The Changing Nature of Play: Implications for Pediatric Spinal Cord Injury

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Abstract

Background: Perhaps no other demographic group in the history of the United States has undergone such a significant transformation in the past several decades as that of our children. Societal trends have dramatically altered the nature of play and the way children interact with their environment. These trends have included a significant decrease in outdoor recreation, an increased dependence on electronic media, and the conceptual emergence of “time poverty.” Consequently, childhood obesity and type 2 diabetes rates are skyrocketing because of the preponderance of sedentary lifestyles, and children are experiencing poor social skill development, less problem-solving abilities, and a marked increase in depression. For children with disabilities, such as spinal cord injuries (SCIs), these issues are even more significant. With a traumatic injury, the need for play and its therapeutic value becomes more important and yet is harder to attain.

Methods: Literature review.

Findings: In a study examining recreation involvement for 66 children and adolescents with SCI, the top 5 activities were all sedentary in nature, involving little to no social interaction and conducted indoors. Listening to music, reading, computer, video games, and television viewing are the top recreation activities for children and adolescents with SCI. In addition, data collected in 2005 on “participation in organized community activities” for the pediatric SCI population found 203 of 326 patients reported no participation in sports, clubs, or youth centers after injury/diagnosis. An astonishing 62% reported no organized activity at a time when participation in adult-supervised structured activities for able-bodied children is at an all-time high. Given these statistics, it is imperative that pediatric health care professionals understand societal trends and how they affect the SCI population. Making meaningful connections between these trends and the impact they have on children and adolescents with SCI will provide the theoretical framework for future solutions.

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INTRODUCTION

It is well known that play is the work of children and the foundation for all growth and development. Children progress through important developmental stages as they grow.

Through these stages, play provides children with the capacity for self-direction, the opportunity to discover their own strengths and weaknesses, the ability to acquire fundamental communication skills to function as social

beings, and the chance to develop family skills (1). In fact, learning how to use free time serves a valuable role in the maturation process. Ironically, however, not much attention has been given to the changing nature of play and its effect on childhood development until just recently. Prompted by the significant rise in childhood health care issues, interested parties are beginning to gain insight into the problems surrounding the increase in the sedentary lifestyles of children and adolescents.

REVIEW OF LITERATURE: THE CHANGING NATURE OF PLAY

Today, children in the United States have significantly less leisure time than in past generations. Exacerbated by

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dual-income families and single head of households, from 1981 through 1997, leisure time dropped for children by 15% to encompass only 25% of a child's total time (2,3). This amounts to approximately 6 h/d of leisure time (4). At first glance, this may seem like a reasonable amount of time for children to engage in play, but most disconcerting is how children are using their diminished leisure time.

Because of rising safety concerns, much of children's leisure time is being spent in adult-supervised structured settings that are tightly sequenced (2). Parents are spending much of their free time carting children from one activity to the next and even pulling them out of one program early so they can make it to the second on time. This type of a structured environment displaces free and creative play where children use fantasy and imagination to rehearse social roles and develop mastery over their environment.

This trend is also reflective of adult values regarding time management and meaning. For adults, work leads to status, and adults are working more than ever before (160 more hours per year than in past decades), making the United States the industrial country with the longest work hours (5). This pervasive value has been transitioned to children. In other words, if play is truly the work of children, the more structured activities children are involved in, the more status and value a child possesses. This has led to parents developing pseudo-resumes of their child's involvement in activities (6).

The biggest rise in structured activities has been in organized sports. From 1981 to 1997, organized sports grew by almost 50% for school-aged children (2).

Ironically, the obesity epidemic has coincided with the greatest increase in organized sports in children's history (7). What they are missing is the general unstructured outdoor play that allows them to burn off additional calories (7). In fact, the best predictor of preschool physical activity is simply being outdoors. In addition to physical problems, an indoor sedentary childhood is linked to mental health problems (7).

When children are not engaged in sport, however, they are often watching television. There has been a staggering increase in screen time for children. In fact, numerous studies report the average child watches 25 hours of television per week (8). This amounts to 3.6 h/d or approximately 60% of their leisure time and does not include screen time on computers or other hand-held devices (4).

Consequently, the biggest issue with television viewing is that it replaces playtime. It robs children of vital primary experiences that are needed for proper growth and development: those that can be seen, felt, touched, smelled, and tasted (7). Today's youth, in fact, are becoming increasingly 2 dimensional, using primarily sight and sound to relate to and interact with their environment. All of this leads to what Richard Louv calls

"cultural autism" or a feeling of isolation and containment devoid of human touch (7).

This lack of direct primary experiences, such as that which occurs with television and other screen-time, leaves children at an arrested stage of development, rarely moving beyond parallel attentiveness to the same stimulus (9). To compound the issue, 77% of sixth graders have television sets in their bedrooms (9). This contributes to weakened social skill development and poorer relationships by reducing normal opportunities for communicating at a critical developmental stage (1).

Television, in fact, is the only leisure activity that inhibits participation in other leisure activities. The only activities positively linked to television watching were sleeping, resting, eating, housework, and radio listening (9). Therefore, it should come as no surprise that television is an experience unlike any other, based on so much intake with so little outflow (1).

Many toys have even succumbed to the age of technology. Toys with electronic features have a strong initial appeal for children. This appeal is short-lived, because children will often easily drop one mechanical toy for another (7). Interestingly enough, however, a toy with no electronic capability engages the child longer because the range of what that toy can do is only limited by the child's imagination.

Unfortunately, passive amusements like television and video games will drive out active ones, making television's link to the obesity epidemic in children fairly simple (7). If children are watching television, they are not engaging in active play, and more often that not, they are eating while "plugged-in." According to research at Memphis State University, children's metabolic rates dropped to a level somewhere between sleeping and resting when watching television. If they had simply been awake, yet doing nothing at all, their metabolic rates would have been higher (10).

Unlike television, nature does not steal time; it amplifies it (7). It serves as a blank slate for creative imaginative play. One study finds that life's stressful events seem not to cause as much psychologic distress in children who live in high-nature conditions compared with children who live in low-nature conditions (11). Children who had high-nature environments also had fewer conduct disorders and less anxiety and depression. They also rated themselves higher in measures of self-worth, supporting the theory that green space fosters social interaction and thus promotes social support (7).

Knowing that outdoor play has a myriad of benefits, children are still not spending as much time outside as in past generations. The reasons for this change were described as the following: poorly designed outdoor spaces, the rise in technology, apprehensive parents who keep children close to home, state-mandated school curricula that do not allow time for outdoor education, and finally, the overly structured lifestyles of families (12). With these trends, the message that is being sent to

children is that free-range play is unwelcome. The outdoors is only for well-manicured playing fields for sports and other structured activities (7).

IMPLICATIONS FOR PEDIATRIC SCI

If these are the issues for able-bodied children, they are likely to be even bigger issues for children with spinal cord injuries (SCIs). Whereas able-bodied children are participating in too many structured activities, children with SCI are not participating in enough. Data collected in 2005 on “participation in organized community activities” for the pediatric SCI population found 203 of 326 patients reported no participation in sports, clubs, or youth centers after injury/diagnosis (13). This is an astonishing 62% reporting no organized activity at a time when participation in adult-supervised structured activities for able-bodied children is at an all time high.

For the pediatric SCI population, concerns of accessibility and program availability may be at the forefront. Without these two important components, children with SCI may not be able to participate in activities, including organized sports. Unstructured outdoor activities may also be prohibited if the child with SCI cannot access the environment where the able-bodied children are playing. Less outdoor play time compounded with less accessibility to sports programs contributes to increased adipose tissue and potential obesity in children whose energy expenditure is already lower.

Johnson et al (6) found that children and adolescents with SCI engaged in more sedentary activities and watched more television than their able-bodied peers. Their study of 66 children and adolescents with SCI found that the top 5 activities were all sedentary, involved little to no social interaction, and were conducted indoors (ie, listening to music, reading, computer, video games, and television viewing). It should also be noted that children are more susceptible to television’s allure if they are shy, passive, aggressive, or have trouble getting along with others (1). SCI creates a major disruption in a child’s ability to play and may increase the likelihood that these social issues will arise and lead to intensified isolative television-viewing habits.

DISCUSSION: POTENTIAL INTERVENTIONS

Because the average American spends 6 h/wk shopping and only 40 minutes playing with his/her children (5), a major shift in family functioning will have to occur to maximize quality of play experiences for children with SCI. Purposeful play strategies implemented by families and health care professionals should be age appropriate, mirroring specific developmental stages.

Preschool

Preschoolers should spend the majority of their day engaging in play. It is their primary means of gaining mastery over their environment. However, they are fast becoming a target audience for television programming.

In the late 1990s, *Teletubbies* became the first television show designed for young preschoolers (ages 0–3 years old). It hit with such resounding success that many other television programs have gone after the same young target audience. Ironically, in the same time period, the American Academy of Pediatrics came out with its’ recommendation of no television viewing for children 2 years of age and under, giving credence to the value of play over passive sedentary activity.

As with all preschoolers, instead of watching television, those with SCI must have access to appropriate toys that encourage independent manipulations of their environment. Allowing as much floor time as possible or being set up at a table with “cause and effect” toys, building blocks, or sand and water play (ie, rattles, building blocks, stacking rings, boats, and buckets) is paramount. Also, when engaged in these play activities, it is important to encourage independence, because children with SCIs are likely to ask others to minister to their needs, thus unknowingly thwarting their independence (14).

Besides exercising new cognitive skills, play in the later preschool years (ages 4–6 years) gives children a chance to rehearse social roles. The nature of play in this stage of development becomes very social. Still loose in organization, it tends to mimic real life. Activities, such as “playing house” or other pretend games, help children to distinguish fantasy from reality, unlike television and video games, which tend to blur this line.

Practitioners need to work with parents and offer insight and suggestions to maximize play experiences for children with SCI. Parents of preschoolers often have to assist their children at making the social connections. Forming friendships with families who have similar-aged children in the neighborhood is often valuable, as is enrolling in various programs at the local YMCA or park district (ie, young artists’ classes, parent-tot swim lessons). Also, knowing that many of the friend’s houses will not be accessible potentially places a majority of play-dates at the house of the child with the disability. Therefore, it is of utmost importance that this house be child-friendly, having easy access to toys, games, costumes, and other imaginative objects, so that all children are able to engage in social play with each other.

School Age

During the school years, the role of play changes and is often more physical in nature. Games have goals and rules and require some level of cognitive competency. Children at this stage of development start to learn to function as a member of a team. For children with SCI, this is an age where the significant issues of fear of ridicule, rejection, and social isolation appear.

One of the obvious answers to this dilemma is to enroll the child in one of the growing number of wheelchair sports programs. With its numerous benefits, this is often easier said than done. Often, commute times

are extensive for practices and games. Other sporting opportunities closer to home may include “buddy baseball” leagues, where children of all abilities play and work together, as well as karate and swimming lessons, which are fast becoming inclusive sports at this developmental age.

Schools can also do much to instill positive feelings of self-worth for children with SCI. This includes not only the area of academics but also the role of physical education and recreation. Teachers, including those in physical education, need to ensure that adaptations have been made to positively promote physical games and interactions between all children at recess and during physical education. It is no longer acceptable to allow the child with a SCI to have extra “study time” or to play board games while other children are either in the gym or outside on the playground. This includes having accessible playground equipment on the school property.

Physical achievement and other types of successes can also be associated with involvement in scouting or other youth groups. Many of these programs have intentionally become more inclusive and have policies and trainings in place to ensure successful outcomes for all children. In addition, many of these programs offer nature experiences such as camping, canoeing, and fishing. Another benefit of playing outdoors and in nature for children with SCI is that the group’s social hierarchy becomes based on creativity and imagination and not on physical skills (7). Children with tetraplegia can partake in many of these activities if they have the knowledge and access to adapted equipment. Many of the equipment adaptations can be found in the “Access to Recreation” catalog, which is an invaluable resource for those with SCI.

Because television viewing peaks around the late school-age years, it is imperative that children with SCI are engaged in some structured activities that foster physical success while allowing for friendships and social skill development. It is also imperative that they be allowed unstructured play time outdoors and in nature. Parents can form neighborhood co-ops and take turns supervising the children from afar as the play outside in the neighborhood.

Adolescence

Adolescence is a period when a large amount of physical and emotional change occurs within a short amount of time. It is a time when the need for group identification and social interaction is crucial (15). For those sustaining a SCI during this stage of development, changes in appearance compounded with a change in ability level is devastating, because this is a time when homogeneity is paramount. In fact, people with disabilities often experience a devaluation of their identities through negative social interactions or an absence of social interaction altogether (16), and many cease participation in recreational activities after injury (17).

To combat the significant issues that accompany an injury at this stage of development, parents and professionals need to ensure that adolescents are participating in organized recreation activities, because they are often a defining factor for definition and acceptance into peer groups. Organized recreation is also, more than at any other stage of development, essential for adolescents, because simply “hanging out” with friends may indicate a lack of leisure awareness and the ability to assert responsibility for making positive and constructive use of their leisure time (18).

Involvement in wheelchair sports is one means of attaining this organizational structure. In fact, participation in sports has shown improvements in the self-concepts of young athletes with disabilities (19), as well as improvements in leisure awareness and problem-solving and communication skills, increased activity levels, and increased social opportunities (20–22). These activities can be done with peers who have disabilities, such as on a wheelchair basketball team, or they can be done with able-bodied peers in activities such as tennis or swimming.

Opportunities for nonsporting activities should also be encouraged for a well-rounded leisure lifestyle. Many of these programs are associated with schools, churches, or community organizations, such as scouting, clubs, community theater, and camps. By focusing on self-expression, creativity, and fostering a sense of accomplishment through projects, these activities serve to combat depression, which can frequently accompany a SCI.

For older adolescents, especially those with tetraplegia, the last outstanding issue is one of transportation. Because the primary source of influence is being transitioned to the peer group at this stage of development, it is imperative that a vehicle is available for transportation. If at all possible, the adolescent with the SCI and their peer group should have driving privileges to an accessible vehicle. This significantly aids in the aspiration for independence that accompanies the adolescent years.

CONCLUSION

The preponderance of sedentary, home-bound, isolative recreation and play activities is alarming among the able-bodied population and at a crisis state in the pediatric SCI population. Knowing that the pediatric SCI population is spending less time in structured activities, less time with nature, and more time in front of the television than their able-bodied peers should be a call to arms from all professionals and family members. In particular, health care providers need to pay immediate attention to the play and recreation interests of their patients. An awareness of the benefits of active outdoor recreation, unstructured playtime, as well as accessing structured programs and making educated choices about television viewing, are invaluable. This information will help health

care professionals prescribe appropriate treatment strategies and ultimately lead to parents making healthy decisions about activity expectations for their children.

Knowing that play is the work of children, rehabilitation professionals should realize that activities such as making mud pies, building forts out of boxes, taking showers in the rain, and playing a game of 4-square all have benefits that are comparable if not more beneficial than more traditional therapeutic modalities. Sending or keeping patients in their rooms so they can form relationships with their television and video games should be a practice of the past.

Understanding societal trends and their impact on the changing nature of play is imperative so that pediatric rehabilitation professionals can continue to explore creative solutions. These solutions should include increased opportunities for face-to-face socialization with peers, active outdoor recreation, and time for creative expression. This is especially imperative knowing that the nature of play is changing, and with this, children and adolescents with SCI are experiencing a crisis in the foundation of their growth and development. With this information, play and recreation should be positioned at the forefront of pediatric rehabilitation programs.

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