

Disability Awareness Begins With You



Nutrition & Diet For Individuals With DD

Many individuals with developmental disabilities have looked to dietary changes or nutritional supplements as way to lessen symptoms of their disability. High amounts of unsaturated fatty acids have been found in the brain phospholipids in individuals with Down Syndrome as well as low amounts of antioxidants, high amounts of iron and low amounts of iron binding proteins. Virtually all children with autism or PDD have one or more abnormal Organic Acid compounds, due to abnormal levels of yeast and other gastrointestinal bacteria.

The altered physical growth rate or growth stunting often seen in persons with developmental disabilities may result from prenatal, perinatal, or postnatal causes. Prenatal causes are varied and include chromosomal aberrations such as Down syndrome, exposure to a virus such as cytomegalovirus, as well as prenatal exposure to alcohol and drugs. Perinatal and postnatal conditions such as cerebral palsy, bronchopulmonary dysplasia, and congenital heart disease can result in permanent growth stunting because of associated increased energy needs, feeding difficulties, and medical conditions. Growth may also be affected when children are unable to bear weight or walk. Ambulation appears necessary for normal serum levels of vitamin D and bone development. When nutrition therapy is given in the early stages of diagnosis and treatment of cerebral palsy, growth delays may be prevented or remediated.

Inappropriate eating practices, limited mobility, characteristics of certain syndromes (eg, Prader-Willi, Lawrence-Moon-Beidel), and alterations in body composition are causes of obesity in persons with developmental disabilities. An increase in percentage of body fat with an accompanying decrease in percentage of lean body mass occurs when children with myelomeningocele become older and less active. Higher rates of obesity have been found in adults, especially women, with mild to moderate mental retardation who live in a residential community than in the general population. Obesity in persons with developmental disabilities can have negative social consequences and requires greater effort from caregivers; it also contributes to chronic diseases such as diabetes, hypertension, and heart disease.

Nutrient needs may be altered as a result of long-term medication therapy for conditions such as epilepsy, recurrent urinary or respiratory infections, chronic constipation, and behavioral problems. Disorders of vitamin D, calcium, and bone metabolism result when the anticonvulsants phenytoin and/or phenobarbital are used for an extended period of time, especially when taken by a person

unable to ambulate. There has been a resurgence in the use of the ketogenic diet for intractable seizures in some children and its use requires diligent nutrition monitoring. Use of other medications may also affect food and nutrient intake (ie, antibiotics may produce gastrointestinal symptoms and psychotropics may alter appetite). Because many older adults with developmental disabilities take multiple medications for extended periods of time, they are at risk for complications due to medication interactions; in addition medications may have a longer half-life because of decreased lean body mass.

Feeding problems that arise from neuromuscular dysfunction, obstructive lesions, and/or psychological factors often reduce food intake, inhibit optimal growth and development, result in poor weight maintenance in adults, and increase the risk of malnutrition. Persons with cerebral palsy frequently have hyperactive gag reflex, tongue thrust, poor lip closure, gastroesophageal reflux, and inability to chew. Recurrent aspiration pneumonia is not uncommon. Tube feedings should be considered as a means to promote increased growth, but use requires ongoing nutrition monitoring and may present other medical and developmental concerns.

ADD/ADHD

Boys with lower omega-3 fatty acid values in blood were much more likely to have learning problems and lower overall academic skills and math skills than children with higher fatty acid values. Children with ADHD had significantly lower zinc levels than control children. 30% of children with ADHD had severely deficient values. It is possible that low zinc values may result in depressed production of melatonin and serotonin in the brain, resulting in some of the symptoms of ADHD. Studies indicate that vitamin B-6 at doses between 15-30 mg/kg body weight was as effective as Ritalin in treating attention deficit hyperactivity.

Sensitivity to food colors and flavors:

Another study demonstrated a functional relation between the ingestion of a synthetic food color (tartrazine) and behavioral change in 24 atopic (allergic) children, with marked reactions being observed at all six dosage levels of dye challenge. When they reacted to the (food) dye, the younger children had constant crying, tantrums, irritability, restlessness, severe sleep disturbance, and were described as 'out-of-control, easily distracted and excited, and high as a kite.

Service Needs Throughout the Life Span

Early and ongoing comprehensive nutrition services during infancy and childhood may prevent or substantially reduce the mental retardation caused by untreated inherited metabolic disorders such as phenylketonuria and maple syrup urine disease. Medical nutrition therapy

(MNT), provided as part of an interdisciplinary team, promotes adequate nutrition for optimal growth and development, while preventing the toxic buildup of abnormal metabolites. Persons living in institutions or group homes that meet federal standards, such as intermediate care facilities for the mentally retarded, appear to be better nourished now than in the past. For persons living in small board and care homes or independent living facilities, requirements for professional monitoring may not exist. Lack of dietary and nutrition standards can result in unsanitary food handling practices, poor quality diets, inappropriate intake of energy and nutrients, or lack of caregiver training to help persons with developmental disabilities develop a healthful lifestyle.

To meet the multiple needs of persons with developmental disabilities, The American Dietetic Association recommends the following measures:

- Provide nutrition services, including ongoing nutrition monitoring, as an essential component of health care programs.
- Include a registered dietitian who has experience in the nutrition needs of persons with developmental disabilities in agencies developing policy at the federal and state levels.
- Collaborate with providers to ensure that there are policies in place that promote family-centered, coordinated, community-based, culturally competent services.
- Encourage participation of qualified dietetics professionals on primary and specialty care teams and in vocation, education, and residential programs that serve this population throughout the life cycle.
- Provide the opportunity for increasing the level of nutrition knowledge among all health care and human service providers.
- Obtain reimbursement for MNT, enteral/oral nutrition products, and feeding equipment.
- Develop improved referral mechanisms between tertiary care centers and community-based providers and programs.
- Develop and implement content and/or field experience that addresses the nutrition needs of persons with developmental disabilities in undergraduate and graduate nutrition programs.
- Encourage a climate of health and wellness for persons with developmental disabilities throughout the life span.
- Promote nutrition research in an effort to continuously improve the quality of care provided to those with developmental disabilities.

*This information obtained from
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