

CAN HORSE RIDING THERAPY HELP REDUCE EMOTIONAL AND BEHAVIOURAL PROBLEMS OF PUPILS WITH LEARNING DISABILITIES?

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Abstract

This research was conducted to investigate if horse riding can help reduce behavioural and emotional problems of pupils with learning disability. The theories underlying the research is dynamic system theory , theory of neuronal group selection and sensory integration theory. Pupils with learning disabilities if put under programmes with animals can contribute to psychological, social and educational changes. Behaviour patterns can be chartered to increase a positive behavior. A convenient sampling of 5 pupils with learning disabilities from a secondary school in an integrated programme in Hulu Selangor were picked to be respondents. Qualitative research method, with non intervention observations, for horse riding, were administered for six weeks. The observations were triangulated by means of structured questions on teachers and parents. Manual coding was applied to analyse the observations. The analysis indicates that there were changes in the behavior of the children, children were happy and attempted to communicate with other people and able to interact better as compared to before they went for therapy. Parents and teachers too concluded that horse therapy can contribute to positive learning for pupils with learning disabilities.

Introduction and Background

Learning is defined as acquisition of new information and change in behaviour. Learning process can take place in many forms, in unlimited and unspecified places. In order for learning process to take place effectively there must be a media to facilitate the changes to occur.

One form of media to facilitate learning is through horse riding. Horse riding in the structured form is a therapy. Therapies involving horses can be categorized as hippotherapy, equine-assisted psychotherapy, equine assisted experiential learning and recreational learning.

Hippos in Greek means horse. According to American Hippotherapy Association, hippotherapy is a physical, occupational, and speech treatment that utilizes equine movement. Hippotherapy is used to imorve neuromuscular function in the rider. This form of therapy is usually applied by therapists for rehabilitation purposes. Physical therapy includes horse riding. In earlier times, horse therapy or equine facilitated therapy was used to help mental patients and psychotics. This therapy involves goals and learning outcomes and creates a

relationship with the client to promote personal exploration of feelings and behaviours and allows clinical interpretation.

There are four categories in horse riding: valuing, hippotherapy, riding therapy, and riding for rehabilitation.

The theory on horse riding says that physical motions of walking without placing any weight on their legs while the rider sits on the horse. The horseback riding has therapeutic healing rhythm. The rhythm gives equal frequencies for the brain of the patient to coordinate without disruption. The horse moves the rider and hence it is passive riding. The first person to describe the benefits of hippotherapy for rehabilitation purposes was Hippocrates.

They used the framework based on dynamic system theory and neuronal group selection theory and psychological benefits of hippotherapy. The process of healing using horseback riding goes back to 1875 when Chassaignac, a physiotherapist, conducted many researches. According to his theory, the rider's balance was improved, muscles strengthened, joints became more supple, and the rider's morale increased.

On the other hand, when animals are involved, language usage decreases. Physical communication depends on posture and facial expressions- is a means of interpreting what the child is going to communicate. Heine postulated two theories: classic and modern in using animal assisted therapies. The classical theory was formulated from the German model which had been practiced since 1960's. It involves the client or the pupil, therapist and a horse. A three-dimensional movement of the horse back is the apparatus. The apparatus is used to manipulate the passive body of the pupil. This kind of therapy is wholly dependent on the horse's movement and the pupil's response. The pupils can astride in different positions like facing backward or forward or lying prone or supine. It helps rehabilitation of neuromuscular, musculoskeletal, and cardiopulmonary dysfunction.

The person who introduced hippotherapy for learning disabilities is Biery (1985). He used this for early intervention for pupils with learning disabilities. As far as the learning disabilities are concerned: the modern hippotherapy is relevant. This is also relevant as according to Reichart (), hippotherapy can be an alternative solution to oral communication as the child communicates nonverbally to the horse. The child uses his physical motions and instructions and facial expressions to communicate with the horse. The horse recognizes his rider and one can see facial images which change. This form of observations help the therapist or the teacher and the parent to know if their pupil or son is happy and interested in what he wants to do.

The modern hippotherapy consists of achieving objectives in physical, psychological, cognitive, social behavioural, and learning outcomes. Modern hippotherapy has been said to improve physical rehabilitation, attention, communication, learning, social skills. Bukovek () has researched in hippotherapy or horseback riding as a treatment modality for a variety of conditions. Among the conditions are intrauterine stroke, transverse myelitis, Parkinson

disease, sensory integrative dysfunction, multiple sclerosis, shaken baby syndrome, sensory damage, infantile strokes from a possible reaction DPT immunization, infantile seizures, autism, cerebral palsy, communication disorders, cerebrovascular accident strokes, developmental delay, Down Syndrome, language disabilities, muscular dystrophy, spinal cord injuries, traumatic brain injuries, hearing impairment and visual impairment.

Although hippotherapy as explained as above is good, yet there have been statements by doctors, that hippotherapy is not suitable for children with fragile bones, haemophilia, hemorrhoids, aggression towards animals, uncontrolled epilepsy.

There have also been articles on equine therapy that says its fraudulent. According to Jinling Zhao 9, in his article on fraudulent psychological treatments, says equine assisted therapy as pseudoscience in clinical psychology, as being untested as it is too good to be true, relies on testimonies uses obscurantist language, adds inactive ingredients to active treatment and lastly one treatment for all. Setting aside the above conclusion by the author, the researches have attempted to see some difference in the children they worked with.

Statement of problem

One of the main problem faced by all teachers in special education is on how to deal with children with emotional and behavioural problems. Most teachers use trial and error techniques to help them help the pupils.

Pupils with learning disabilities

Bearing all these in mind the researcher embarked on a mini scale research on the changes that can occur if pupils with learning disabilities are put on horseback therapy.

Conceptual Framework

The conceptual framework for the therapeutic horseback riding can be explained by dynamic system theory along with theories of motor learning, and sensory integration and neuropsychological theories, wherein motor planning and intellectual abilities are positively stimulated through stimulation of the vestibular system.

The respondents

The researcher had the opportunity to see the equestrian farm in Hulu Selangor and was informed that there will be pupils from the said school coming for a series of horse riding sessions in the barn. According to the manager the stated school had not any sessions before. Taking this as an opportunity, the researcher and the undergraduate student took this as a research project. The notion of prejudice and biasness had been removed as that was the first time the children would be introduced to hippotherapy.

A convenience sample of five children participated. The researcher had set the criteria for choosing them as they fulfilled the criteria for pupils who showed emotional and behavioural problems in the school. This sample of children showed more problems and the teachers

were looking for ways to help them. The subjects aged between 15-16 years were not on any medicine. Parental written consent was in the original requirement for the children to attend horseback riding therapy. Hence no written consent was requested specially for the subjects. The sample size was limited by pedagogic causes because children with this diagnosis and this form of therapy need a more individual approach.

The participants this study have been given a very nominal amount to pay for the sessions. So the researches had it easy as they would go along with them every week.

Table1 - Profile of the respondents

Pupils	sex	Race	Age	Category of disability	problem
A	M	Malay	15	Autisme	Emotional- dislikes talking with others, signs of afraid to do anything and moves away when given a task
B	M	Chinese	15	Autisme	Emotional – unpredictable behavior, dislikes talking, quiet, cries for no reason,
C	M	Malay	16	Hyperactive	Emotional and behavior- unable to sit , always on the move, cries and smiles for no apparent reason
D	F	Malay	15	Slow learner	Emotional –very quiet
E	M	Malay	16	Slow learner	Emotional and behavior- worrisome, anxious, low self esteem, does not like to mix with friends

Horseback riding

In this study, therapeutic horseback riding is understood to be therapy that combines both recreational activities and specific advantages of horseback riding. The trained horse for these children were owned by the equestrian club in Ulu Selangor. The size and the particular horse was chosen by the instructor. The medium sized horse was chosen on characteristics in gate length, size in height and width. The selection of the horse was done by the instructor. The same horse was not used for all the sessions as there were many and the instructor said it was alright to use different horse at different times.

The start of the instruction was important as it formed the interest of the pupil to start the activity of walking down the barn. There were no structured modifications on the movement of the horses but sometimes the horse moved fast and sometimes slow. At all times the trainer was beside the horse holding the rein or tapping on the horse as it walked slow and fast and gallop a little.

Design

In this research, observational design was applied. Usually observational design consists of quasi experimental and or descriptive pre-post designs. (Portney and Watkins, 1993 in Snider et al, 2007). In this study a purely qualitative design was used, i.e. sitting and observing from outside the ring. The research was non judgemental. Observations were recorded every

week and entered into journal entries as tabulated below. The differences between the subjects were little as they all had emotional and behavioural problems only and this helped to augment reliability. It was a more homogenous sample. The pupils had a time table of which the alternated with bowling sessions once a fortnight. This factor was considered as part of their curriculum and hence was not part of the therapy. Hence to strengthen the validity, this sample was not put under any other therapy throughout the horseback riding therapy. To validate the finding, triangulation has to be done. In this study teachers of the participants were interviewed to validate the findings. The demographic details of the teacher participants are in Table 3.

Measures

In assessing horse riding sessions, two types of assessment can be done, experimental and observational. The assessment of the observations were manually coded to find the frequency of the changes that occur and if it was positive reaction, i.e, smiles, happy initiative to interact, while the negative reactions are fear, afraid and non interaction with friends, running away, refusing to go on the horse back.

Table 2 - (rewritten by the researcher, notes by Wan Syarifah Amin binti Wan Ahmad, UPSI, 2013)

ob ser va tio ns	Date	Just before and During riding	After horse riding
	/201		
	3		
1	10.4.	Child 1: very afraid to touch the horse, very stern look, straight look, signs of withdrawal, have to be coaxed to climb, no reaction while horse walking	Very scared, shows signs of anxiety
		Child 2: face very afraid, eyes gloomy, wanted to cry, have to be coaxed to climb up the saddle	Cried after hopping down, shivering, very afraid
		Child 3; very happy hopping on to the saddle	Very happy , spoke to his friends,
		Child 4; very calm, no observable reactions, very cool while climbing the saddle, no observable reaction while walking	Stayed calm, no reactions on her face, very coolly walked away from the barn
		Child 5 smiled while climbing up the saddle, quite afraid reactions while riding /walking along the pitch	Smiled. No facial expressions of frowning
2	24.4.	Child 1: still showed signs of anxiety and afraid. Smiled on and off while horse walking	Still afraid and anxious
		Child 2; while climbing the pupil cried. After 5 minutes, he stopped crying.	When he got down from the horse, he ran to his teacher

		and held her and started crying. The teacher calmed the pupil and he stopped crying
	Child 3: very jovial, always smiling	He spoke to his friends and related his experience
	Child 4; very stern looking but calm. No responsive signs on her face.	No reaction, no responses
	Child 5: was smiling and jovial seeing his friends riding. He became afraid when it was his turn. Have to be coaxed to climb the saddle.	Afraid and anxious. Very quiet and kept to himself
3	8.5.	Child 1: no fear, but tries to smile
		Smiles and then no reaction
		Child 2: shows fear, no reactions. No cries
		Smiles. No signs of fear and afraidness
		Child 3: smiles a few times. Smiling through the session
		Smiling and jumping around.. jovial and laughing with his friends
		Child 4: shows sign of smile. He smiled when his teacher gave instructions
		Smiles after she got down
		Child 5: smiles for a while only. Smiles when called his name
		Smiles. Moves with his friends. No isolation
4	22.5.	Child 1: friendly face while getting on the saddle.
		Always smiling
		child 2: Before he got onto the horse he smiled, but after that no reaction
		After getting down the horse, he smiled and started interacting with his friends
		Child 3: Smiled and laughed. Interacted with friends after session
		Smiling and laughing
		Child 4: while getting on the horse was jovial, after that no reaction
		After the session started smiling, after that no interaction
		Child 5: Always smiling
		Child 5: still smiling

5	12.6.	Child 1: non stop smiling. While riding started to laugh 3 times	Smiling and laughing
		Child 2: smile while riding	After the session, very happy and started to interact with friends
		Child 3: smile and laugh while getting on the horse. Before getting on, he said “ Tak sabar cikgu saya nak naik kuda” (I can’t wait to get on the horse)	After the session, he smiled and laughed. The child said, “bestlah cikgu naik kuda, saya rasa seronok.” (Teacher, its good to ride a horse. I feel excited.)
		Child 4: Smiles. While on the horseback smiling	After the session, no smiles
		Child 5: While on therapy, very jovial. While on horseback, he smiles and nods his head, when his teacher asked him “happy or not?”	Smiles, no talking
6	19.6.	Child 1: always smiling and happy	Smiling and talks to his friends
		Child 2: smiling and laughing twice. Appear jovial	After the session, he interacts. All the time smiling
		Child 3: smiling and laughing. He shared his view, (seronok naik kuda nie” (“ horse riding , exciting”)	Child 3: smiling and laughing
		Child 4: just coy smile	Still no interaction with friends. Just coy smile
		Child 5: still smiling.	Smile and laughing with friends

Structured interview with teachers

Three teachers were interviewed for this study. This sample was a convenient sample as these were the teachers who accompanied the participants on all occasions. The demographic data of them is in Table 3.

Table 3 - Demographic details of teachers

teacher	sex	race	experience	job	education
1	F	malay	10 years	supervisor	1 st degree
2	M	malay	5	Sp needs teacher	1 st degree
3	F	malay	7	Sp needs teacher	1 st degree

Teachers were given structured questions on their observations of each participant and interviewed before and after every sessions and were again interviewed after the whole therapy.

Results

Overall the results indicate that there is improvement in the social and behavioural pattern of the participants.

Participant 1 or Child 1 has emotional and behavioural problems. At the beginning he showed fear and was non interactive or showed remorse. After a few sessions, he started smiling and could laugh. He was no more passive.

Participant 2 or Child 2 has emotional problems. He was quiet and liked to cry. He always cries in new environments. At the beginning of the therapy, he shivered out of fear. The teacher managed to calm him down. After a few sessions, he started smiling and can interact.

Participant 3 or Child 3 is hyperactive and always mobile, moving around non stop. The horseback riding has brought happiness to him as he was always smiling and happy. According to his parents, he liked to disturb his younger sibling, but after the whole session, they realized he was no longer disturbing his sibling.

Participant 4 or Child 4 is a slow learner who has lots of emotional and behavioural problems. She does not like to smile, mix around with his friends and has low self esteem. By the end of the sessions, she had started to interact with the classmates and is now able to mix around with friends outside the school.

Participant 5 or Child 5 is a slow learner and has emotional and behavioural problems. At the beginning he showed fear and was very afraid to climb on the horseback. By the end of the session he was able smile and befriend his classmates and was able to communicate with his teacher.

Comments from the teachers

According to the teachers, generally they see changes in the emotional and behavioural pattern of the pupils. According to them, pupil 1, 2 and 5 have a common problem smiling, but after the sessions, they saw them smiling. Participant 4 had problem laughing, but after the sessions, the participant was seen laughing.

At the same time, the social skills of the participants have taken a positive angle, whereby in the case of participant 3 liked to disturb friends, but now has changed.

Comments from parents

Parents were asked structured questions on the changes they saw in their children. The researcher elicited the data through direct face to face interview. Generally all the parents agreed that their children, i. e. the participants showed improvement in their behavior and emotional control. Their comments are in Table 4. Parent 1 is the parent of participant 1/Child 1 and the numbering follows suit.

Table 4 - comments from parents

Parents	Comments
1	“my son no longer cries a lot , smiles” , “He can interact with his friends, he shows interest in talking to his friends”
2	“ he now smiles and interacts with his friends”
3	“ he smiles when in new situations”
4	“he can smile and not much crying for no reasons, “
5	“reduced crying, he smiles when talks to me”

Discussion and suggestions

This study examined the effects of horseback riding or hippotherapy has on the emotional and behavior changes in children with learning disabilities. Visual analysis of the data indicates that all five pupils showed improvement in behavior and emotional problems they have. The children were also motivated to participate in the therapy sessions. Anecdotal data suggest that one of the most obvious effects of hippotherapy is on motivation. The changes in behaviour is a process of learning. Learning takes place when there is stimulation and there is response and there is stimulation again...The stimulation in this study is the media that was used. The horse to stimulate the participants. There is no verbal communication between the participant and the horse, yet there seems to be a spiritual understanding that the horse is accepting the child to sit on his back and he can allow the participant to enjoy his ride.

In intervening to help pupils with learning disabilities to achieve a goal or to see changes in them, no one therapy can conclusively help the child. Yet any form of therapy which can help pupils to perform a task can be used. Animal assisted therapies is one type of intervention that has shown improvement. Researches have quoted progress in social interactions and happiness (Nimer & Lundahl, 2007 in Taylor et all, 2010).

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