

## "The Effect of Acupressure for Moderating Behavior of Attention-Deficit/Hyperactivity Disorder Adolescents"

### **Abstract:**

This study examined the effects of an acupressure intervention with two adolescents previously diagnosed with attention deficit hyperactivity disorder (ADHD). An inventory based on standard criteria for diagnosing ADHD was completed by each student, their parents, case workers, and teachers both before and after the intervention. The intervention consisted of 4 1-hour acupressure sessions given to each participant over 3 to 4 weeks. For the male participant, all raters concurred that average ADHD behavior was reduced with teachers' ratings showing the greatest behavioral change. However, for the female participant, the pretest inventory did not indicate ADHD behavior and other data were incomplete. Results suggest that acupressure may be an intervention that could be used to improve ADHD behaviors.

### **Introduction:**

Attention-Deficit/Hyperactivity Disorder (ADHD) has become the most prevalent childhood psychiatric disorder. Experts estimate that more than 2 million children or from 3-5% have the disorder (Hancock, 1996). ADHD is diagnosed by persistent patterns of impulsivity, hyperactivity and inattention as displayed over a six month period of time in at least two settings. As noted in the Diagnostic and Statistical Manual of Mental Disorders (APA, 1994) this behavior must be more severe and frequent than is typically observed in children at a comparable developmental level and must interfere with developmentally appropriate academic, social or occupational functioning. There are no lab tests that are diagnostic in a clinical assessment nor are there any specific physical features that manifest with ADHD...Many children diagnosed with ADHD are given either stimulants like Ritalin, Dexedrin, or Cyfert that increase the flow of dopamine in the brain or antidepressants such as Tofranil, Norpramin, or Elavil...Many doctors believe that Ritalin is

overprescribed. Drugs often take the place of behavior-modification therapy and special help in school. Drug-induced production of dopamine does limit the body's normal production of dopamine and there are side effects to these drugs. Consequently, many are searching for alternative ways of behavior modification...Acupressure has been practiced as a healing art for three to five thousand years in China where it originated. Acupressure involves subtle energy manipulation through finger pressure on acupressure points. These are the same points used in acupuncture. There are approximately 360 acupressure points that lie along the meridians or channels of human energy. Some of these points lie underneath major muscle groups and are found within a muscular band, cord, or knot of tension; while others are located in indentations near bone structures. These points are especially sensitive to bioelectrical impulses. When stimulated with pressure or heat these points affect the endocrine system and trigger the release of endorphins, neurochemicals that

relieve pain. Individual points are useful for a range of symptoms and conditions but are most effective when used in combination with other points...

**Methodology:**

This study sought to determine whether there would be a change in behavior of the two participants as measured by scores on pre and post inventories that were completed by the participants and by their teachers, case workers and parents or guardians. The two students were selected by the staff from among several students who had been diagnosed as ADHD. There was one male 15 years old and one female 16 years old. The two students received a brief description of acupressure and then were asked by the researchers if they would like to participate. They both agreed and were given informed consent forms for them and their parents to complete. The inventory was then distributed to each student and their parents, case workers and teachers to complete. The inventory was developed by Lynn Johnson and based on the DSM IV criteria for diagnosing

Attention-Deficity/Hyperactivity Disorder (ADHD). It was completed before and after the intervention. It consisted of 16 questions about behavior (4 hyperactivity questions, 5 impulsivity questions, and 7 lack of attention questions) and is attached. The intervention between the pre- and post-assessments was four one hour acupressure sessions given by Lynn Johnson to each participant over a three to four week period of time. During the first sessions, medical histories were taken 4 and then acupressure was given to each participant for approximately 50 minutes. In the following three sessions, the participants each received 60 minutes of acupressure. The two participants generally received acupressure on the same day. Gentle music or natural sounds of birds and ocean played in the background during the sessions. The sessions were given at the school at the end of the school day, in the presence of Jane Kauffmann. At the end of the four interventions, the students, parents, case workers and teachers were asked to complete the

same inventory again. These pre and post inventories were then analyzed.

### **Discussion:**

To examine the influence of acupressure treatments on the perceived behaviors of students diagnosed as ADHD, data potentially could be analyzed for two participants (1 female and 1 male), at two time points (pretest and post test), using 4 sources of information at each point (participant, teacher, caseworker, parent or guardian). Each inventory sheet had 16 questions which could indicate ADHD behavior, making it possible for each participant to be rated as "showing ADHD behavior" 62 ways before and 62 ways after treatment. Each question on the inventory could be answered on a 5-point scale (1= "never", 5= "all the time" after reversed items were transformed so that the high score meant "more ADHD-like behavior"). On any one inventory a participant might be rated between 16 ("not ADHD-like") and 80 points ("extremely ADHD-like"). We operationally defined a rating of "3" or more on a question as "showing ADHD behavior"...

### **Male Participant**

The male participant had data complete enough to analyze. For the pretest inventory, 44 out of 62 questions indicated ADHD behavior. The teacher's ratings indicated the highest level of ADHD behavior with an average question rating of 4.12. The student indicated the lowest level, averaging 2.75. Parent and case worker gave moderate average ratings of 3.71 and 3.62, respectively. The ratings of parent, teacher, and caseworker were in moderate agreement about specific questions. On the post test inventories 38 answers of the 62 indicated ADHD behavior. Of all the raters, the teacher's ratings were most changed from the pretest, now averaging 3.81. Other raters concurred that average ADHD behavior was 5 reduced, to 2.43 (student), 3.64 (parent), and 3.37 (case worker). The range of scores among the raters was smaller at the post test. The behavior changes were seen to occur in all three areas of hyperactivity, impulsivity, and lack of attention. Greatest improvements were in restless behavior, distraction by external stimuli, and engagement in physically dangerous activities. The

male participant was very willing to participate in the acupressure sessions and seemed to enjoy them. (In contrast, he was less than cooperative in many other activities in school). In one session he showed us a picture of himself as a baby. He reported that the sessions relaxed him and made him feel tired. After three of the sessions, he reported that he had a nap or slept very well that night. Although at the beginning of each session he had been exhibiting nervous, boisterous behavior, he fell asleep in three of the four sessions.

### **Female Participant**

For the second participant, the pretest inventories did not indicate ADHD behavior. Therefore any behavioral improvement because of the intervention was questionable and further analysis was not done on the inventory answers. This participant's data also was incomplete..

### **Conclusion:**

For the male participant, all four respondents (the participant, teacher, case worker and parent) indicated by their answers on the pre and post inventories that there were positive behavioral changes, which we

tentatively interpret as being due to the acupressure. These behavioral changes were in all three areas: hyperactivity, impulsivity and lack of attention. The greatest improvement (as seen by the case worker and teacher) were in his restless behavior, distraction by external stimuli and engagement in physically dangerous activities. The case worker mentioned after the last session that she had been able to successfully talk and work with the participant on his feelings for the first time, although she had known him for a year.

From this single case study it appears that acupressure may be an intervention that could be used to improve ADHD behaviors. It is recommended that additional research be done with a larger population where parental cooperation can be assured and where there are more stable home situations

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