2001. *Toxoplasma gondii* infection in the United States: seroprevalence and risk factors. *Am. J. Epidemiol.* 154: 357-365.

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### **Upholstered Furniture Action Council updates its deck label**

The Upholstered Furniture Action Council has updated its deck label on upholstered furniture to reflect the latest changes in its hangtag program. The new hangtags are 20 percent larger, are easier to read, and provide more information about the product's fire-resistant properties. In addition, a precaution has been added about small open flames like matches, candles, and lighters.

The hangtag program was developed 23 years ago to help reduce the number of cigarette-ignited fires in upholstered furniture. Manufacturers who participate in the program have to meet the program's construction criteria. The hangtags, which are applied at the factory, let the consumer know that the furniture meets the criteria. The program, including the education and information provided on the hangtags, and the new developments in manufacturing products and procedures

have been credited with helping reduce the number of upholstered furniture fires started by smoldering cigarettes by nearly 80 percent.

**Source:** UFAC Updates Deck label. 2001. *Furniture Today*, August 27, 2001. p. 22.

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## **Human Development**

### **Child care in North Carolina**

In North Carolina, approximately 212,000 children spend more than 40 hours per week in the care of someone other than a parent or legal guardian. A consistent teacher who understands children's development plays a critical role in shaping young minds. In a recently released report, Child Care Services Association found

- The biggest problems child care program directors face in running child care programs are recruiting qualified staff, staff turnover, and finding substitutes.
- Thirty percent of the respondents said they have no health insurance from any source, and only 13 percent reported receiving health insurance paid by their child care center.
- Eighty percent of the teachers planning to leave the child care field in the next three years said that better wages would make them stay.
- On average, directors work 48 hours per week and earn \$10.09 per hour.
- The typical teacher earns \$6.25 per hour.
- A family child care provider earns a median income of \$5.16 per hour. Over 75 percent of the providers earn less than \$7.00 per hour.
- In rural areas the median fee for family child care was \$70 per week and in urban \$90 per week.

For a complete report, contact Child Care Services Association at 919-967-3272 and request *Working in Child Care Centers in North Carolina* and *Working in Family Child Care Homes in North Carolina*.

**Sources:** Haberkern, R. M., and S. D. Russell. 2001. *Working in Family Child Care Homes in North Carolina: The 2000 statewide survey*. Chapel Hill, NC: Child Care Services Association.

Lyons, J.D., and S. D. Russell. 2001. *Working in Child Care Centers in North Carolina*. Chapel Hill, NC: Child Care Services Association.

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