

Physical activity and participation in sports and active play are essential parts of a healthy lifestyle. According to the American Academy of Pediatrics (AAP), physical activity creates a healthy individual both physically and mentally. “Regular physical activity increases lean body mass, muscle, and bone strength and promotes good physical health. It fosters psychological well-being, can increase self-esteem and capacity for learning, and can help children and adolescents handle stress (AAP, 2008).” Special Olympics was founded on the principle that physical activity through sports is an essential component of a healthy lifestyle. Special Olympics recognized that individuals with intellectual disabilities (ID) were not being provided ample opportunity to participate in sports and physical activity. Special Olympics has helped to address this problem. However, physical activity is but one component of health and Special Olympics realized that they were in a unique position to do more to help improve the overall health status of their athletes.

Individuals with ID are at a higher risk of suffering from preventable and chronic health conditions and thus experience higher rates of morbidity and mortality when compared to the general population (Krahn et al, 2006). Thus, Special Olympics created the Healthy Athletes program to help address the special health care needs of their athletes. This paper provides information on the health status of individuals with ID and describes the Special Olympics Healthy Athletes program which seeks to address these health concerns. Most importantly, this paper serves as a call to action for health professionals, specifically public health and nutrition professionals, to become involved with this population either through educating oneself on the special needs of individuals with ID or by participating in programs such as the Healthy Athletes program.

Health Status of Individuals with Intellectual Disability

Intellectual Disabilities

Worldwide, there are approximately 200 million individuals living with ID. This comprises roughly 2% of the global population (Krahn et al, 2006). Intellectual disability is defined by the American Association on Intellectual and Developmental Disabilities (AAIDD) as a “disability characterized by significant limitations both in intellectual functioning (reasoning, learning, problem solving) and in adaptive behavior, which covers a range of everyday social and practical skills.” The definition of ID also includes the disability originating prior to the age of 18. The number of individuals living with ID is expected to grow as survival rates for this population continues to improve (Cooper et al, 2004). Individuals with ID have poorer health outcomes in terms of mortality, morbidity, and quality of life when compared to the general population (Krahn et al, 2006). With the growth of this segment of the population it will be increasingly important for members of the medical community, including public health and nutrition professionals, to work towards bridging the gap in health inequalities those individuals with ID experience. Special Olympics is an organization that is working to address this need through the creation of the Healthy Athletes program.

Prior to the launch of Healthy Athletes, Special Olympics conducted research to determine what was known about the health of individuals with ID. Special Olympics determined that not only was little known about the health status of the ID community, but that this population did not seem to be a major priority to medical organizations and health care associations alike. In addition, little research was being conducted on this population and

no efforts being enacted by policy makers on behalf of this population. Special Olympics decided that they were an organization in a unique position to make a difference for this population with their global reach and access to individuals with ID. In order to improve the health status of the ID community Healthy Athletes was created. Since that time there have been significant amounts of research conducted and countless data collected on this population. Healthy Athletes has been an important force in providing information about individuals with ID by collecting data on Special Olympics athletes at each Healthy Athletes event. These data are compiled in the Special Olympics Healthy Athletes Software (HAS) system and are used to help guide assessment and planning of programming. In addition to the HAS system Special Olympics has conducted research studies that have investigated the health status and access to health care of individuals with ID. Research initiatives by Special Olympics along with research studies by outside organizations have painted a picture of a population at risk of negative health status.

Intellectual Disability and Health Disparities

People with ID have a wide array of special health care needs and their needs are often complex and multifactorial. When compared to the general population people with ID have a clear disadvantage at accessing and utilizing needed health services, creating health inequalities between individuals with ID and the rest of the population (Melville et al, 2006). Different theories exist as to why health disparities exist for people living with ID, and there are multiple variables that influence this issue. Factors ranging from impaired ability to advocate for ones-

self to barriers in accessing health related services are principal problems related to the issue of health inequality (Cooper et al, 2004).

There are many areas where health inequality for individuals with ID is evident. One area where health disparity is evident is in the life expectancy of this population. Even though life expectancy for individuals with ID is increasing, it is still much lower when compared with the general population (Crichton et al, 1995). For individuals with profound ID their life expectancy is twenty percent less than that of everyone else (Patja et al, 2000). In addition to the issue of life expectancy, when compared to the general population people with ID have advanced healthcare needs which often go undiagnosed and subsequently their needs are left unmet, contributing to the ongoing issues of health inequality in this population (Cooper et al, 2004). These unrecognized and unmet health needs leads to chronic yet preventable diseases and health related conditions that consequently result in premature death.

Individuals with ID struggle with preventable health issues that impact quality of life and contribute to higher prevalence of chronic disease and mortality. Undiagnosed issues with vision, hearing, and oral health contribute significantly to poor health status (Krahn et al, 2006). Special Olympics Opening Eyes has screened athletes for vision-related issues and discovered that 40% have abnormalities in their vision, yet 20% of these athletes were having their vision screened for the very first time (Woodhouse et al, 2004). In a study conducted throughout the United Kingdom, nursing staff estimated 74% of their patients with ID to have normal hearing; however, upon physical examination of these patients the results were quite the opposite. Only 11% were found to have normal hearing while 61% had mild hearing loss and 28% had

profound to severe hearing loss. Even more concerning is that for many of these individuals just the simple removal of built-up ear wax helped to alleviate their hearing loss (Kerr et al, 2003). Oral health is another serious, yet preventable, condition that greatly impacts this population. In a study conducted in the United States, just 16% of individuals with ID who were living in community settings were found to have good dental status. A lack of preventative care was found to be a significant contributor for poor oral health (Lewis et al, 2002). Skin conditions and respiratory disorders, also preventable conditions, were likewise found to be issues for this population (Kerr et al, 2003). All of these conditions greatly impact quality of life and can lead to more serious health implications. Most importantly, these are preventable conditions that can be treated either with education and prevention or with proper recognition and treatment.

Intellectual Disability and Nutrition and Physical Activity

Overweight and obesity are both associated with poor health and are risk factors for a number of chronic diseases. Individuals with ID experience higher rates of overweight and obesity than the general population (Lewis et al, 2002). This further contributes to the level of health disparity between these two groups and it places the ID community at increased risk of morbidity and mortality. Various studies have examined this issue within the ID population and have sought to explore the various determinants that are leading to high prevalence rates of overweight and obesity. One variable that has been studied is nutrition. It is very challenging to accurately study and assess dietary patterns for individuals with ID as traditional methods of collecting data such as food frequency questionnaire and diet recalls can be challenging with this population (Melville et al, 2006). However, diet is an important contributor to weight gain

and certainly plays a vital role in the health of individuals with ID, specifically in the prevention of unhealthy weight gain.

Research in the area of nutrition and intellectual disability is limited, but research that has been conducted in this area demonstrates that individuals with ID are nutritionally at risk due to lack of knowledge, lack of access, and lack of consistent intake of key food groups and key nutrients. In a study by Robertson et al., questionnaires were provided to caregivers of individuals with ID that asked about diet. This study showed that only 8% of participants were consuming a balanced diet with intake of fruits and vegetables greatly lacking. A reported 78-84% of study participants consumed less than the recommended amount of fruits and vegetables (Robertson et al., 2000). A related study that used food records filled out by caretakers found similar results with low intake of fruits and vegetables and consequently low intake of fiber as well as a number of vitamins and minerals. This study also demonstrated a significant amount of calories were being consumed between meals in calorie dense snack foods (Adolfsson et al., 2008). These trends of an imbalanced diet intake for individuals with ID contribute significantly to the high rates of overweight and obesity seen within this population.

Another important determinant of health is physical activity. Being physically fit and leading an active lifestyle decreases the risk of overweight and obesity and subsequently decreases the risk of obesity related chronic diseases. Various studies have demonstrated that individuals with ID are less active when compared with the rest of the population. Research has estimated that only 8-16% of individuals with ID lead active lifestyles. This is dramatically lower than the estimated 30-47% of the general population who lead active lives (Melville et al.,

2006). According to the Surgeon General's 2005 Call to Action, people with disabilities of all types, including intellectual, are twice as likely to live inactive lifestyles compared with the rest of the population.

Various reasons exist as to why individuals with ID lead less active lives compared to the general population and why their diets are lacking in key food groups and nutrients. One barrier is availability and accessibility of services. Individuals with ID have a more challenging time utilizing recreation facilities and services and often depend on caretakers for buying and preparing food. Socioeconomic status is also a barrier with many individuals with ID relying on government assistance for financial needs, which makes recreation and food expenditures a low priority (Melville et al., 2006). Physical inactivity and poor diet are both an important issue for the ID community that contributes to higher prevalence of overweight and obesity and therefore contributes to higher rates of chronic and preventable disease.

Individuals with ID have higher rates of preventable health conditions such as poor vision, hearing, and dental health when compared to the general population. Poor diet and a sedentary lifestyle are risk factors that contribute to higher rates of overweight and obesity in the ID population. These conditions lead to the development of chronic disease and can eventually result in premature death, both issues that individuals with ID experience at higher rates than the rest of the population. With proper health screens and education, many of these conditions could be prevented and/or treated. With the creation of the Healthy Athletes program, Special Olympics is taking the lead on addressing the health challenges that individuals with ID are facing.

Special Olympics and the Healthy Athletes Program

Special Olympics

Special Olympics was officially created in 1968, but the vision for Special Olympics began long before. Eunice Kennedy Shriver, the founder and creator of Special Olympics, was upset at how individuals with ID were treated in society. She was especially troubled by the fact that children with ID did not have many opportunities to do what children do best...play! Mrs. Shriver decided to host a summer day camp in her own backyard for children with ID. The camp would give these children the opportunity to play with children similar to themselves. Furthermore, it would focus on the different activities the children were able to do and would not dwell on the things they could not do. From this summer camp the idea for Special Olympics began to grow and in July of 1968 Soldier Field in Chicago, Illinois hosted the first official International Special Olympics Summer Games. This two-day event was a huge success with 26 U.S. states and Canada represented. There were over 1,000 Special Olympic athletes that participated in the first games and they competed in various track and field and swimming events. From there the games and organization known as Special Olympics took off on a meteoric rise to what it is today.

The mission of Special Olympics is to “provide year-round sports training and athletic competition in a variety of Olympic-type sports for children and adults with intellectual disabilities, giving them continuing opportunities to develop physical fitness, demonstrate courage, experience joy and participate in a sharing of gifts, skills and friendship with their families, other Special Olympics athletes and the community.” Special Olympics has evolved

over the years into an organization with more than 4.4 million athletes from over 170 countries. Athletes with varying degrees of ID have the opportunity to compete in 33 different sports with trainings and competitions happening year round. Special Olympics has 700,000 volunteers and 500,000 coaches worldwide that are involved with the organization. Special Olympics' ultimate goal is to improve the quality of life in individuals with ID. They accomplish this not only through the power of sport but through an initiative called the Special Olympics Healthy Athletes program.

Special Olympics Healthy Athletes

The Special Olympics Healthy Athletes program as defined on its website, is the largest global public health organization whose mission is to provide essential health services and public health messaging to athletes with ID who are in desperate need of this kind of health related outreach (<http://www.specialolympics.org>.) Introduced at the 1995 World Games in New Haven, Connecticut, the program offered free health screenings to the athletes with dramatic and surprising results. An astonishing 15% of athletes screened during the 1995 World Games were sent to the emergency room of their serious health issues. This tragic discovery of so many athletes living with debilitating health issues prompted Special Olympics to officially adopt the Healthy Athletes program as a long term initiative in 1997. Since that time Special Olympics Healthy Athletes has been immensely successful. Evidence for this is based on the more than 1.4 million free health examinations provided to individuals with ID, health examinations offered in more than 120 participating countries, and the over 100,000 health

care professionals from a variety of disciplines participating in trainings on providing clinical care to individuals with ID.

The program's blue print for success has been simple. Special Olympics Healthy Athletes provides free health services to its athletes. These services include medical screenings and education from a variety of health disciplines, which are offered at various Special Olympics events including state, national, and world games. The program enlists the help of volunteers who include health professionals as well as students in the various health disciplines.

Special Olympics Healthy Athletes is comprised of seven different discipline specific areas. These include optometry (Opening Eyes), dentistry (Special Smiles), podiatry (Fit Feet), physical therapy (FUNfitness), audiology (Healthy Hearing), medical/sports physicals (MedFest), and public health and nutrition (Health Promotion). Opening Eyes provides free eye exams and has provided over 90,000 pairs of prescription glasses to athletes. Special Smiles offers dental screenings and oral health education to athletes. Fit Feet screens athletes for problems associated with their feet, which is an invaluable resource since Special Olympics estimates that 50 percent of their athletes suffer from preventable or treatable foot conditions. FUNfitness screens athletes in areas of flexibility, strength, and balance, and provides education on ways to improve their performance in these areas. Healthy Hearing provides hearing screenings and fits athletes with free hearing aids. MedFest provides athletes with physicals and screens them for any serious health issues. Finally, Health Promotion provides athletes education on healthy lifestyle choices including nutrition. These seven discipline specific areas together make up the Special Olympics Healthy Athletes program.

Special Olympics Young Athletes

According to the United States 2011/12 National Survey of Children's Health there are approximately 700,000 children between the ages of 0-17 years living with ID (Child and Adolescent Health Measurement Initiative, 2013). This is a rough estimate as there is high variability of prevalence estimates for children with ID. The inconsistency in prevalence estimates is due to different variables within the diagnostic criteria and screening systems. Children are typically not identified as having ID until about age 10 due to better screening systems being present in school systems and the fact that changes in development among young children can produce inaccurate screening results (Maulik et al., 2010). However, despite inaccuracies in diagnosing ID, there is still a significant portion of the ID community that is below the age of 8, the cut off to be able to participate in Special Olympics. Special Olympics is a wonderful organization that helps millions of individuals with ID, but it has been missing a significant portion of the ID community by its age restrictions. To address this problem Special Olympics started the Young Athletes program.

A branch of the Special Olympics Healthy Athletes program is the Young Athletes program. The Young Athletes program is for children with ID between the ages of 2 ½ and 7 years of age. This program's mission is to reach out to these children as an early introduction to the world of Special Olympics and to help their mental and physical growth through various physical activities. This program also hopes to improve the health of the young athletes by providing them free health screenings and health education. The Young Athletes program is in its early stages, but thus far has been successful with over 50,000 participants.

Global Vision

Special Olympics' aim is to have a profound impact on the global ID community. This goal is being achieved through programs like Healthy Athletes and Young Athletes and through the volunteerism of so many people, including those in the medical community. The global vision of Special Olympics according to its website is "to transform communities by inspiring people throughout the world to open their minds, accept and include people with intellectual disabilities and thereby anyone who is perceived as different."

(<http://www.specialolympics.org>) The medical community is included in this vision as Special Olympics wants the health profession to be all inclusive and open its arms to individuals with ID, thus improving their health status and their quality of life.

Call to Action

The Academy of Nutrition and Dietetics (AND) recognizes that individuals with ID are a vulnerable population who are at an increased risk for nutrition-related health issues. AND believes that nutrition services are a vital component to the healthcare needs of the ID community and should be delivered throughout the lifespan. Furthermore, AND believes that nutrition services should be delivered in settings that are both community-based and interdisciplinary, both of which Special Olympics Healthy Athletes exemplifies. AND's position statement on this matter states, "*nutrition services provided by registered dietitians and dietetic technicians are essential components of comprehensive care for all people with developmental disabilities and special health care needs.*" AND goes on in their position statement to

recommend that registered dietitians support programs whose mission is to encourage healthy lifestyle habits in individuals with disabilities (AND, 2010).

Individuals living with various degrees of intellectual disability comprise two percent of the global population. This population is a significant part of the global community and contributes greatly to society. Despite the improvements in care and the advancements in the medical field that this population has seen over the previous decades, health disparities still exist between individuals with ID and the general population. Research demonstrates that this population has higher rates of preventable health conditions such as hearing and vision loss and poor oral health. This population suffers from chronic diseases at a higher rate than that of the general population. The ID community has higher rates of overweight and obesity which is often times the result of suboptimal nutrition and physical inactivity. All of this has led this community to have higher rates of mortality in comparison to the general population. This is certainly a community at risk.

The Special Olympics Organization has been a staunch advocate and supporter of this community since its inception. With the creation of the Healthy Athletes program Special Olympics began to offer free health screenings and health services to its athletes. This organization has been immensely successful and is starting to turn the tide in the issue of health inequality that this population faces. Special Olympics Health Promotions is a part of the Healthy Athletes program that is discipline-specific to public health and nutrition. The Health Promotion program teaches athletes about healthy habits and healthy behaviors, including the importance of good nutrition to stay healthy and maintain an ideal body weight. Becoming

involved in this organization is as easy as contacting the local Special Olympics organization and asking to volunteer with the Healthy Athletes program. This is not only a worthwhile endeavor on a personal level; it is a fulfilling and valuable professional experience to be able to give back to a community in need of continued public health and nutrition education.

As future registered dietitians and public health professionals our role is to provide guidance and sound practice to advance the health of our communities. It is imperative that as nutrition and public health professionals we both recognize and embrace the fact that our communities are rich in diversity. Thus our professional careers will likely be spent working with and for a multitude of people with countless backgrounds who live life with various levels of ability including those who have an intellectual disability. Whether we spend our career working in a public health department or in a hospital setting, whether we specialize in pediatrics or adults, we will have exposure to individuals living with an intellectual disability. Special Olympics and the Healthy Athletes Health Promotions program is a wonderful way to become involved with this community and to help make a difference in a population at risk.

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