State of the Evidence Regarding Complimentary and Alternative Medical Treatments for Autism Spectrum Disorders

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Abstract: Both the Elementary and Secondary Education Act of 2001 (No Child Left Behind) and the Individuals with Disabilities Education Improvement Act of 2004 show a public policy preference for the use of interventions that are supported by scientific evidence of their efficacy. At the same time, parents of children with Autism Spectrum Disorders (ASD) are frustrated by the lack of effective treatments and often resort to complementary and alternative medical (CAM) treatments to treat the symptoms of their child’s ASD. Many of these treatments have little or no evidence of efficacy. This article reviews the current state of many CAMs and addresses the evidence that supports or fails to support their efficacy as a treatment of ASD and their adoption in special education practices. It also discusses some recommendations for improving the state of evidence for CAMs used with individuals with ASD.

The reauthorization of the Elementary and Secondary Education Act of 2001 (P.L. 107-110), commonly referred to as No Child Left Behind (NCLB), was the first introduction most educators had to the term “evidence-based practices” and its requirement to use scientifically validated interventions in the classroom. In order to accomplish this, the Education Sciences Reform Act of 2002 (P.L. 107-279) established the Institute of Education Sciences with the mission of providing “national leadership in expanding fundamental knowledge and understanding of education from early childhood through post-secondary study” (20 USC §9511). This focus on evidence-base practices is also found in IDEA 2004 (P.L. 108-446) and mirrors the terminology used in NCLB.

The underlying purpose of using scientifically validated interventions in education is much the same as the physician’s goal of selecting the most effective interventions for his/her patient. However, simply selecting interventions that have proven successful for one student is no guarantee of their effectiveness on another student. Being an effective evidence-based practitioner requires not only identifying scientifically validated interventions, but also determining whether that intervention will be more effective at meeting the student’s educational needs than alternative interventions that are also available. This requires identification and incorporation into practice of interventions supported by the evidence, as opposed to using interventions based on other less desirable standards.

Special education has only recently taken the position that evidence-supported interventions are preferred over interventions without proven efficacy. The inclusion of the concept of using evidence-based and scientifically proven interventions in the most recent re-authorizations of The Elementary and Secondary Education Act and The Individuals with Disabilities Education Act support earlier research that efficacious and beneficial interventions are legitimate core concepts of health policy for children with disabilities (Umbarger, Stowe, & Turnbull, 2005), and reflected in the core concepts of disability policy (Turnbull, Wilcox, Stowe, & Umbarger, 2001).

These core concepts of public policy postu-
late that families of children with disabilities are entitled to an expectation of access to effective and appropriate interventions. Interventions that are efficacious and adequate should be made available to prevent primary, secondary, and tertiary causes of disability or correct, remediate, or minimize the effects of disability on the individual. These same core concepts suggest that families also abdicate their right to services and interventions that do not provide any measurable benefit to the individual, include medically futile interventions (Umbarger, 2000), especially when at public expense.

Families frequently seek out complementary and alternative medical (CAM) interventions for their children with chronic conditions and disabilities (Nickel & Gerlach, 2001). Families who have children with autism spectrum disorders (ASD) were found to resort to CAM in numbers far higher than families who have children without ASD (Wong & Smith, 2006), with over half of reporting families using at least one form of CAM during the past year. The vast majority of these therapies were biologically based, and families were overwhelmingly satisfied with the results.

These same families typically must pay the majority of costs associated with CAM using their own resources, putting them in conflict with the public policy goal to subsidize effective and beneficial interventions but not other interventions, no matter how desirable to the family. While families might object to the loss of control over medical decision-making, public policy also has an obligation to discharge its fiduciary duties in a responsible fashion. This includes denying services that provide no benefit to the individual with ASD.

Determining Evidence-Based Interventions

In order to determine suitability for funding it is necessary to determine the efficacy of a particular intervention. The challenge is to identify the criteria by which interventions gain practice legitimacy and then establish a consensus among practitioners. This ambiguity is represented by the lack of consensus seen in medicine and by the different pedagogical approaches to educate individuals with ASD. This lack of consensus could be argued as a motivation for seeking innovation and new practices, but at the same time it can cause frustration for families who have experienced little luck in locating interventions that are effective in minimizing the affective characteristics associated with ASD in their child.

Most professional organizations create guidelines for minimal levels of practice quality and there is not always a consensus on whether they are preferred over other interventions. For example, there is considerable reluctance on the part of many physicians to accept clinical practice guidelines (CPGs) into practice, even when the guidelines clearly indicate a benefit to the patient (McFall, Warnecke, Kaluzny, Aitken, & Ford, 1994). Among the reasons given for this lack of enthusiasm for incorporating CPGs into everyday practice are (a) an inability on the part of developers to keep the guidelines current, (b) problems related to the outcomes expectations, (c) a lack of local input and stakeholder participation in into the development and implementation of guidelines, (d) liability issues, (e) conflicting guidelines, and (f) reimbursement (Greco & Eisenberg, 1993; Mittman, Tonesk, & Jacobson, 1992). Many physicians also feel they do not need CPGs to guide their clinical practice behaviors due to suspicions concerning the motivation behind their creation and may reject CPGs when they are viewed as a tool for cost cutting or as an effort on the part of outsiders to dictate practice (Leape, 1995). The field of special education is not immune to similar criticisms.

A special edition of Exceptional Children (Winter, 2005) focused on the need to establish standards for research quality, while at the same time drawing attention to the fact that there is no universal consensus in special education regarding the preferred research design that validates research-based interventions. Even the consensus statement adopted by the Council for Exceptional Children (CEC) in 2006 reflects the use of not only randomized controlled studies but also single-subject research designs in validating the effectiveness of a given intervention. This consensus allows teachers who wish to develop appropriate evidence-based practices the guidelines they need to identify evidence-based practices.

A common misconception is that evidence-
based practice is only about randomized clinical trials and meta-analyses. While both play a significant role in evidence-based practices, even proponents of evidence-based medicine (Eysenck, 1994; Sackett, Rosenberg, Gray, Haynes, & Richardson, 1996) understand the limitations inherent in published information about clinical trials and a dependence on meta-analysis as the sole tool for judging the effectiveness of any interventions. The goal of clinical trial data is to inform, not guide, and experience is the only way to effectively incorporate the information into practice. That is why evidence-based teaching is a process, not a procedure, and special educators need to be trained in the effective adoption and incorporation of evidence-based interventions into practice.

Teachers frequently collaborate with families to identify potential interventions to explore outside the educational goals of the classroom. Many of these interventions offer the potential to alleviate some of the challenging behaviors associated with ASD and improve long-term educational outcomes for students with ASD. As a result, educators need information on the efficacy of CAM interventions so they can help guide families toward interventions that are beneficial and away from those that offer little or no chance of positive outcomes. Unfortunately, many of the most advocated CAM interventions have failed to achieve the minimum standards for effective interventions based on the guidelines established by CEC, the National Institutes of Health (NIH), and the Institute for Educational Science.

CEC’s Proposed Evidence-Based Practices Identification Criteria

CEC has attempted to specify the criterion under which specific interventions are considered acceptable for incorporation into practice (CEC, 2006). This is a result of discussions initiated in 2005 to reconcile concerns about the application of different research methodologies used in special education and how they work within the paradigm of evidence-based practices. These can be summarized as follows:

1. Interventions are considered to be SEARCH-BASED and RECOMMENDED for special educator’s repertoire if they result from four high quality studies that indicate an effect on performance to the .05 level of confidence; or five or more single subject studies of adequate design and documented experimental controls; or studies conducted at three different research sites by three different researchers.

2. Interventions are considered PROMISING PRACTICES and MAY BE INCLUDED in the special educator’s repertoire with clear caveats for limited uses in practice if they result from at least four acceptable quality studies or two high quality studies that support the practice, and the data indicate a 20% confidence level for the effect size; or at least five single subject studies meeting acceptable criteria by at least three different researchers across different geographical locations.

3. Interventions are considered EMERGING PRACTICE and are LIMITED TO INFORMATIONAL use if they are correlational in nature and demonstrate some results but suffer from lack of specification to the causative nature of the intervention. These include qualitative studies that provide evidence for specific contexts and particular individuals but cannot be generalized to the student of interest.

The medical profession has long recognized randomized controlled trials (RCTs) as the preferred methodology for ascertaining the relative increase in effectiveness of one intervention over another. The Institute for Educational Science has also taken the position that RCTs are the preferred methodology for establishing the effectiveness of an intervention (Institute of Education Sciences, 2003). The challenge is how to address the other valid research that has been conducted using different research methodologies.

Based on these standards, many widely advocated CAM interventions for ASD fail to meet the minimum standards for adoption as possible research-based interventions. Without adequate validation of effectiveness these interventions should not be recommended to
families except when included as part of a legitimate clinical trial.

Method

A review of popular literature on potential CAM interventions for autism spectrum disorders was conducted, including a review of the websites of the primary autism organizations in the United States and Great Britain. This research yielded a list of highly regarded and advocated interventions that included dietary and supplement treatments, injections of biological substances, and a host of facilitated therapies. This list was then used to generate a bibliography of clinical studies and clinical practice guidelines addressing the adoption by professional organization of these interventions into practice and their recommendations for use in practice. Electronic searches were conducted to identify journal articles using keywords such as the intervention and the limiting term “autism.” Practice guidelines were located at the website for professional organizations that provide services to individuals with autism.

Journal articles were further analyzed to identify whether they met the established methodological standards advocated by CEC and IES. Qualitative studies were not included since they fail to meet the minimum standard for incorporation into evidence-based practices. Articles were sorted to identify those that reported positive benefits from those that demonstrated non-significant improvements in symptoms associated with ASD. When possible, existing systematic reviews or research reviews were utilized as references on intervention efficacy.

Results and Discussion

One of the most interesting findings was the number of widely advocated interventions that were either discouraged by professional organizations or outright prohibited by professional ethics. Beginning with clinical practice guidelines established by the American Academy of Pediatrics, a number of CAM were either not recommended or practitioners were encouraged to collect additional information regarding their efficacy. These include a number of nutritional supplements, as well as alternative diets, physical treatments, and classroom interventions. In most cases practitioners were discouraged from their use, or, at a minimum, were told to discuss the benefits and risks associated with such interventions (American Academy of Pediatrics, Committee on Children with Disabilities, 2001).

Building on the model of evidence-based practices proposed by CEC, the efficacy of various CAM will be examined using the standards established by that organization. Each CAM intervention, based on its supporting evidence, will be classified as either “interventions that are research-based and recommended,” “interventions that are promising practice with limited use,” or “interventions that are emerging practice requiring further evidence.” A final category, “interventions that are not recommended,” is added to reflect those interventions that have no supporting evidence or that have been proven by repeated studies to be ineffective. The order of these categories is based on the number of interventions listed under each category.

Interventions That are not Recommended

One of the unfortunate realities for treating the symptoms associated with ASD is that we know more about what does not work than we do about those interventions that are truly effective. Exclusive of communication, social skills, and behavioral management interventions, there are few, if any, validated interventions for individuals with ASD. Even those validated interventions suffer from a lack of specificity with regard to what interventions and levels of intensity are appropriate for any single individual with ASD. The following discussion will review the state of the evidence on widely advocated CAM interventions for treating ASD.

The evidence on facilitated communication and auditory integration training. One professional organization that has taken a significant role in evidence-based practices by taking specific positions on certain CAM interventions is the American Speech and Hearing Association (ASHA). ASHA has recommended against the use of facilitated communication (FC) and auditory integration training (AIT) as evidence-based interventions at the present time (American Speech-Language-Hearing
Association, 1995; American Speech-Language-Hearing Association, 2004). ASHA found that both interventions failed to meet scientific standards for efficacy and recommended that additional research protocols needed to be developed to establish their potential use as evidence-based interventions. In the case of FC, the position statement also expressed concern that the negative consequences from misrepresentation of message attribution outweighed the benefits of using it as a primary form of communication. Consequently, they require informed consent to initiate the use of FC with clients who have autism (American Speech-Language-Hearing Association, 1995).

The Cochrane Collaboration (Sinha, Silove, Wheeler, & Williams, 2007) also examined the evidence on the effectiveness of AIT as an intervention for ASD. They found six studies that met their criteria for inclusion criteria but inconsistent methodologies used in these studies precluded the use of meta-analysis. Their research found that half the studies identified positive benefits, while the other half failed to demonstrate any evidence of efficacy. They recommend more research into efficacy to better inform parents of the potential benefits in order to make the best possible decisions for their family member with regard to AIT.

Secretin as an intervention for treating ASD. Secretin has been suggested as a possible CAM intervention for ASD (Horvath et al., 1998). Unlike other CAM interventions for treating ASD that have not be widely researched, the evidence to support the use of secretin to treat people with ASD is overwhelmingly against its efficacy as a CAM intervention. Systematic reviews of randomized controlled trials found no difference between treatment and control group (Esch & Carr, 2004; Sturmey, 2005) with regard to elimination of symptomology associated with ASD. However, Esch and Carr did suggest that secretin might be effective in treating individuals with ASD who have gastrointestinal problems that have been found to respond positively to secretin treatments, which may explain some of the benefits observed in the work by Horvath and colleagues. This is consistent with previous studies by Kern, Miller, Evans, and Trivedi (2002) that demonstrated relief from gastrointestinal symptoms in selected individuals.

Dietary interventions for treating ASD. Food allergies and sensitivities have been suspected to be a cause for some of the behavioral challenges observed in individuals with developmental disabilities (Ellis, Singh, & Ruane, 1999). Unfortunately, there has been little empirical evidence to support this theory (Elder et al., 2006.). Their conclusions mirrored the results from a preliminary double blind clinical trial that indicated significant difficulties in implementing effective clinical protocols to control for all confounding factors involved in such a study (Elder et al.). The Cochrane Collaboration also examined the efficacy of gluten- and casein-free diets for ASD and was unable to reach a consensus on the effectiveness of such interventions (Millward, Ferriter, Claver, & Connell-Jones, 2007). They felt that larger and higher quality clinical trials were warranted.

Heavy-metal chelation. Many of the more widely advocated alternative therapies for treating autism also pose potential risks to the individual with ASD. One example is chelation therapy, which involves the removal of heavy metals from the body. The use of chelation as a CAM intervention has garnered a great deal of interest from autism organizations and popular media based on the theory that thimerosal, a mercury-based preservative used in some types of vaccines, is one of the causes for autism. Chelation is a recognized intervention for people suffering from lead and other heavy metal poisonings, but its use for treating mercury poisoning in people with ASD is controversial because of conflicting information on the link between thimerosal and ASD.

Many of the organizations associated with ASD have advocated against the use childhood vaccines, specifically measles, mumps, and rubella (MMR) vaccinations, based on the temporal associate between the schedule of childhood vaccinations and the onset of symptoms of autism (Levy & Hyman, 2005). The MMR vaccine given to infants between 11 and 15 months (Centers for Disease Control, 2007) no longer contains any thimerosal, but did until the Institute of Medicine requested that vaccine manufacturers voluntarily remove it from all childhood vaccines (Institute of
Medicine, 2001). Influenza vaccines are the only current vaccines given to children that still contain any mercury-based preservatives (Food and Drug Administration, 2007).

The Institute of Medicine, the Centers for Disease Control, as well as researchers around the world, have failed to identify any epidemiological association between ASD and MMR vaccines. Many families, eager to find a way to improve the outcomes for their child with ASD, have taken the road toward potentially dangerous interventions to try and cure ASD through the use of chelation therapy. This has resulted in at least one death associated with chelation as an intervention for ASD (Children’s Hospital of Philadelphia, 2007). While it might be appropriate to weigh the relative benefits and risks associated with this intervention if a clear causal association could be identified, such risks are not justifiable without adequate evidence of efficacy.

In an attempt to remedy this situation, The National Institute of Mental Health (NIMH), one of the branches of the National Institutes of Health, has recently funded a clinical trial on chelation therapy to see if it can improve the behavioral functioning for individuals with ASD (Clinical Trials, 2006). This particular study is a double blind placebo experiment designed to produce evidence of adequate quality to support the effectiveness or ineffectiveness of chelation as a complementary intervention for ASD. There are also a number of additional clinical trials taking place using other complementary therapies with individuals who have autism in order to try to gauge their effectiveness as future interventions for treating the symptoms of ASD. Until such time, chelation should not be considered an appropriate intervention to treat the symptoms associated with ASD. Information on these clinical trials can be accessed at www.ClinicalTrials.gov.

Dolphin-assisted therapy. The use of dolphins to improve socialization and communication skills in individuals with ASD is typically practiced under the name Dolphin Human Therapy. The procedure was developed by David Nathanson, a clinical psychologist who conducted much of the available research on dolphin-assisted therapy (DAT). Dolphin-assisted therapy is based on Nathanson’s theory that children with disabilities will increase task completion with dolphin interaction acting as the contingency reinforcement (Humphrey, 2003). Unfortunately, several of Nathanson’s earlier works were criticized for significant methodological flaws and the inability to generalize the results to individuals who did not reflect the heterogeneity seen in the population of individuals with ASD (Humphrey; Marino & Lilienfeld, 1998). These methodological criticisms do not even begin to address concerns over cost benefits, which would need to be satisfied even if DAT was an effective reinforcement for targeted learning behaviors. Further research will be necessary before DAT can be considered a justifiable intervention, at least one that can be reimbursed at public expense.

Interventions Considered Promising Practices

Vitamin B<sub>6</sub> interventions. Evidence to support the use of vitamin B<sub>6</sub> as a CAM intervention for ASD is mixed and not conclusive. A large number of studies have reported positive benefits from the use of B<sub>6</sub> and magnesium supplements for treating ASD (Rimland & Baker, 1996), but many have been plagued by poor methodologies and inadequate dependent variable measures (Adams, George, & Audhya, 2006). Their conclusions are consistent with the recommendations of the Cochrane Collaboration (Nye & Brice, 2004).

At the same time, some researchers have taken a more cautious approach toward advocating B<sub>6</sub> as an effective intervention for ASD (Findling et al., 1997). They identified a lack of adequate dependent variables and variability in treatment protocols that suggest there is insufficient evidence for recommending the use of B<sub>6</sub> for treating the symptoms of ASD. Both recommend additional research to better understand the biological mechanisms that explain this intervention and determine whether benefits result from treatment or a possible placebo effect in treatment groups.

Music therapy as an intervention for ASD. Music therapy involves using music and musical activities as a basis for therapeutic interventions. The most comprehensive study available is a meta-analysis of musical interventions for children and adolescents with autism (Whipple, 2004) that found all musical interventions to be significantly effective in improv-
ing one or more areas of communication and social skill development. The Cochrane Collaboration examined three small-sample studies that indicated musical therapy improved verbal and gestural communication skills but not behavioral problems (Gold, Wigram, & Elefant, 2007). Other studies (Wimpory, Chadwick, & Nash, 1995; Orr, Smith-Myles, & Carlson, 1998) also demonstrate potential as an intervention for individuals with ASD. Additional and more robust research was one of Whipple’s recommendations for music therapy research.

**Hippotherapy and therapeutic riding.** Hippotherapy uses horses as therapeutic equipment, while therapeutic riding involves the use of riding as a recreational activity that is goal directed. Rolandelli and Dunst (2003) conducted a systematic review of available research on the use of hippotherapy with children who had a variety of disabilities. The majority of these studies involved single subject designs and demonstrated generally positive outcomes. As with the studies involving DAT, many of these studies suffered from poor methodology and control of confounding and external variables. One of the primary recommendations for future research was to develop higher quality studies with better implementation of research protocols. More research also needs to be conducted to measure the cost benefits of using hippo therapy and therapeutic riding as alternatives for more traditional forms of therapy to determine if the benefits justify the additional cost of this therapy.

**Research-Based and Recommended Practices**

One of the unfortunate realities of ASD is that we know far more about what does not work than we do about what treatments are appropriate for any single individual with ASD. The heterogeneity of the population of individuals with autism, coupled with the lack of quality research, has a chilling effect on families searching for effective ways of managing the characteristics associate with ASD. This is confounded by our lack of understanding regarding the etiology of ASD, as well as the expansion of the criteria for assigning the label of ASD to individuals who have other forms of developmental disabilities.

At the current time, there appear to be no CAM interventions that have yet achieved the minimal standards necessary to be advocated as a recommended practice by CEC or IES. While it is not the responsibility of the educator to conduct these CAM interventions, they do serve a valuable role in helping families make wise decisions concerning their use. One of the challenges is disseminating information to families so they are aware of the potential benefits and risks associated with each intervention.

**Recommendations for Improving the State of Evidence**

One of the most important lessons to be gained from this examination of the state of evidence involving CAM interventions is the desperate need for more and better quality research into the benefits and cost effectiveness of CAM interventions. In several cases there are sufficient quantities of research being conducted, but many of these studies suffer from poor research designs. This has the consequence of limiting its applicability to evidence-based practices and is a serious deficiency in need of corrective action.

**Better Quality Research**

One key to improving the quality of research is for researchers to move away from a dependence on single-subject research designs and attempt to develop research studies that utilize treatment and control groups. The heterogeneity found in the population of individuals with ASD is a significant limitation to the effective use of single-subject designs for creating general practice guidelines. While practice guidelines may be a valuable tool for evidence-based practices, the creation of practice guidelines is limited by the nature of research design.

**Improved Dependent Measures of Behaviors Associated with ASD**

One of the primary research priorities of the Combating Autism Act of 2006 (P.L. 109-416) is to improve the availability of dependent variables measures that fully reflect the wide range of abilities and disabilities identified in
people with ASD. Many of the studies examined in this article were victims of poorly selected dependent variables, or in some cases the lack of robust measures to differentiate between clinical and sub-clinical changes in functioning as a result of treatment. The development of improved dependent variable measures will go a long way toward improving the quality of research and its applicability toward broad adoption of CAM interventions.

Service Funding Based on Efficacy and Research Validation

Families who have children and adults members with ASD are constantly challenged by a lack of consistency in funding interventions that they desire. Much of this frustration results from the reality that public and private payees both require evidence of efficacy before they subsidize a course of treatment. This is consistent with the core concept of disability and health policy that reflects a pragmatic approach to discharging of fiduciary responsibilities by requiring proof of benefits prior to funding of services. Thus the need to enhance the quality of research conducted on CAM interventions.

There also exists a need to prove that these CAM interventions are cost-effective. Justifying interventions that are much more expensive but only marginally more effective limits the availability of funds to expand programs to a larger group of individuals with ASD. The Combating Autism Act of 2006 (P.L. 109-416) includes tens of millions of additional dollars for expanding the availability of services to individuals with ASD. The challenge is how to use these additional funds to provide the maximum benefits to the greatest number of beneficiaries. Adopting a cost-benefits approach to funding may prove to be the most effective way to allocate these funds, especially since the research base for many CAMs is limited or wholly unsupportive of their use. At the very least, this offers a chance to give more individuals access to funding streams for ASD services.

Advocacy Based on Efficacy and Research Validation

It is difficult to gauge the enthusiasm by special educators toward the adoption of evidence-based teaching. The approach toward the creation of practice guidelines needs to be incorporated into special education in a more thoughtful manner than their adoption in medicine. Physicians have been slow to adopt clinical practice guidelines because of the perception that such guidelines limit autonomy and lead to a one-size fits all approach to medicine. The same concerns apply to special education. The last thing anyone advocates is using any single intervention or class of interventions as the definitive intervention for ASD. The diverse nature of ASD precludes this approach to teaching, as does the need to develop a more prescriptive approach to educating students who display a unique set of educational needs.

Research advocacy. Special education researchers need to incorporate greater use of random assignment and creation of control groups in intervention studies they conduct. The medical field has long reconciled their concerns that randomized controlled trials are unethical, incorporating guidelines in the protocols to suspend studies when proof of efficacy is established, or when harm is suspected for either group. The same guidelines can be incorporated into special education research without negative consequences to individuals with ASD.

Additionally, special education researchers should increase their use of randomize controlled studies while moving away from a dependence on single-subject design studies. This article is hardly the place to enter into a discourse on the relative merits of one methodology over another (see the Exceptional Children, Winter 2005 edition for a more thorough discussion of the issue), but this is a discussion that needs to continue, if for no other reason than to reconcile the concerns across our discipline over what constitutes adequate evidence of intervention efficacy.

Popular media. Popular media has been one of the most powerful tools for perpetuating the perceived benefits gained from these CAM interventions. A simple search on the Internet yields a large number of conflicting claims regarding the efficacy of different interventions, but when an intervention is mentioned on television or in print media it gains an unwarranted legitimacy. Unfortunately, this author’s experience has been that many
of the claims are wildly overstated and reflect the editorial perspectives of the source.

At the same time, special education researchers need to take a greater role informing the public about the efficacy of specific interventions. Every newspaper article that touts dramatic benefits for a single individual pushes more families, who are frustrated with the lack of improvement in their family member with ASD, to seek out interventions that may be only marginally effective, ineffective, or potentially dangerous. Our profession needs to adopt the position that we support and advocate only those interventions that have proven effectiveness unless we are encouraging participation in legitimate clinical trials. Encouraging families to seek interventions that do not meet these standards is an abdication of our ethical responsibilities to act in the best interest of our students and clients.

The use of evidence-based interventions is an evolving practice. The medical profession has worked under this paradigm for a generation, but it is still quite common to find physicians who refuse to adopt clinical practice guidelines because they are considered “cookbook medicine”. It is quite likely that a similar position will be adopted by special educators who fear that they will have to adopt classroom interventions that they do not support or trust. This is confounded by the lack of a specific methodology in education on how evidence-based teaching will be practiced.

What special educators can do at the current time is help families affected by ASD to select interventions that offer real possibilities of improving the functioning in their family member. At the present time there are no alternative and complementary medical interventions that meet the most rigorous standard for adoption. Even those that appear promising are plagued by insufficient evidence that discourages widespread adoption, while the vast majority lack any evidence of efficacy or are potentially dangerous. One priority that needs to be adopted in special education and the field of alternative and complementary medicine is to improve research into intervention efficacy and examine the cost-benefits associated with these interventions. Failure to do otherwise will hamper continued efforts to improve the long-term outcomes of individuals with autism spectrum disorders.

References


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