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Assessment of the Jordanian Experience in the Training and Treatment of Autistic Children Using Horses, from the Perspective of Parents and Professionals

Nieveen Moh'd Abuzaid
Al Balqa'a Applied University, Salt, Jordan

Abstract: This study aims to identify the pioneer Jordanian experience in the training and treatment of autistic children through the use of horses from the perspective of autistic's surroundings and parents. It also aims to highlight features of autistic children that could be changed and improved after being exposed to a global program which effectiveness was proved through universal studies by the means of intervention. The study was limited to a single program designed for Autism treatment entitled growing together presented and administrated by the association of her highness Princess Alia Bent Al-Hussein, at the royal stables where a random sample of 20 children was chosen, due to the limited number of centers enrolled to the program due to many considerations, including the availability of one trainer only and the place and time devoted for individual training, as each child is being trained in a separate session. Lack of parents' interaction with the program and its details led to the need for the intensification of the use of the specialists around. The researcher prepared and used a questionnaire involving 74 paragraphs. These are answered by either parents or specialist accompanying the autistic child. The researcher uses those direct questions in order to identify a child's features before and after being exposed to growing together program. The tool was only applied after asserting its honesty and consistency. After collecting and analyzing data, the results found confirmed the effectiveness of the program in improving autistic children's capacities. Thereafter, the study came out with some recommendations at the top of which is the circulation of the idea to the concerned ministries, institutions and other centers specialized in autism treatment. The study emphasizes the fact that the responsibility of fighting the disease is a general one and that we both private and governmental institutions must work as a one hand, in order to adopt the mentioned program and support and help autistic children. It also recommends that specialists and researchers be informed with modern methods of treatment that specialists working for this program should be regularly trained and that providing all possible ways to adopt, support and disseminate successful programs in order to improve the capacities of individuals with special needs is of a great importance.

Key words: Global program, universal study, autistic child, random sample, parents

INTRODUCTION

Despite all the hardships surrounding him, man is able to cling to life to find a meaning to his life and never gives up. This is the main function of human sciences by giving purposes and meanings for all performances of humanity and by helping others to identify their goals and adjust their baths. Namely, science goes forward helping those groups living in pain and suffering, those who are trying hard to cope with reality, as a result of deficiencies they have in various aspects of growth.

Autistic children live within their families surrounded by pain. First 3 years of their lives reveal their idiopathic suffering and deficiencies in humanistic performance, thus successful prescriptions all fail to bring any hope. Still, white hands are still holding these tiny undecided hands, leading them to a safe harbor, illuminating their baths in life with hope and helping them to cling to that beam of light existing among all the darkness imposed by their suffering and pain.

These are the traits of the Hashemites in creating humanistic atmospheres and ensuring the rights of all, her royal highness Princess Alia, through the foundation of Princess Alia was the first to apply for such outstanding humanitarian services for autistics through growing together program for the treatment of autism patient using horses. This is one of the programs for which her royal highness has paid a great consideration and launched in October, 2010 as one of the modern methods that have proved its effectiveness in the treatment of autistics.

Believing in her message, H.R.H stated the possibility to contribute to open doors to this special category of

children and their parents confers a wonderful sense where those children are distinct from all others in several aspects that enable them to contribute uniquely to society through their abilities and their unique insights. This program facilitates and paves the way to highlight and improve these abilities using horses and nature, a matter which reminds us of the unity of creation and obliges us to deal with the entire creation with compassion and respect (Alia Al-Hussein, 2011).

The foundation provides this program for children diagnosed by specialized centers with whom the needed correspondence and organization was made where horses were used as intimidators among the autistic and others. This child who suffers neurological disorder that affects negatively the functions of his brain and makes him escape from any relationship with others to relationships with things. Autism disorder is not a rare disability and the percentage of its patients cannot be ignored but they have not received the portion they need of attention in terms of research within developing countries whereas an increasing interest is clearly seen in developed countries. The interest in autism and its patients has relatively increased within Arab countries during the last 10 years.

MATERIALS AND METHODS

Problem of the study: Autistic children live in a world progressing with an astonishing speed, improving individuals' lives and providing humankind with all means of comfort and luxury. This group, however do not receive the required help of treatment programs and strategies, although this is not the case with similar groups all over the world. These programs are not adopted and supported sufficiently and the problem of this study lies in detecting the efficiency of one of the global programs adopted by her highness, Princess Alia Bent Al-Hussein, in order to support this category and improve the capacities of autism patients using horses in their treatment and training.

This category often suffers from the weakness of programs offered and the law capacity to fight the disease and reduce its symptoms due to the failure in finding its causes and the lack of a sufficient treatment of it, despite the increasing number of autism patients locally and universally. In addition, the multiple spectra of the disease add to the complexity of its form, making it in need for further research, study, experimentations of methods, treatment programs and training and qualifying programs for both specialists and parents. Thus, cooperation of all units of community, individuals and institutions has become a must to deal with such diseases and assist these groups in need to all sorts of assistance by providing them with the needed awareness, helping them both physically and psychologically and conducting more studies and researches that improve their capabilities and adaptation to reality; making them closer to normal life.

Questions of the study

Question one: Are there individual differences that are statically significant to the effectiveness of a therapeutic training program based on the treatment through the use of horses to improve the capacities of autistics enrolled in growing together program at the royal stables in the Hashemite Kingdom of Jordan?

Hypotheses of the study

First hypothesis: There are no statically significant differences to the effectiveness of training and treatment using horses in order to improve the capacities of autistics enrolled in growing together program at the Royal Stables in the Hashemite Kingdom of Jordan.

Significance of the study

Theoretical importance: The importance of this study lies in shedding light on the details and results of a program designed to the treatment and training of autistic children through the use of horses which is a universal idea adopted locally by H.R.H, Princess Alia, recruiting her institutions with their various stuffs under the supervision of specialist for the treatment and training of autistic children humanly without any cost on the part of the patient. It is merely a humanitarian service provided by her royal highness, holding the responsibility of helping this category out of her believing in this particular program.

The study is to clarify the details, characteristics, main idea of the program and the mechanism of the treatment. It also provides, the accessed information and details related to the disease, the program and horses, as it provides theoretical information for researchers and those who are interested which can be used for the completion of the studies and researches and tries to present a theoretical basis designed to assist those who are interested in understanding and interpreting how horses are related to the treatment and training and describes the influence methods and aspects.

Scientific importance: The study provides clear cases that have been dealt with and precise details concerning patients before exposure to the program. It also shows how the program may assist patients and its influence upon them. In addition, it describes practically the strategy of using calm horses that are not used for races and championships in the treatment of autistic children

and improving their performances and abilities. Finally, the study provides clear practical steps that can be used to adopt the ideas of the program and its application.

Terms of the study

Autism: One of the forms of developmental disorder which occurs during early years of age. The clinical image of which includes deficiency of verbal communication and mutual interaction and limitation of interests and activities.

Autistic children: Children patients of one spectrum of autism, who appear to have at least one of the clinical images of the disease.

The Jordanian experience in treatment through the use of horses: A specialized strategy of treatment and training for autistic children. The strategy is applied on children diagnosed by specialized centers who are later exposed to a program in which horses with special characteristics are used. Horses are carefully chosen from the royal stables by growing together program supervised by H.R.H, Princess Alia Bent Al-Hussein, though the foundation named after her highness.

Limitations of the study:

- Sounding the opinions of parents and professionals who accompany the child with autism with regard the effectiveness of the treatment and the training program through the use of Hashemite Jordanian horses to improve capacities of autistic children
- Select the sample of the study from educational centers participating in the program in the capital Amman
- Application of the study on the sample on May, 2011

Study tool: A questionnaire to assess the performance of autistic children was prepared by the researcher. The questionnaire was applied before and after 3 months of training on the same group.

Procedure of the study: The questionnaire was prepared by the researcher and then it was evaluated by specialists. After making sure of the paragraphs appropriateness and stability and after having the consensus of the arbitrators on its final form, it was applied to monitor the performances of children diagnosed with autism by specialized centers who thus joined the program. The questionnaire is filled by parents and professionals before participation in the program in order to evaluate children 2 months before being exposed to the program, after that children and their parents pay regular visits to the Royal Stables following a particular schedule to start working with the trainer.

The 2 months later, a significant advancement of those cases was noticed and thus, the number of visits to the center of studies at the Royal Stables was reduced. Specialized training programs and parents were recommended to continue training in order to provide natural atmospheres and to pay constant visits to places where horses exist. Depending on the reports of the trainer and specialist, the questionnaire is applied again to assess the situation of children after training.

Study methodology (study society and sample): About 20 cases from special educational centers benefitting from the program were selected by the program of treatment and training of autistics through the use of horses. The program included interaction among specialists, parents and autistic children who joined the program through specialized educational centers participating in the program.

Theoretical framework and previous studies

First, theoretical framework: Human suffering and pain are endless. Despite scientific progress, there are still some diseases for which no sufficient therapy had been found. The base of pain is widening and the number of autistic patients is increasing. Although, the disease was identified in 1943 which is a relatively long time ago, the real causes of the disease are still unclear.

It's a state which hinders the way through which the brain absorbs and processes information and leads to problems and disorders in acquiring learning skills and social behavior.

Researches link this disability to several reasons:

- Biological-neurological differences of the brain but symptoms could reach to the stage of deficiency and disability to control personal behavior due to a defect in one part of the brain
- Genetic reasons but the particular gene associated with this deficiency is unknown yet
- Factors related to the psychological environment of the child
- Factors related to certain mental illnesses
- Taking harmful drugs during pregnancy

Studies emphasize that specialized education, organized support and awareness are all significant factors that play a key role in helping people with autism (Alzeriqat, 2010).

Diagnosis of autism: While, there are no medical tests to diagnose autism, accurate diagnosis depends on direct

observation of individuals' behavior, his relationship with others and the rates of his growth. Autism shares some symptoms with other behavioral disorders, thus we resort to some medical tests and trace the stages of child growth. Autism might be accompanied with:

- Mental retardation
- Behavioral disorder
- Hearing difficulties
- Gross/rude behavior (Samadi, 2007)

The word Autism is derived from Latin origins, autos meaning self and the word Autos as the root of automatic is an equivalent to the independent activities without the need for external inputs.

Indeed, there are many consistent views on the content or the sense of the word autism while the disapproval falls on the literary form of it. Some translated it as autism, others as rumination or oneness. All previous terms is used to describe a case of a disability in overall growth.

Autism is a developmental disability, whose main cause is unknown yet. It originates from a dysfunction in the brain characterized by a stop or a failure in the growth of sensual and language perception and a failure in abilities to communicate, learn and interact socially.

It is an inclusive developmental disorder that occurs during the first 3 years of a child's life leading to a deficiency in:

- Receptive and expressive language
- Social aspect and relationships with others
- Attention, concentration and communication

American psychiatric association defines autism, as a general developmental impairment that typically appears during early years of life. The clinical image of which includes: Difficulty in verbal communication, failure in mutual interaction and limitation of interests and activities.

While, the American Association of Autism defines it, as a severe and chronic hinder of growth that typically appears during early years of life and is a result of a neurological disorder that affects normal functioning of the brain negatively.

We are still unaware of the causing factors for this disability, since no approval had been done on whether it is caused by heredity genetic, social factors, biochemical factors or a combination of all. This results in a difficulty in diagnosis, interference or rehabilitation. Another difficulty is due to similarities of autism symptoms with several other disabilities and diseases, such as mental retardation, emotional disorders and schizophrenia. The fact that researches carried out on autism are relatively recent, the absence of any biological signs, the lack of certain medical tests to diagnose it and the default of the growth capacities of the autistic child hindering his communication with others were and still impeding factors to the success of diagnosis or intervention.

French Psychiatric Leokanner kept monitoring the cases and reading on the topic and then thers found Asperser's syndrome and was considered a separate disability falling under the umbrella of growth disorders along with autism. While Rett's syndrome referred to by the Austrian Dr. Andresen who found cases with symptoms different from those of autism, traced them, after that the International Association of Rett syndrome was established which aimed to detect cases, educate parents and to conduct further researches on the causative factors and treatment methods (Siegl, 1996).

Autism is not introversion and as a case of illness, it is not a case of mere isolation of one's self, rather rejection to dealing with others accompanied with other problems and sets of behavior that differs among individuals.

It is a complicated developmental disorder which typically appear during the first 3 years of a child's life, as a result to a dysfunctional defect in the brain and nerves whose accurate causes have not been discovered yet.

Between the 40 and 60's of the last century, a theory claiming that psychological factors might result in autism for normal children was dominating. It claimed that normal children living in an environment in which they do not feel the needed love, acceptance and affection tend to become isolated and introvert and refuse to respond to others. Consequently, parents hold the responsibility of such cases. Bruno Bettelheim used the term refrigerator mother to refer to unaffectionate mothers, as a main cause for autism.

Studies on causative factors of autism continued and there was a shift in interest from the focus on parents to the focus on the surrounding environment. As a result, another theory called environmental deprivation occurred. The belief that autistic children are born normal with the ability to grow normally but they fall back escaping from harsh external environment to themselves is still prevailing today.

After that researches began to confirm autism correlation with a nervous disorder whose root are unknown yet but the latest and most optimistic studies proved the brains ability to compensate for some of its functions affected by the existence of an injury or malfunction.

Courchesne (2004) could find some evidence supporting the third potential factor affecting the differences in the size of the brain. That autistic children have smaller brain cortex in-born but they go through a period of quick brain development during the age 6-14 months.

Other studies were carried out on the function of the brain stem in adjusting a number of core functions, such as breathing, balance, motor coordination, waking and sleeping, stimulation and attention. These studies revealed the existence of clear differences in the brain stem among normal and autistic children and thus clear differences in characteristics and skills.

The peripheral nervous system had received a good deal of interest as well. This includes the amygdale and the hippocampus and is considered a basis for all elements of social-emotional behavior. It also, allows humans to collect psychological meanings (emotional events) and effects. Consequently, it is responsible for creating the desire for social and emotional communication.

With regard (cerebrum), tomography of the brain showed an inadequacy in processing in the left hemisphere of the brain effecting the integration of the roles of its various systems.

Since, the brain is subjected to many changes due to maturity and experience, it usually modifies the existing neural linkages and produces new ones. It also compensate for the damaged or affected areas of which, what is known as (neuroplasticity). Therefore, the focus should be on early intervention services to help in the compensation and strengthening of children's capacities to improve their performances and skills.

Researchers also found differences in the nerves' chemicals among autistics, (chemicals that transmit signals and messages within the brain). This resulted in the use of certain drugs for the treatment of autism spectrum disorders. Unfortunately, some of these drugs caused epileptic fits, anxiety and other forms of stereotypical behavior.

There is no successful treatment for autism but this does not call for frustration, since education and training are able to make children acquire many intellectual and psychological behavioral skills making a positive reflection on their situations. Still, some kids continue to have some symptoms, no matter how weak their degrees are.

Some evidence predict that autistics with normal intelligence, no linguistic disorders and receiving good learning and training through institutions with good programs are able to get better. Other studies suggest that autistic may live a normal life depending on themselves or might be considered disabled and in need to help with various degrees.

Children with (ASDs) spectrum of autism disorder exhibit diversity of features in general but the most common features among them occur in:

- Communication
- Interaction and social participation
- Interests and activities (Al-Ghamdi, 2003)

Treatment of autism varies from one child to another, since the degree of its symptoms varies from one patient to another as well. Nevertheless, the treatment is tree-dimensional:

- Psychological
- Medical (using drugs)
- Social

The psychological treatment has several methods such as:

Lovaas' method: Behavioral therapy which is based on rewarding the child's good behavior and punishing him-through the deprivation of things the child likes in case of improper behavior.

Organized education: To regulate the vicinity of the child in terms of time and place where he can predict what will happen later on, to avoid any confusion and to increase the self-reliance. In addition to using many of psychological and social development methods and strategies.

However, the treatment of autism does not depend on the medical, psychological and social side only, it requires a flexible training program varies according to the development of the child's condition, age and is designed for giving the child positive experiences in different life issues. The program should include cognitive knowledge of shapes, sizes, colors, matching, classifying, identifying parts of the body, social skills and self-care training as preparation of food, the use of eating utensils, dental care, bathing, dressing and undressing, imitate simple

movements, reproduce different sounds, drawing and handicraft that strengthen eye contact and develop sense of colors, fonts, size and dynamic functions. As for trips and group visits to public places, parks and shopping centers, it helps children to integrate with others and enhance community acceptance.

Still, determining how and what should be taught to people with autism spectrum disorders is not so clear yet and the Heterogeneous community in terms of obvious difference between the capacities and needs of students with autism spectrum disorders makes a clear divergence in the decisions related to ways of help and treatment, especially that characteristics of the autistics vary-even within the same category-in terms of capabilities and needs.

It should be noted that autistic children whom do not have a mental disability grow physically, as usual as other normal children and with the change in the nervous system their behavior improves significantly.

There are 5 types of disorders that fall under the big title of autism spectrum disorders:

- Autistic disorder
- Asperger's disorder
- Rett's disorder
- Childhood disintegration disorder
- Pervasive developmental disorder not otherwise specified

Autistic disorder was described by Kenner: And it was named after him (Kennerian autism) beside other names like: Early childhood autism, autism, childhood autism. It is when the child shows one failure before age of 3 in 3 areas: Communication, social interaction, interests and activities and does not develop verbal expressive spoken language.

Asperger's disorder: The patient suffers from linguistic or communicative impediment, their language in age of maturity do not match their chronological age and they tend to show a wide range of words and speak for a long time but with themselves and not with others. Additionally, individuals with Asperger's disorder have clear problems with the non-verbal communication (Alzeriqat, 2010).

Rett's disorder: It affects females on the assumption that it kills males and it's diagnosed by the sudden decline in motor and linguistic skills after a natural growth of a continuous (6-18 months) and the emergence of stereotypical movements and problems of motor synergies, walking and difficulties in communication and interacting with others.

Childhood disintegration disorder: Appears after 2 years of normal growth (it must be diagnosed before the age of 10) and differs from the terms of autism, since it begins before 30 months. First, we should be sure that at least 2 years of natural growth has passed without any defect and then a sudden relapse appears in at least two areas, such as bladder and bowel control, language, movement, play, failing to recognize their parents or even feed themselves.

Pervasive developmental disorder not otherwise specified: This category shows deficiencies in the areas of communication and social interaction, interests and activities and at the same time does not require the emergence of all the characteristics of each area.

It is preferred to do some medical tests after that to exclude the presence of other factors where the chromosomal analysis is used to determine whether the child is suffering from Rett's disorder or fragile gender chromosome but the electroencephalography (a way of measuring the electrical activity of the brain) may not work because ordinary children may show abnormal brain activity, as well as for metabolic blood tests or the glands, all are not considered useful.

Due to the overlapping symptoms of disorders we use the distinctive diagnosis to determine if the child shows a single set of standards-related to disturbance that will strengthening the likelihood probability of accurate diagnosis of the expected disorder type.

People surrounding autistic children like specialists, teachers and parents usually have a sense that something is not normal in the child's development, so they chose to use tools of reliable evaluation that suits the environment and include natural observation, behavioral sample, stimulating responses, the reports of parents and teachers, self-reports of the student and standardized tests. Assessment must be continuous at home, school and various social situations.

The prevalence of autism: Detroit Medical Center in Detroit-USA announced on 1998 that Autism disorder is more common than Down's syndrome and it is a life-long disorder that affects at least 4-5 children of every 10,000 children and the proportion of infected in males is (4:3) times the females.

Description of the program of education and training of autistic children using horses: The strategy that is being applied now is learning with horses, God has given horses the gift of playing and familiarity with humans and horses also as said Prophet Mohammad PBUH (good is knotted in their forelocks to the day of resurrection) Muslim's Sahih. And the meaning of good is knotted in their forelocks is that good accompanies them as if it's knotted to them. Forelocks mean the loose hair on the forehead.

The cases carried by the media about children with autism claims that autistic children who have dealt with horses learned the horse's body language and developed in timate relations with it which helped them to adjust themselves more and to express themselves in calmer ways.

This approach of learning has taken a scientific organized method and was called psychotherapy using horses and it includes a range of activities with the horse and how to deal with it and taking care of it beside training, leadership and using it to jump with the help of a horse trainer.

Horses have a positive effect to communicate with different people and surroundings, beside their affect in developing self-confidence and emotional growth by enabling the person to control and lead a large animal like a horse. And this enhances the confidence of the patient in him and in his abilities and makes him review the process of self-evaluation. The horse enhances the positive behavior exercised by the child, so that the child is allowed to ride the horse whenever showed adaptive desirable behavior, the physician and the coach work as enhancer of the positive behavior of children through horse. The sessions are based on the principle that taking care of horses, feeding them and to heed them will make the autistic person more attentive and will encourage him to focus his attention on himself and on those around him and he'll be taught how to change and control his behavior because children have the benefit of flexibility and ease in establishing relationships so they will be more open to develop relations on an equal footing with the horse instead of control it.

Taking care of horses relieves tension caused by the sense of frustration and fear which helps the child to build self-confidence, gain the confidence of others, increase motivation and attention by stimulating the senses by touching the skin and hair of the horse which helps to develop sensory motor synergy and increases the desire to communicate and then to learn and take control of himself and things around him and deal with the conflict that occurs during the communication which improves the mood and controlling the temper tantrums in autistic and create their calm repeated smile.

It is a way with which children learn things about themselves and about the community and others and about how to interact with the world, they are not learning the skills of horse riding, with this method the child does not need any previous experience in horse riding.

Therapy using horses works to stimulate the senses through touch. That is, feeling the skin of the horse and touching the hair of the tail and its soft nose. Specialists confirm that the discovery of these feelings through touch helps a lot to attract the attention of the child and stimulates children to develop verbal skills and that treatment with horse develops many of the motor skills and helps the child to learn new skills, in addition to increase self-confidence which increases the desire and willingness to learn the skills at home or school.

And it is a very useful method in cases of children with autism, attention deficit cases with cerebral palsy, mental retardation, developmental delay and behavioral disorders where they have extreme difficulty in communicating and interacting with others and carrying out instructions.

Philosophy of treatment using horses: Horses react as a mirror of the person, it can be very scary if it was with someone aggressive, noisy, bumptious or lover of control, on the other hand if the person is calm and friendly the horse will begin to cooperate with him where it is always looking for a leader this pushes the patient to try to change his behavioral patterns so that he can control the horse. This is why horses are very good for use as a treatment for children, giving a child just a small idea about dealing with the horse in the right way will give him the capability to become dominant on the horse. On the other hand, the horse feels safe and peaceful and will cooperate with what the child ask it to do.

Horses have achieved remarkable results in the United States with children who suffer from mental or emotional disorders as well as children with autism and deficit attention disorder or for children with severe anti-social behavior.

In Jordan, there are many specialized centers and entrepreneurship in the treatment of autism that keep pace with all styles and modern international methods of treatment. Jordan also organized a global conference for the treatment of autism in 2011 where they demonstrated the most important and latest methods of treatment and health services provided to this

category through the Medical Center of Jordan for autism and the Jordanian Academy for Autism. The conference was basically interested in showcasing the latest methods and treatment programs for autism. Furthermore, Jordan is considered one of the first Arab countries that adopted the idea of treating autism by horses through the adoption and support of H.R.H, Princess Alia Al-Hussein of this idea.

Treatment of autism using this method is one of the programs that Princess Alia Al-Hussein Foundation started to follow, since last year where this method has proven to be affective in the treatment of many diseases that afflict children and autism is the most prominent of those according to the trainer in the organization Swain Token Sinclair. The program (growing together) which is implemented by the institution in the royal stables paves the road to show the development of children through horses and nature for free for institutions caring for children with special challenges.

The trainer Sinclair mentioned that some of the results of treatment with horses were amazing, pointing out that one of the children at the age of 8 was not speaking but only in whispers and a few words and he was sitting in class without doing anything and only staring to the roof and when he was brought, here he started watching the horses while eating clover and after only 20 min he cried loud and said, horse, come, eat.

On the other hand, she indicated that a longer treatment period she dealt with was with a child suffering from a serious anxiety and was afraid to get out of the house, she said: We tried first to take him out to the open places, the distance between him and the horse was up to 20 m which is considered to be far somehow. She also mentioned that this case took 5 months until the child accepted touching the horse, clarifying that the child is now walking around freely in the stables and was thrilled when he held the rope tied to the horse and walked close to him. Swain also reviewed the diseases that afflict children and that they assist in treating them using horses, such as blind and deaf children and Parkinson's disease, brain damage and hyperactivity, indicating that the mere presence with horses or riding them calms down the child's disturbance. She added that the reaction of the blind child (14 years) was fantastic, his father had to explain to him and when he rode the horse he began to laugh and now he has a positive thing in his life.

The teacher of special education at the center, reviewed some of the cases that have benefited from horses therapy, saying that when autistic children dealt with horses that led to the refinement of the behavior of many of them toward few things, pointing out that the classroom of the child includes weekly visits to the royal stables to promote interaction between children and horses. She said that among these cases the child Khalid 11 years was very quiet and speaks in a low voice but once he saw horses eat clover he started shouting loudly and initiated feeding them on the spot but Ahmad 6 years who is suffering from repeating words he hears without being aware of how to employ them in a useful sentence to serve the context, he needed several visits until he was able to talk with useful phrases while riding the horse and he started saying words like: Horse, walk.

She also pointed out that horses therapy requires riding without a saddle because of the assumption that the sense of the movement of horses during walking leads to stimulate the child's ability to communicate. Among the cases, also the child Sami who is suffering from extreme hyper kinetic, she affirmed that him being around the horse led to calm him down and contributed to the possibility of communicating with him easily and his responsiveness and interaction with others became better than ever before.

Therapy using horses is considered most important one among the types of treatment with animals; treatment with horses has taken a scientifically organized approach and it has its own teachers and appliers and it's called psychotherapy using horses, as one of the methods of psychotherapy which this method-includes the use of the horse in therapy and includes a range of mutual activities with horses and ways to deal with them and how to take care of them, beside training, leading and jumping and those activities are done under the supervision and help of a horse trainer. Additionally, horse therapy contributes in the treatment of several psychological and neurological disorders through the positive impact on communicative skills with different people around the patient, the development of self-confidence, normal emotional growth, improve the image of the individual himself by enabling the person to control a large animal like a horse and to lead it which enhances the patient's confidence of himself and of his abilities and makes him review the process of his self-evaluation.

Horse riding therapy has been used as one of the techniques of behavior modification for children and adults who have behavioral problems where the horse is used as an enhancer of positive behaviors of the child; the behavioral modifier allows a child to ride a horse whenever the child shows an adaptive desirable behavior and he deprives the child of it whenever the child shows

any undesirable behaviors and this is what is known in the behavior modification as Premack method and it depends on the use of a child's favorite activity as an enhancer for other behaviors, the more the child to perform well, the more will the modifier promote this behavior using the child's favorite activity as a reinforce. Furthermore, one of the most important behaviors that could be treated using this type of treatment is aggressive behavior that needs psychological and emotional discharging, as well as children who suffer from excessive movement. The sessions of behavior modification are held by using horses, based on the fact that taking care of horses, feeding them and learning how to ride them will make a person concentrates or directs his attention to new things and to keep his focus and attention away from the problem he is experiencing, in the sense that taking care of horses and training on leading them provides the emotional convenience of problems experienced by the individual and provides him with extra energy to deal with the difficulties he is suffering from.

Children are the best candidates to work with horses because just seeing a little about how to communicate with the horse enables the child to learn how to change or control his behavior, even for children who suffer from emotional or psychological disorders, horse therapy can be used with them and the child can often establish a relationship more easily and faster than adults because children accept things regardless of the defaults and they are more open to develop relations on an equal footing with the horse instead of trying to control it.

A child who has behavioral problems acquired by new skills through taking care of horses, to help him in the daily life activities and to reduce stress and anxiety or the sense of frustration and fear of failure or fear of continued criticism, especially children who are exposed to criticism constantly by parents or family members. Enabling the child to lead the horse and achieving success in providing care for it, helps the therapist to modify many of the child's undesirable behaviors and to achieve therapeutic psychological and behavioral targets. Several horse riding programs have been applied on children with behavioral disorders where a child is trained to do a set of exercises with the help of horses in order to reduce anxiety and increase their motivation and self-confidence and to develop their social skills. These programs have achieved good concrete results.

In the case of children with autism and attention deficit disorder, the effort given by the people working with the child are often for the development of communication; many of the people whom are engaged in treatment using this way has confirmed that they can achieve a lot, as a result of the presence of the child with horses and many of them confirmed that treatment using the horse is working to stimulate the senses through touching the horse's skin and hair and nose. They also confirmed that the discovery of these feelings through touching often helps to attract the attention of the child and stimulates the child to develop verbal skills and it helps in developing many of the child's motor skills and helps the child to learn new skills also. Additionally, it increases the child's ability of social interaction through horse therapy sessions within which the child is taught how to interact with people by allowing him to play and work with other children and by teaching him how to deal with the conflict that occurs in social relations, they also confirmed that horse therapy contributed a lot to improve the mood of the children with autism, they tell many stories about how horse therapy sessions helped in ending outbursts of children once they are involved with horses and they start smiling smoothly, easily and repeatedly.

Secondly: Previous studies

Foreign studies: Through access to studies and researches we have not found so far a study using this method but the studies dealing with the different programs that are applied to children with autism emphasizes the importance of early intervention to try working with and taking care of this category where studies show the importance of early intervention to help clear improvement of the autistic skills and effectiveness of education and training programs to contribute to raising the level of skills of autistic children of those studies we mention:

A study for Derosier and Melissa and others entitled social intervention to improve the skills of team social behaviors for children with severe autism spectrum disorders, the study examined the effectiveness of new social intervention skills on the autisms, 55 children were selected 28 of them for the control group and 27 of the experimental group, the former was subject to the training program to improve the social behavior, the study revealed the size of the change the performance of children due to the impact of the program and training.

Solomon (2010) conducted a study that aimed to clarify the effect of using a pilot program based on the use of dogs in enhancing the social interaction with autistic children. The study used the counseling program with 2 autistic children. The results of the study show that the use of counseling treatment programs with the employment of animals enhance the following aspects in children with autism:

- Verbal and social communication in autism
- Strengthen the autistic experience in communication and interdependence with others
- Promote the participation of autism in everyday life

Tarabx *et al*. (2006) have conducted a study that aimed to detect the impact of using symbolic (emblematic) boosters on the behavior of autistic children. The study used the case study model to test the effect of using symbolic (emblematic) boosters on the behavior of one autistic child. The results of the study showed that the use of boosters has maintained the presence of autism student during teaching academic and communicative skills where only symbolic boosters were used or when access to these reinforces was immediate.

Arabic studies: In a study for Siddiq (2005) which aimed to test the effectiveness of a program to develop non-verbal communicative skills for a sample of children with autism and its impact on their social behavior. The study sample consisted of 38 autisms between the ages of 4-6 years, they were subjects to applying a non-verbal communication skills assessment list (mutual attention, eye contact and imitation, listening, understanding, referring to what is wanted, understanding facial expressions and to distinguish them and tones of voice indicating them) and a list of social behavior assessment, in addition to the proposed program for the development of non-verbal communication skills.

The results of the study showed a significant differences in non-verbal communication skills between members of the 2 groups, on both dimensional measurement and follow-up measure in favor of the experimental group, it also declared the absence of any statistically significant differences in inappropriate social behavior between members of the two groups on both dimensional measurement and follow-up measure in favor of the experimental group.

Al-Ghamdi (2003) also held a study that aimed to reveal aspects of deficit in linguistic communication skills and social interaction skills in a sample of 10 children with autism in Riyadh between the ages of 4-6 years. Children were divided into 2 groups: Experimental and control group and a behavioral treatment program was used with them. The study found a decrease in the aspects of deficit in linguistic communication and improvement in social interaction skills after applying the program within members of the experimental sample, as compared to members of the control group.

RESULTS AND DISCUSSION

Study tool: The study tool was designed similar to Likret's scale which is consisting of 74 paragraphs of which the answers come as (always, sometimes, never) and were given weights 3, 2 and 1, respectively. To determine the degree of effectiveness of the training program in Table 1 weights were adopted.

Internal consistency between the paragraphs of the scale: To calculate the internal consistency between the paragraphs of the scale, Cronbach alpha coefficient was extracted and found to be of the value (0.9847) between the paragraphs of the total scale for both tests together (pre and post), pre-test (0.9720), post-test (0.9730). These results indicate the presence of a high degree of consistency between the paragraphs of the scale and proof of the stability of the scale.

Table 2 the existence of morphological differences in the degree of performance of the subjects on the items of the scale for the post-test. The average total answers on the pre-test (1.19) with a mean (0.27) while the arithmetic average of the post-test (1.90) and standard deviation (0.37). This confirms the effectiveness of the method is used for training by riding for children with autism and to find out significance of differences between the two tests was conducted t-test for independent samples and the results are shown in Table 3.

The results of the test (t) for independent samples shows the presence of statistically significant differences at the level of significance ($0.05 \geq \alpha$) between the performance of the group in the pre-test and the performance of the group on the post-test, the calculated value of (t) reached (-4.992) which is higher than the tabulated value (t) at the degrees of freedom (38), level of significance (0.05) and it is of the value (1.686). This underscores the impact of the program in improving the characteristics of autistic children (Appendix).

Seen from the result that there are differences in the degree of the performance of virtual subjects on the scale in favor of the paragraphs of the post-test. The average total responses on the pre-test (1.19) arithmetic average of (0.27) while the arithmetic mean on the post-test (1.90) and standard deviation (0.37) to know the significance of the differences between the two tests were conducted t-test

Table 1: To determine the degree of effectiveness of the training program the following weights were adopted

The arithmetic mean	Degree
1-1.67	Low
1.68-2.35	Medium
2.36-3.00	High

Table 2: Arithmetic means and standard deviations for the performance of the subjects to the paragraphs of the scale on pre and post tests

	Pre-test		Post-test	
Paragraph	Arithmetic mean	SD	Arithmetic mean	SD
Uses language to communicate	1.15	0.37	1.15	0.37
Repeats phrases that he hears	1.10	0.31	2.00	0.56
Repeats tones sound heard by	1.10	0.31	1.30	0.47
Uses gestures or any of the	1.15	0.37	1.60	0.50
non-verbal behaviors maintains direct eye contact	1.00	0.00	1.15	0.37
Uses his hands to express his thoughts	1.00	0.00	1.45	0.51
Uses facial expressions to express his thoughts	1.00	0.00	1.95	0.69
Shows interest to the words of others interested frequently	1.25	0.44	1.80	0.70
Insist on certain behaviors without flexibility	1.10	0.31	2.15	0.81
Bite himself or others	1.40	0.75	1.50	0.89
Destroys things	1.25	0.44	1.65	0.49
Cause inconvenience	1.25	0.44	1.65	0.49
Harm himself or others	1.25	0.44	1.55	0.51
Approaching or holding the electrolyte blithely	1.00	0.00	1.15	0.37
Feel cold or hotter surfaces	1.00	0.00	1.75	0.85
Jumps without hight estimate	1.00	0.00	1.25	0.44
Learns quickly	1.15	0.37	1.50	0.51
Responds quickly	1.40	0.75	2.00	0.73
Aware of the presence of others	1.75	0.85	2.25	0.64
Listen to the voices of others	1.30	0.73	2.55	0.69
Develop social relationships	1.10	0.31	1.25	0.44
Focuses on the features of the other more than their eyes	1.25	0.44	1.35	0.49
Depends on himself to wear his clothes	1.10	0.31	1.50	0.51
djusts itself and moves	1.20	0.41	1.45	0.69
Controls limbs	1.10	0.31	1.75	0.64
Understand the signals of others	1.10	0.31	1.60	0.50
Focuses on the eyes of others more than their physical appearance	1.15	0.37	1.10	0.31
Regularly to use the same style in the order of things	1.35	0.67	1.90	0.85
Continue the same activity unless interrupted a	1.20	0.62	2.00	0.73
Accept the change in the order of furniture	1.25	0.44	1.55	0.83
Accept the change in routine school	1.00	0.00	1.15	0.37
Crying and screaming for no reason to	1.10	0.31	2.40	0.94
Repeat concerns	1.10	0.31	1.70	0.47
Limited concerns	1.40	0.75	2.30	0.73
Preoccupation in one game	1.35	0.67	1.55	0.76
Feed horses	1.20	0.62	2.70	0.73
Knows the horse	1.35	0.67	2.70	0.73
Care about horses	1.20	0.62	2.70	0.73
Holding a rope while walking with a horse	1.20	0.62	2.60	0.75
Pay attention to the movements of the horse	1.20	0.62	2.50	0.76
Look happy during his time with the horse	1.20	0.62	2.50	0.76
Initiates riding a horse	1.20	0.62	2.50	0.76
Showing interest in horses	1.50	0.69	2.60	0.75
Showing positive responses about horses	1.35	0.67	2.85	0.37
Upset of the movement of the horse	1.20	0.62	1.80	0.62
Talking to the horse	1.20	0.62	1.70	0.66
Get upset during a ride on the horse	1.20	0.62	2.10	0.64
Known horse trainer	1.20	0.62	2.70	0.73
Shows a typical behavior during rides	1.35	0.67	1.85	0.81
Looking towards the coach	1.10	0.31	2.55	0.76
Recognize the coach	1.10	0.31	2.45	0.76
Shows positive behaviors toward coach	1.20	0.62	2.35	0.75
Look for things for a long time	1.35	0.49	1.95	0.76
Walking naturally	1.25	0.44	1.60	0.50
Express his feelings in words	1.00	0.00	1.00	0.00
Express himself in words	1.00	0.00	1.00	0.00
Preferably isolation	1.00	0.00	2.60	0.75
Repeats certain activities without a goal such as head, body and hands	1.10	0.31	2.10	0.64
Cares about the details of things and their parts	1.15	0.37	1.95	0.76
Responds to visual stimuli naturally	1.10	0.31	1.80	0.62
Responds to stimuli audio naturally	1.40	0.50	2.10	0.64
Recognize his parents	1.75	0.64	2.60	0.50
Can feed himself	1.20	0.41	2.30	0.73
Chime movements and consistent with his ideas	1.00	0.00	1.20	0.41
His interests changed after each period of time	1.10	0.31	2.55	0.76

Table 2: Continue

	Pre-test		Post-test	
Paragraph	Arithmetic mean	SD	Arithmetic mean	SD
Take the initiative in any activity	1.10	0.31	1.85	0.37
Recognize stuff	1.10	0.31	2.35	0.75
Called the stuff around it	1.10	0.31	1.30	0.47
Recognize people	1.10	0.31	2.35	0.75
Called the people around him	1.00	0.00	1.25	0.44
Try to touching stuff	1.45	0.69	2.70	0.47
Initiates the handshake	1.00	0.00	1.30	0.47
Smiles to others	1.20	0.62	2.55	0.76
Playing with the other kids	1.00	0.00	1.40	0.50
Total	1.19	0.27	1.90	0.37

Table 3: Test results of the test (t) for independent samples of the differences test of the average performance on the pre and post tests

Test	Arithmetic mean	SD	Calculated value of t	Degrees of freedom	Statistical significance
Pre-test	1.19	0.27	-4.992	38	0.000
Post-test	1.19	0.37			

for independent samples which showed the presence of statistically significant differences at the level of significance ($0.05 \geq \alpha$) between the group's performance on the pretest and the performance of the group on the post-test, reaching a value (v) calculated (-4.992) is higher than the value (v) when tabular degrees of freedom (38), level of significance 0.05 amounting to 1.686 this underscores the impact of the program in improving the characteristics of children with autism. These results confirm the positive effect of subjecting autistic to the growing together training therapy using horses with specifications and under supervision of specialists, this result is compatible with all previous studies that confirmed the improved capabilities and characteristics of children with autism after exposure to specialized training programs where the needs of children with autism to work to improve their situation and push them towards adaptation and access to their maximum potential, to be able to enter their world real.

CONCLUSION

The study confirmed that this program is to work on and improve their performances and also communicate the social and the most prominent features of this program where he works on several key aspects of the autistic. The study confirmed that this program works to improve their language and behavior and also their social contact and this is the most prominent features of this program where he works on several key aspects to the autistic, also appeared in children with autism are clear signs of improvement in dealing with the stuff and people, as well as their integration with all around and the effects of the surrounding voices and revealing things about the importance and effectiveness of the training and that this strategy proved its efficiency and its ability to improve the lives and the development of autism.

RECOMMENDATIONS

The study recommends the following: Taking more care of this category of special education which has an increasingly global rate, this could be done through the development of special programs for the children and their parents who actually need to work on raising their awareness and training to deal with autism.

Also relevant ministries, such as the Ministry of Social Development, Ministry of Education and Ministry of Higher Education, have to adopt these programs and support them by the preparation of specialized centers and trained competent and environmental conditions suitable for the work to support this category, using proper equipments and the preparation of human resources and raising the community awareness about its role towards this category. Additionally to intensify efforts to support this core as the focal point of hope and goodness for this category that has an increasingly global rate.

Additionally, more researches and studies have to be conducted to confirm and prove the effectiveness of the strategy and to look at the details that might lead researchers to methods and compound strategies in favor of special education categories in general and autism in particular. Also according to studies, enriching the Arabic library with the latest education and training strategies for children with autism is highly recommended.

Moreover, the study recommends the dissemination of the idea to be adopted by many organizations and sport cities and stables, particularly in Jordan and all around the world in general, so that a larger number of children with autism can benefit from this strategy.

APPENDIX

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
A1	20	1.00	2.00	1.1500	.36635
A2	20	1.00	2.00	1.1000	.30779
A3	20	1.00	2.00	1.1000	.30779
A4	20	1.00	2.00	1.1500	.36635
A5	20	1.00	1.00	1.0000	.00000
A6	20	1.00	1.00	1.0000	.00000
A7	20	1.00	1.00	1.0000	.00000
A8	20	1.00	2.00	1.2500	.44426
A9	20	1.00	2.00	1.1000	.30779
A10	20	1.00	3.00	1.4000	.75394
A11	20	1.00	2.00	1.2500	.44426
A12	20	1.00	2.00	1.2500	.44426
A13	20	1.00	2.00	1.2500	.44426
A14	20	1.00	1.00	1.0000	.00000
A15	20	1.00	1.00	1.0000	.00000
A16	20	1.00	1.00	1.0000	.00000
A17	20	1.00	2.00	1.1500	.36635
A18	20	1.00	3.00	1.4000	.75394
A19	20	1.00	3.00	1.7500	.85070
A20	20	1.00	3.00	1.3000	.73270
A21	20	1.00	2.00	1.1000	.30779
A22	20	1.00	2.00	1.2500	.44426
A23	20	1.00	2.00	1.1000	.30779
A24	20	1.00	2.00	1.2000	.41039
A25	20	1.00	2.00	1.1000	.30779
A26	20	1.00	2.00	1.1000	.30779
A27	20	1.00	2.00	1.1500	.36635
A28	20	1.00	3.00	1.3500	.67082
A29	20	1.00	3.00	1.2000	.61559
A30	20	1.00	2.00	1.2500	.44426
A31	20	1.00	1.00	1.0000	.00000
A32	20	1.00	2.00	1.1000	.30779
A33	20	1.00	2.00	1.1000	.30779
A34	20	1.00	3.00	1.4000	.75394
A35	20	1.00	3.00	1.3500	.67082
A36	20	1.00	3.00	1.2000	.61559
A37	20	1.00	3.00	1.3500	.67082
A38	20	1.00	3.00	1.2000	.61559
A39	20	1.00	3.00	1.2000	.61559
A40	20	1.00	3.00	1.2000	.61559
A41	20	1.00	3.00	1.2000	.61559
A42	20	1.00	3.00	1.2000	.61559
A43	20	1.00	3.00	1.5000	.68825
A44	20	1.00	3.00	1.3500	.67082
A45	20	1.00	3.00	1.2000	.61559
A46	20	1.00	3.00	1.2000	.61559
A47	20	1.00	3.00	1.2000	.61559
A48	20	1.00	3.00	1.2000	.61559
A49	20	1.00	3.00	1.3500	.67082
A50	20	1.00	2.00	1.1000	.30779
A51	20	1.00	2.00	1.1000	.30779
A52	20	1.00	3.00	1.2000	.61559
A53	20	1.00	2.00	1.3500	.48936
A54	20	1.00	2.00	1.2500	.44426
A55	20	1.00	1.00	1.0000	.00000
A56	20	1.00	1.00	1.0000	.00000
A57	20	1.00	1.00	1.0000	.00000
A58	20	1.00	2.00	1.1000	.30779
A59	20	1.00	2.00	1.1500	.36635
A60	20	1.00	2.00	1.1000	.30779
A61	20	1.00	2.00	1.4000	.50262
A62	20	1.00	3.00	1.7500	.63867
A63	20	1.00	2.00	1.2000	.41039
A64	20	1.00	1.00	1.0000	.00000
A65	20	1.00	2.00	1.1000	.30779
A66	20	1.00	2.00	1.1000	.30779
A67	20	1.00	2.00	1.1000	.30779
A68	20	1.00	2.00	1.1000	.30779
A69	20	1.00	2.00	1.1000	.30779
A70	20	1.00	1.00	1.0000	.00000
A71	20	1.00	3.00	1.4500	.68633
A72	20	1.00	1.00	1.0000	.00000
A73	20	1.00	3.00	1.2000	.61559
A74	20	1.00	1.00	1.0000	.00000
TOT.MEAN	20	1.00	1.95	1.1858	.26733
Valid N (listwise)	20				

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
A1	20	1.00	2.00	1.1500	.36635
A2	20	1.00	3.00	2.0000	.56195
A3	20	1.00	2.00	1.3000	.47016
A4	20	1.00	2.00	1.6000	.50262
A5	20	1.00	2.00	1.1500	.36635
A6	20	1.00	2.00	1.4500	.51042
A7	20	1.00	3.00	1.9500	.68633
A8	20	1.00	3.00	1.8000	.69585
A9	20	1.00	3.00	2.1500	.81273
A10	20	1.00	3.00	1.5000	.88852
A11	20	1.00	2.00	1.6500	.48936
A12	20	1.00	2.00	1.6500	.48936
A13	20	1.00	2.00	1.5500	.51042
A14	20	1.00	2.00	1.1500	.36635
A15	20	1.00	3.00	1.7500	.85070
A16	20	1.00	2.00	1.2500	.44426
A17	20	1.00	2.00	1.5000	.51299
A18	20	1.00	3.00	2.0000	.72548
A19	20	1.00	3.00	2.2500	.63867
A20	20	1.00	3.00	2.5500	.68633
A21	20	1.00	2.00	1.2500	.44426
A22	20	1.00	2.00	1.3500	.48936
A23	20	1.00	2.00	1.5000	.51299
A24	20	1.00	3.00	1.4500	.68633
A25	20	1.00	3.00	1.7500	.63867
A26	20	1.00	2.00	1.6000	.50262
A27	20	1.00	2.00	1.1000	.30779
A28	20	1.00	3.00	1.9000	.85224
A29	20	1.00	3.00	2.0000	.72548
A30	20	1.00	3.00	1.5500	.82558
A31	20	1.00	2.00	1.1500	.36635
A32	20	1.00	3.00	2.4000	.94032
A33	20	1.00	2.00	1.7000	.47016
A34	20	1.00	3.00	2.3000	.73270
A35	20	1.00	3.00	1.5500	.75915
A36	20	1.00	3.00	2.7000	.73270
A37	20	1.00	3.00	2.7000	.73270
A38	20	1.00	3.00	2.7000	.73270
A39	20	1.00	3.00	2.6000	.75394
A40	20	1.00	3.00	2.5000	.76089
A41	20	1.00	3.00	2.5000	.76089
A42	20	1.00	3.00	2.5000	.76089
A43	20	1.00	3.00	2.6000	.75394
A44	20	2.00	3.00	2.8500	.36635
A45	20	1.00	3.00	1.8000	.61559
A46	20	1.00	3.00	1.7000	.65695
A47	20	1.00	3.00	2.1000	.64072
A48	20	1.00	3.00	2.7000	.73270
A49	20	1.00	3.00	1.8500	.81273
A50	20	1.00	3.00	2.5500	.75915
A51	20	1.00	3.00	2.4500	.75915
A52	20	1.00	3.00	2.3500	.74516
A53	20	1.00	3.00	1.9500	.75915
A54	20	1.00	2.00	1.6000	.50262
A55	20	1.00	1.00	1.0000	.00000
A56	20	1.00	1.00	1.0000	.00000
A57	20	1.00	3.00	2.6000	.75394
A58	20	1.00	3.00	2.1000	.64072
A59	20	1.00	3.00	1.9500	.75915
A60	20	1.00	3.00	1.8000	.61559
A61	20	1.00	3.00	2.1000	.64072
A62	20	2.00	3.00	2.6000	.50262
A63	20	1.00	3.00	2.3000	.73270
A64	20	1.00	2.00	1.2000	.41039
A65	20	1.00	3.00	2.5500	.75915
A66	20	1.00	2.00	1.8500	.36635
A67	20	1.00	3.00	2.3500	.74516
A68	20	1.00	2.00	1.3000	.47016
A69	20	1.00	3.00	2.3500	.74516
A70	20	1.00	2.00	1.2500	.44426
A71	20	2.00	3.00	2.7000	.47016
A72	20	1.00	2.00	1.3000	.47016
A73	20	1.00	3.00	2.5500	.75915
A74	20	1.00	2.00	1.4000	.50262
TOT.MEAN	20	1.11	2.22	1.9034	.36795
Valid N (listwise)	20				

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