Effects from Horseback riding – some relevant research findings

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Enriched environment, restorative surroundings, human animal interaction or effects from the horse? Where do we find the effects and what do we know? Well, actually we don’t know. Most research done do not separate the situation from the use of the animal, so in reality we cannot be sure about what is really taking place in the situation when a rider sit astride on the horse in a nature trail for pleasure or as therapy.

Let us look on theories from research on the influence from nature on human wellbeing and functioning.

There is a huge range of research on therapeutic gardens, horticultural therapy, recreational therapy, leisure therapy, adventure therapy, farming for health, forests as a health resource and water as a health resource as well as farms used in therapies and in education. The theories are divided into two main areas: Theories on the role of nature for human wellbeing and theories on influence from nature on human functioning.

The theoretical fundamentals are that nature offers multiple influences on the human body and mind. From a genetic aspect, evolution has made man adjusted to reacting on sensory input from natural source; animals, plants, sounds and shifts in visual cues. Man has adapted to domesticated animals as well as the animals have been adapted to man, so communication is different than with wild animals. We process sensory information from nature easier and with less effort than we process information from artificial sources. Nature stimulates activity level and provides man with meaningful activities. Nature gives us a sense of coherence and a connection to lasting values and fundamental aspects of time in life.

The theories of how Nature influence on human functioning rely mainly on research on influence on brain activity. It offers simultaneously sensory information enabling us to feel secure or to alert. This information is easy to process and demand little energy compared to all kind of artificial input as lights from lamps, noise, artificial surroundings, computers and so on. Nature offers restoration and recovery from sensory overload and in a short time compared to physical or psychological techniques. The enriched environment influences brain plasticity offering possibilities to learn new movement strategies, new strategies to plan and execute tasks and stimulates curiosity. Nature reduces stress reactions significantly in less than five minutes. It not only reduces high stress levels, it also stimulates the anti-stress system, calm- and connect system, and lead to restoration after stressful periods by enhanced levels of oxytocin.

What will an animal add to nature’s impact on human health and well being?

First it will add touch – so important for growth in early life, but also for wellbeing during the entire life. Second it will add a relation – someone who response and who initiate contact and who can maintain contact during years.

Animals also lead us humans in to a social companionship – ie some persons have longer lasting companionship with their animal friends than with humans during life, but animals create arenas of shared interest and thereby also create new social companionship with humans. Finally animals and
Specially horses add a movement influence on the human body of a very special kind already mentioned.

In summary, animals influence on humans directly as well as indirectly. The direct influence is by tactile and emotional touch. Direct touch while sitting astride a horse is extremely intense, over a large surface and during simultaneous movement and a warm body – a very special situation of touch. The emotional touch from animals is also intense - as feelings of joy often are reported in EAT research. Looking on playing animals or children always creates emotional responses – it is said to be genetically programmed to react in a cheerful mood watching playing animals. The indirect influences from the animals are the high degree of motivation that follows involving an animal in an activity. As a side effect, motivation for nature contact and a healthy life style often follows. The third indirect influence is the social identity that follows activities incorporating animals.

In short – horseback riding is a matter of multiple influence from body, mind and nature on the rider, which show measurable effects on motor behavior, emotions, cognition, stress level, plasticity and motivation.

From the physical activity aspect – horseback riding may be named a lazy activity from those who never sat on horseback. In reality, due to the compendium of physical activities created in 1993 and updated 2011, it depends on the pace how much energy it will cost. In general, recommendations for a healthy physical activity level is 150 min a week with a mixture of light and moderate intensity in a physical activity. That is 30 min a day during weekdays. Riding in walk is light intensity work, but already trotting is vigorous. Bearing in mind that functional impairments rise the energy cost level for the individual, it has been shown that even severely impaired children, seemingly without actively taking part in therapy on horseback in walk, supported by side walkers, rise their energy cost level and have a heart rate variety that indicates their active participation in the riding activity on a level that is similar to any sports activity suitable for children of their age.

Horseback riding is possible to carry out during the whole life span. Therapy and research have so far mostly been directed towards children’s benefits and need, but in neurological rehabilitation and in psychiatry adults have also been a target group. Recent research has focused on elderly, as the influence on balance have been so well documented. Leisure riding may be a health promotive activity even for ageing persons and serve as fall prevention in society.

Sitting astride a horse in walk for only 15 minutes significantly influence oral functioning, motor performance influencing speech ability and respiratory functioning. This is seen in children and adults suffering from speech pathology, and among healthy elderly.

Sitting astride a horse in 20 minutes have shown positive effects on range of motion in the hips and reduction of symptoms like abnormal motor function and pain on patients suffering from mild and moderate arthrosis. Leisure riding may serve as treatment for an ageing population with hip problems due to arthrosis.

Sitting astride a horse in 30 minutes – which is still less than an ordinary riding lesson for able bodied riders- enhance balance, posture and spasticity in persons suffering from neurological symptoms. It enhances balance and gait in elderly healthy persons with what is related as age related balance problems.

The language to report functional multifaceted problems is ICF – International Classification for Functioning, a tool aiming at describing limitations as well as functioning and results from activities or therapies across professions and word wide.

There are huge benefits in using the ICF on Equine assisted interventions or horseback riding. The dimensions of ICF are body functioning, body structure, activity and participation bearing in mind the
environmental factors and the personality of the individual. Looking on the body of research on riding, human health and human functioning it is obvious that most research is done on activity. Some is done on Body function, but we lack knowledge on the level of participation – we don’t know how riding create inclusion in daily life yet. Still we do know that riding has impact on how to perform a task and that it motivate persons to cooperate in rehabilitation despite huge problems.

We know from practice that starting up with therapy on horseback often can lead to a lifelong fascination and interest in horses. We know from research that horseback riding influence on task performance not only short time but long lasting. We know from research that adult riders with CP report that their weekly leisure riding enables them to keep on walking with a minimum of support even when aging and that pauses in their riding directly negatively affects their walking ability and their independence in personal care due to spasticity. There are multiple benefits from being able to offer a chain of opportunities from therapy, adapted riding and to leisure, sports competitions and all the way to Paralympics. This should not be dependent on personal wealth, but should be available to anyone in the Nordic countries within the welfare system. Professionals are there, horses are there, but there is a gap between the health care sector and the equestrian sector. Security issues are due to multiple knowledge on horse handling and knowledge on effects from disabilities on the riders functional level. Recent research survey on incidents and injury covering 143855 hippotherapy sessions during 2007-10 showed an incidence rate of 0.007% and no injury being permanent or disabling. This was in therapeutic settings.

An increase in riders and leisure activities need to be covered with appropriate risk analyses. There is a need to cooperate, between professionals and in the Nordic countries, to solve the issues on access, safety and aids in order to let persons sitting astride a horse have the access to this true source for health promotion.

In summary: resting on scientific research on benefits from riding – as therapy or as a leisure activity – there are reasons to increase the access to horseback riding for non ambulant citizens as well as for citizens suffering from other kind of health problems, especially influencing on balance and gait ability. Animals and nature in combination are hard to beat as a health promoting environment. The movement influence from the living horse through the riders body add motor influences of high values. A Nordic model for acceptance of horses within the health care and social care systems is needed to change the attitude towards horseback riding as the valuable assistive technology it has showed to be.

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