

OVERZICHT WETENSCHAPPELIJK ONDERZOEK NAAR INTERVENTIES MET PAARDEN 2015

Inleidend

Dit is een jaaroverzicht van (wetenschappelijk) onderzoek naar interventies met paarden. Paard en Levenskunst kan niet garanderen dat het overzicht compleet is en kan geen gedetailleerde uitspraken doen over de kwaliteit van elk onderzoek.

Een interventie is het inzetten van een bepaalde hulpmethode zoals therapie, coaching of training. Er bestaan nog geen (wereldwijde) eenduidige definities in dit veld, dus het is nooit helemaal duidelijk wat precies aangeboden wordt onder de benamingen als Equine Assisted (Psycho) Therapy EA(P)T, Equine Assisted Therapy-Counseling EAT-C, Hippotherapy, Therapeutic riding, Equine assisted social work. Er beginnen meer studies te komen waarin de gebruikte methodiek binnen de studie benoemd wordt (LASSO, Parelli, Equine Partner Naturally etc.)

Paard en Levenskunst volgt de volgende definities:

Equine assisted interventions: alle interventies voor mensen waarbij paarden aanwezig zijn of ingezet worden: activiteiten, therapie of leren/ontwikkelen.

Equine assisted activities: paarden verzorgen, poetsen of rijden, zonder dat er een specifiek doel moet worden bereikt of (therapeutische) methode wordt toegepast

Equine assisted therapy: psychotherapie voor mensen met ontwikkelingsstoornissen als ADHD, autisme, PTSS of andere stoornissen uit de DSM, slachtoffers van pesten, seksueel misbruik, burnout etc. Therapie is altijd planmatig opgezet en uitgevoerd in aanwezigheid van een professionele therapeut.

Equine assisted learning: coaching, counseling of training van mensen die problemen willen oplossen, iets willen leren en/of zichzelf verder willen ontwikkelen, leiderschapstrainingen, managementtrainingen, teambuilding, relatietherapie. Een bijzondere vorm is systemische coaching, waarbij mensen en paarden opgesteld worden in een familie of organisatie opstelling.

Fysiotherapie voor kinderen met hersenverlamming of met motorische ontwikkelingsproblemen, vaak **hippotherapie** of **therapeutisch/aangepast paardrijden** genoemd wordt in dit overzicht beperkt meegenomen, dit is een onderzoeksgebied op zichzelf (kijk bij federatie paardrijden gehandicapten). Maar de term hippotherapie wordt in veel onderzoek ook gebruikt als er effecten op psychische aspecten worden gemeten.

Kenmerken van wetenschappelijk onderzoek

Een onderzoek kan kwalitatief, kwantitatief (meetgegevens), experimenteel, quasi-experimenteel, explorerend (onderzoekend) of beschrijvend (narratief) zijn. Bij wetenschappelijk onderzoek wordt er altijd met **statistische meetmethoden en analyses** gewerkt, om de rol van **toeval** en **bias** (vertekening) uit te sluiten. Omdat je niet alle cliënten met een bepaald kenmerk in en keer kunt onderzoeken, werk je met een **steekproef**: een groep geselecteerde mensen die dezelfde kenmerken heeft. Er kunnen één tot honderden deelnemers meedoen een onderzoek. Met één deelnemer heet het een **casus onderzoek**.

Als je een kleine studie met weinig deelnemers opzet om beter te weten hoe je een grote studie kunt opzetten dan is dat een **pilot studie**. Als er een heleboel studies over hetzelfde onderwerp worden bekeken dan is dat een **meta studie**. De **generaliseerbaarheid** is de term die gebruikt wordt om aan te geven of de effecten die in een studie in een groep deelnemers met een bepaald kenmerk (bijvoorbeeld autisme spectrum stoornis) gemeten worden, in alle waarschijnlijkheid ook bij andere mensen die niet in de studie hebben deelgenomen zal optreden. Met een te kleine groep deelnemers kun je alleen maar concluderen dat het voor de onderzochte groep werkt, maar kun je niet zeggen dat de resultaten ook behaald zullen worden als je de methode bij andere mensen gaat inzetten.

In onderzoek is het verschil tussen een samenhang (**correlatie**) tussen interventie en effecten en bewijs dat een interventie het gevonden effect veroorzaakt (**causaliteit**) heel relevant. Causaliteit aantonen vraagt een zeer goed opgezette studie, reden dat de meeste studies zich tot correlaties beperken.

Een **peer review** is een beoordeling van het geschreven artikel door vakgenoten, die de kwaliteit van het artikel beoordelen. Vaak bepaald de peer review of het artikel gepubliceerd zal worden. Om een methode **evidence based** te noemen, moeten er meerdere, grote kwantitatieve (quasi) experimentele studies zijn gedaan met aangetoonde causaliteit, peer reviewed gepubliceerd in wetenschappelijke tijdschriften. Voor iedere doelgroep, bijvoorbeeld kinderen met adhd, dienen er meerdere studies gedaan te zijn.

Wat is kwalitatief goed opgezet experimenteel wetenschappelijk onderzoek

- Maakt gebruik van statistische methoden, zodat resultaten van een studie niet toegeschreven kunnen worden aan het toeval
- voldoende deelnemers (n), zo'n 50 tot 60, hangt van de onderzoeksvraag af, om statistisch uitspraken te kunnen doen over generaliseerbaarheid,
- een experimentele groep en een controlegroep. Je wilt namelijk weten of het effect echt te maken heeft met de specifieke interventie die je aanbiedt. Het effect zou anders toevallig kunnen optreden. In een controlegroep krijgen de deelnemers geen behandeling of een andere behandeling. Na afloop vergelijk je de uitkomsten van beide groepen. Is in de groep met de specifieke interventie een ander of meer effect te zien, dan is dat met grote waarschijnlijkheid aan de interventie te danken.
- verdeeld deelnemers random (via een dobbelsteen gooien bijvoorbeeld) over de experimentele groep en de controlegroep worden. Je wilt niet dat de groepen ongelijk zijn, bijvoorbeeld in de ene groep zitten meer gemotiveerde mensen dan in de andere groep, want dit zal de uitkomst beïnvloeden. Als de doelgroep mensen met een stoornis zijn, bijvoorbeeld ADHD, dan dient er een onderbouwde diagnose te zijn, maw, hebben mensen dezelfde aandoening.
- zorgt dat de deelnemers en de therapeuten niet weten of ze een echte therapie of een placebo therapie krijgen. Dit is bij equithapie niet uitvoerbaar.
- De interventie is stap voor stap beschreven en wordt door verschillende therapeuten op dezelfde manier uitgevoerd. Dit is bij equithapie erg lastig omdat iedereen andere begrippen gebruikt en er (bijna) geen vast omschreven methodes zijn
- doet een voor- en een nameting (of meer) met tests die gevalideerd zijn. Als je vragenlijsten gebruikt wil je wel weten of de vragenlijst meet wat je wilt meten

(validiteit). Het mooiste is dat er na langere tijd gemeten wordt of de effecten blijvend zijn.

- gebaseerd op theoretische kennis, literatuur onderzoek naar vergelijkbare experimenten en heeft een hypothese (op schrift gestelde verwachting van de uitkomst). De wetenschappers beschrijven ook zelf de minpunten van hun onderzoek.
- wordt in een artikelvorm opgeschreven, wordt door wetenschappelijke collega's beoordeeld op opzet en uitvoering (peer reviewed)
- Als aan al deze voorwaarden is voldaan dan zal een wetenschappelijk tijdschrift het artikel publiceren. Publicatie in een wetenschappelijk tijdschrift is dus een teken dat aan veel voorwaarden voor goed onderzoek voldaan is.
- Het land waarin de studie gedaan is kan ook iets zeggen over de kwaliteit, niet alle landen stellen dezelfde kwaliteitseisen aan onderzoek en publicatie. Amerika en Europa zijn nog steeds kwalitatief leidend.

Hoe zoeken we

Er wordt een zoekopdracht via PUBMED gedaan (dank aan Daniëlle Bons), dit zijn gepubliceerde artikelen in tijdschriften en er worden twee centrale overzichten (Equine assisted Therapy Hub en HABRI-central) geraadpleegd van verschenen artikelen, proefschriften, scripties, green en whitepapers en andere documenten. Dit jaar hebben we 28 gepubliceerde artikelen in wetenschappelijke tijdschriften gevonden en 23 andere interessante documenten. Paard en Levenskunst heeft abstracts (en soms hele artikel) doorgenomen een korte Nederlandse beschrijving toegevoegd.

Wat is er onderzocht en wat zijn de algemene trends?

Er waren publikaties betreffende de volgende onderwerpen/doelgroepen

ADHD (4), autisme spectrum stoornissen (9), beroerte (1), depressie/angst (1), hechting (2), jeugd delinquenten (2), Multiple sclerose (1), Ouderen (2), Post Traumatische Stress Stoornis PTSS (3), risico jeugd (3), schizofrenie (1), Scoliose (1), seksueel misbruikte vrouwen (1), Verslaving (3), Vertraagde Motorische ontwikkeling (1) en overige onderwerpen (12), Metastudies over EAT, EAPT en over therapeutisch paardrijden/hippotherapie, artikel over definities AAI, vergelijking robot-paard bewegingen met echt paard, onderzoek naar beste ondergrond voor hippotherapie, aanvraag onderzoek of paarden bij psychische patiënten ander gedrag vertonen dan bij gezonde mensen, beschrijving van inzet hond/paard bij supervisie.

Algemene conclusie:

Er is steeds groeiend bewijs dat Equine Assisted Interventies een positieve uitwerking hebben, maar er is ook onderzoek waarbij geen effect wordt gevonden. In het algemeen lijken er aanwijzingen te zijn dat EAI positief werkt op psychische aandoeningen, communicatie- en sociale en emotionele vaardigheden. Effectiviteit van EAI kan nog steeds niet als evidence based beschouwd worden door beperkingen in de meeste onderzoeksopzetten, veelal te kleine studies zonder controlegroep. Het is ook opvallend dat

er per doelgroep of onderwerp steeds maar een klein aantal publicaties te vinden is, waardoor er niet voldoende focus ontstaat op één onderwerp en er onvoldoende aantallen studies per onderwerp zijn. Een positieve uitzondering is het onderzoek naar effect EAI op mensen met autisme spectrum stoornissen.

Positief is dat het aantal metastudies (die overzicht geven) groeit, dat er meer studies zijn met middelgrote groepen (20-30) en dat er 3 studies waren met een groot aantal deelnemers (rond 100) voor autisme, intramurale patiënten/schizofrenie en jonge verslaafden. Deze grote studies lieten een positief effect zien. Bij autisme voor zelfregulatie, sociale cognitie en communicatie, hyperactiviteit en taalontwikkeling. Bij intramurale psychische patiënten met verhoogde kans op agressief gedrag (veelal schizofrenie patiënten) bleek EAT de agressie te verminderen. Bij jonge verslaafden was er een positieve samenhang tussen Horse Assisted Therapy en langere deelname en geheel afmaken van de behandeling.

Het aantal studies naar Equine assisted learning lijkt toe te nemen en onderzoek naar de onderliggende factoren die EAI effectief maken (meten van hormonen, EEG, HRV) lijkt ook van de grond te komen.

Overzicht artikelen en andere relevante literatuur 2015 op onderwerp/doelgroep

ADHD

1. Amerikaanse gepubliceerde studie (n= 20 deelnemers) die de effecten van 32 weken hippotherapie op breinfunctie en de neurotropische factor in bloed onderzocht bij kinderen met ADHD. Er werden wel verschillen gevonden tussen experimentele en controlegroep, maar deze waren niet significant.

[Effects of hippotherapy on brain function, BDNF level, and physical fitness in children with ADHD.](#) Lee N1, Park S2, Kim J3. J Exerc Nutrition Biochem. 2015 Jun;19(2):115-21. VS

PURPOSE: The purpose of this study was to examine the effects of hippotherapy on brain function and levels of blood-derived neurotrophic factor (BDNF) in children with attention deficit and/or hyperactivity disorder (ADHD).

METHODS: The hippotherapy group (HRG) included twenty children with ADHD and the control group (CG) included 19 children. All participants' physical fitness, fMRI brain scans, and blood BDNF levels were measured at baseline and after 32 weeks of participating in hippotherapy.

RESULTS: After 32 weeks of participating in hippotherapy, the body fat of the HRG was significantly decreased ($-1.12 \pm 4.20\%$) and the body fat of the CG was increased ($2.38 \pm 6.35\%$) ($p=0.049$). There was no significant difference of physical fitness in both groups ($p>0.05$). Although there was a higher decrease in the activated insular area in the HRG (-1.59 ± 0.99) than in the CG (-1.14 ± 1.41), there was no significant difference between the two groups ($p>0.05$). Also, there was a higher increase in the activated cerebellum area in the HRG (1.97 ± 1.45) than in the CG (1.92 ± 1.81). However, there was no significant difference between the two groups ($p>0.05$). BDNF levels showed an increased tendency in the HRG ($166.29 \pm 277.52\text{pg}$) compared to the CG ($21.13 \pm 686.33\text{pg}$); otherwise, there was not any significant difference in these blood levels between the two groups ($p>0.05$). It can be assumed that big individual differences in the level of ADHD in the study participants might not cause any significant results, although there might be positive changes in the brain function of children with ADHD.

CONCLUSION: Therefore, this study suggests that hippotherapy training would need to be modified and developed to increase the efficacy of hippotherapy in children with ADHD.

2.Koreaanse gepubliceerde studie naar effect van EAT op kinderen met ADHD. n= 20 kinderen in experimentele groep, geen controlegroep. Diverse klinische aspecten zoals adhd gedragsymptomen en klinische beoordeling daarvan, eigenwaarde, sociale problemen, bilaterale coördinatie, eeg-meting, motorische vaardigheden werden voor en na de therapie van 12 weken gemeten. Er werd een significante verbetering gemeten voor alle factoren.

[Equine-Assisted Activities and Therapy for Treating Children with Attention-Deficit/Hyperactivity Disorder](#). J Altern Complement Med. 2015 Sep;21(9):546-53. Jang B, et al. Korea.

OBJECTIVE: To investigate clinical effects of equine-assisted activities and therapy (EAA/T) for treating attention-deficit/hyperactivity disorder (ADHD) in children age 6-13 years.

METHODS: This 12-week, prospective, open-label trial included 24 sessions of EAA/T. Twenty participants (19 boys and 1 girl) completed 12 weeks of EAA/T. Various clinical tests were administered at baseline and after EAA/T. Assessments included the investigator-administered ADHD-Rating Scale (ARS-I), Clinical Global Impressions (CGI)-Severity Scale, Clinical Global Impressions-Improvement Scale (CGI-I), Gordon Diagnostic System, Korea-Child Behavior Checklist (K-CBCL), Self-Esteem Scale, second edition of the Bruininks-Oseretsky test of motor proficiency (BOT-2), and quantitative electroencephalography. The primary efficacy measure was the response rate.

RESULTS: The response rate was 90% based on a 30% or greater decline in the ARS-I score or 85% based on CGI-I scores of 1 or 2. The mean±standard deviation ARS-I score decreased from 33.65±6.42 at baseline to 16.80±6.86 after 12 weeks of EAA/T ($p<0.001$, paired t-test). EAA/T also resulted in significant improvement in the social problems subscale of the K-CBCL and in the manual dexterity, bilateral coordination, and total motor composite subscales of the BOT-2. The theta/beta ratio on electroencephalography was decreased significantly at the Pz electrode after 12 weeks of EAA/T.

CONCLUSION: This is the first study demonstrating that EAA/T is effective for improving core ADHD symptoms. On the basis of these results, EAA/T could be a viable treatment strategy as a part of a multimodal therapy for children with ADHD.

3.Koreaanse gepubliceerde pilot studie naar hippotherapie en medicatie bij kinderen met ADHD. 5 kinderen kregen hippotherapie en 5 kinderen medicatie. Beide groepen lieten positieve vooruitgang zien op ADHD gedrag, klinische score en algemeen gedrag. Op ADHD gedrag was de vooruitgang bij hippotherapie niet significant, op EEG-meting waren er verschillen tussen de twee groepen.

The Effect of Hippotherapy and Medication on Children with Attention Deficit Hyperactivity Disorder: A Pilot Study, Jihye Song, et al, MD, Korea. J Korean Neuropsychiatr Assoc. 2015 Feb;54(1):112-118.

Objectives This study researched the clinical effects of hippotherapy and medication in attention deficit hyperactivity disorder (ADHD) children.

Methods The study employed an open label randomized controlled trial. Participants were 10 children of ages between 6 and 12 years. These

subjects were placed in 2 groups : the hippotherapy group and the medication group. Evaluation tools used in this study include Affective Disorders and Schizophrenia-Present and Lifetime Version-Korean Version, the Wechsler Intelligence Scale for Children-IV, Korean Child Behavior Check List (K-CBCL), ADHD rating scale (ARS), Clinical Global Impression (CGI), and Quantitative electroencephalography (QEEG).

Results Grossly scores of investigator-administered ADHD rating scale (ARS-I), K-CBCL, and CGI-Severity of Illness scale were improved in both the hippotherapy and the medication group. The ARS-I scores of the Hippotherapy group were not significantly different from baseline after 12 weeks. In the QEEG, theta/beta ratio of Pz area in the hippotherapy group was significantly different from baseline. Children treated with medication showed significant difference from baseline in ARS-I, K-

CBCL subscales, and QEEG.

Conclusion The use of hippotherapy could be a viable treatment strategy as a part of a multimodal therapy for children with ADHD. This pilot study provides good prospects for future studies to document these positive trends on larger samples.

4. Proefschrift met multipel casus onderzoek naar therapeutisch paardrijden voor kinderen met ADHD. Via interviews en observatie werden 2 elementen uitgediept: een therapeutische visie en deze opnemen in het therapeutisch plan en de overdracht van het geleerde tijdens de therapie naar school en thuisomgeving. Uitkomst onderzoek liet zien dat therapeuten nog veel aan overdracht van het geleerde tijdens therapie kunnen verbeteren. Een handboek therapeutisch rijden bij ADHD is opgesteld voor therapeuten, school, helpers en familie.

Learning and growth processes facilitated in 9 to 12 year olds challenged with ADHD enrolled on a therapeutic horseback riding program. Dalia Kreindler. University of Derby OnlineResearch Archive > E Theses> College of Education > This study investigated the outcomes and practice of Therapeutic Horseback Riding (THR) for children aged 9 to 12 diagnosed with Attention Deficit with Hyperactivity Disorder (ADHD). The study was carried out in order to gain new insights in the learning and growth processes facilitated by Therapeutic Horseback Riding (THR) and to improve practice. Two learning and growth processes were identified and investigated: establishing a therapeutic vision and infusing it into the therapeutic plan and facilitating the transfer of newly learned or improved skills and learning strategies from the riding learning environment to parallel learning environments such as the client's school and home. The research also explored ways to amplify levels of skill acquired during THR sessions and to support the transformation process experienced by THR clients. A pilot exploratory survey was conducted among THR practitioners and participating parents. In depth interviews and observations were conducted. A multiple case study paradigm was selected for the purpose of the study. In depth interviews were conducted with children diagnosed with ADHD, parents, and teachers. In addition, relevant documents were examined. A THR manual for practitioners was developed to support and inform learning partnerships between school (teachers), THR practitioners (THRPs) and children and their family, in order to standardise THR practice. The findings of this research showed that the THR practitioners (THRPs) should facilitate the acquisition and transfer of skills and strategies learned during THR sessions to other environments, such as family and school, in order to improve the quality of life of children diagnosed having ADHD. The Knowing Therapeutic Horseback Riding (KTR) model of THR practice emerged and was shown to be effective in promoting a learning and growth partnership between school, THR practitioner, client and his family. The KTR model calls for the nurturing of this partnership in order to support the learned skills and amplify them.

AUTISME

1. Iraans experimenteel niet gepubliceerd onderzoek naar effect therapeutisch rijden op kinderen met autisme. 8 deelnemers en controlegroep. Stereotype gedrag nam significant af, communicatie en sociale interactie geen verbetering.

Examining a horse therapy in eight 12 year-old boy children with autism spectrum disorders
Abbas Minoei, Iran.

The purpose of this study is to examine a horse therapy in eight 12 year-old boy children with autism spectrum disorders. It is a quasi-experimental study so 18 children with autism spectrum disorders and with an average age of 9.44 ± 1.26 years from Tehran Autism charity were studied using purposive sampling. All children were participated in pretest by questionnaire Gars 2. The samples were divided into two equal groups (homogeneous) of experimental and control groups. Experimental group consisted of 8 subjects and the control group consisted of 10 participants. Subjects in the Experimental group undertook a 12-session interventional procedures. At this time

the control group continued their daily activities. After 12 sessions, both groups assessed in a posttest. Covariance analysis of multivariate Hotelling effect was used to test our hypothesis. The results showed a significant difference between the post-test scores of experimental and control groups in stereotyped behaviors ($P < 0.01$, $F_{18-3} = 4.63$), such that subjects in Experimental group showed less stereotyped behaviors than the control group. No significant differences were found between both group in communication and social interactions. horse therapy training interventions improved stereotyped behavior of children with autism spectrum disorder.

2. Iraans gepubliceerd onderzoek naar effectiviteit Equine assisted therapie op kinderen met autisme. 30 kinderen random verdeeld in drie groepen: muziek therapie EAT en controlegroep. EAT verbeterde sociale vaardigheden en stereotype gedrag, maar niet de communicatie vaardigheden.

Effectiveness of Equine-assisted therapy (EAT) on Symptoms of children with Autism Spectrum Disorders. *Silvae genetica* (ISSN: 0037-5349). Masoome Azemode, et al. Iran

The present study aimed to study the effectiveness of equine-assisted therapy (EAT) on the symptoms of children with Autism Spectrum Disorders. Population of the study included children who were diagnosed as autistic in a rehabilitation center in Tabriz, Iran during 2014-2015. For this purpose, using a quasi-experimental research design with pretest and posttest and a control group, 30 children were randomly assigned in three groups (two experimental groups and one control group). These three groups of children had been diagnosed with behavioral problems using Gilliam Autism Rating Scale (GARS). Control group only listened to the music and the experimental group was trained by horses and control group did not receive any training. The data were analyzed using multivariate analysis of covariance (MANCOVA).

The results showed that music therapy increased the communication skills of children for 0.74 but equineassisted therapy (EAT) was not effective to improve the communication skills of children with Autism disorder. Music therapy and equine-assisted therapy (EAT) therapy increased the social skills of children with Autism disorder as 0.37 and 0.40, respectively. Equine-assisted therapy (EAT) influenced the stereotyped behaviors of children with an effect of 0.38 but music therapy had no effect on stereotyped behaviors of children with autism disorder. In addition, there was no difference in the experimental group's scores on post-test and follow-up test.

3. Gepubliceerd onderzoek in Hongarije naar therapeutisch rijden als rehabilitatie methode voor kinderen met autisme. 26 kinderen in een experiment en controlegroep werden voor en na de therapie getest op manier van lopen, communicatie, zelfzorg, motorische vaardigheden en socialisatie. Op het gebied van lopen werden positieve significante verschillen gevonden.

Opmerking; Over effecten op communicatie, zelfzorg en socialisatie wordt niets vermeld, dus waarschijnlijk geen of weinig positieve significante uitkomst.

[Effects of therapeutic horse riding on gait cycle parameters and some aspects of behavior of children with autism.](#) Steinernn. *Acta Physiol Hung.* 2015 Sep;102(3):324-35. Hungary.

We studied effects of therapeutic riding on the development of children with autism. Experiments in walking is appropriate for assessing the coordination of movement and for following the changes. We found that therapeutic riding should be considered as a new form of rehabilitation. Twenty-six pupils (12 boys and 14 girls) of a special needs school participated in therapeutic riding. We analyzed walking twice during a school-term: full body analyses each time before and after one-month therapy. The research included a non-riding control group. All together 104 analyses were performed. We measured mental skills using Pedagogical Analysis and Curriculum (PAC) test consisting of four parts being communication, self care, motor skills and socialization. The Gait Cycle Analysis consists of the time-series analysis, the analysis of part of the gait cycle and the measurement of joint angles in each plane. We found significant differences between before and after the therapy in the length of the gait cycle that became more stable in the sagittal plane and concluded that our results proved that horse therapy may be successfully used as an additional therapy for children with autism, and it may be a form of rehabilitation in cases when other therapies are not successful.

4. Italiaanse gepubliceerde studie met EAT/paard ondersteunde therapie (rijden en grondwerk) voor kinderen met autisme spectrum stoornissen (ASS). Experimentele (15 deelnemers) en controlegroep (13 deelnemers). Hun sociaal functioneren verbeterde en ook in mindere mate de motorische vaardigheden. Verbetering van executief functioneren (= gebruik cognitieve vaardigheden als plannen, probleem oplossen e.d) werd ook waargenomen. Conclusie is dat EAT goed kan worden ingezet als complementaire interventie voor kinderen met ASS.

[Effectiveness of a Standardized Equine-Assisted Therapy Program for Children with Autism Spectrum Disorder.](#) [Borgi M](#), et al. Italy. J Autism Dev Disord. 2016 Jan;46(1):1-9.

In this study the effectiveness of an equine-assisted therapy (EAT) in improving adaptive and executive functioning in children with autism spectrum disorder (ASD) was examined (children attending EAT, n = 15, control group n = 13; inclusion criteria: IQ > 70). Therapeutic sessions consisted in structured activities involving horses and included both work on the ground and riding. Results indicate an improvement in social functioning in the group attending EAT (compared to the control group) and a milder effect on motor abilities. Improved executive functioning was also observed (i.e. reduced planning time in a problem-solving task) at the end of the EAT program. Our findings provide further support for the use of animal-assisted intervention programs as complementary intervention strategies for children with ASD.

5. Amerikaanse gepubliceerde studie naar effect therapeutisch paardrijden bij adolescenten met Autism spectrum stoornissen. Grootschalig (116 deelnemers), controlegroep en gerandomiseerd. Statistisch significante resultaten voor zelfregulatie, sociale cognitie en communicatie, hyperactiviteit en taalontwikkeling.

[Randomized Controlled Trial of Therapeutic Horseback Riding in Children and Adolescents With Autism Spectrum Disorder.](#) [Gabriels RL](#) et al. J Am Acad Child Adolesc Psychiatry. 2015 Jul;54(7):541-9. VS

OBJECTIVE: This study expands previous equine-assisted intervention research by evaluating the effectiveness of therapeutic horseback riding (THR) on self-regulation, socialization, communication, adaptive, and motor behaviors in children with autism spectrum disorder (ASD).

METHOD: Participants with ASD (aged 6-16 years; N = 127) were stratified by nonverbal IQ standard scores (≤ 85 or > 85) and randomized to 1 of 2 groups for 10 weeks: THR intervention or a barn activity (BA) control group without horses that used similar methods. The fidelity of the THR intervention was monitored. Participants were evaluated within 1 month pre- and postintervention by raters blinded to intervention conditions and unblinded caregiver questionnaires. During the intervention, caregivers rated participants' behaviors weekly.

RESULTS: Intent-to-treat analysis conducted on the 116 participants who completed a baseline assessment (THR n = 58; BA control n = 58) revealed significant improvements in the THR group compared to the control on measures of irritability (primary outcome) ($p = .02$; effect size [ES] = 0.50) and hyperactivity ($p = .01$; ES = 0.53), beginning by week 5 of the intervention. Significant improvements in the THR group were also observed on a measure of social cognition ($p = .05$; ES = 0.41) and social communication ($p = .003$; ES = 0.63), along with the total number of words ($p = .01$; ES = 0.54) and new words ($p = .01$; ES = 0.54) spoken during a standardized language sample. Sensitivity analyses adjusting for age, IQ, and per protocol analyses produced consistent results.

CONCLUSION: This is the first large-scale, randomized, controlled trial demonstrating efficacy of THR for the ASD population, and findings are consistent with previous equine-assisted intervention studies.

6. Amerikaans proefschrift, studie naar effect therapeutisch rijden bij kinderen met autisme. 4 deelnemers, geen significante resultaten.

Influence of therapeutic horseback riding on gross motor function in children with Autism by Lockhart, Jennifer Marie, M.S., VS

Autism is a disorder that has increased in numbers and prevalence within today's society. Though no

cure has been found, recent studies have focused on different therapeutic intervention techniques offered to autistic individuals, including the use of Therapeutic Horseback Riding. This study analyzes the relationship of therapeutic horseback riding on gross motor function in children with Autism. Four children participated in a ten week previously established therapeutic horseback riding program at French Camp, Mississippi. Gross motor function was assessed before and after five riding sessions by recording performances of eleven skills from Motor Skills Inventory (MSI). Only two participants completed all riding sessions and MSI assessments to be eligible for this study. Statistical analysis was conducted using Friedman's Two Way Analysis of Variance by Ranks. There were no significant differences in the assessments before/after the riding sessions as well as the entire period of the ten week program.

7. Metastudie naar effecten diverse bewegingsmethoden voor mensen met autisme. Paardrijden levert gemiddeld tot hoog positief effect op stereotype gedrag, sociaal-emotioneel functioneren, cognitie en attentie.

Systematic review of the behavioural outcomes following exercise interventions for children and youth with autism spectrum disorder [Emily Bremer](#) et al. Autism, Published online January 28, 2016, doi: 10.1177/1362361315616002

The purpose of this review was to systematically search and critically analyse the literature pertaining to behavioural outcomes of exercise interventions for individuals with autism spectrum disorder aged ≤ 16 years. This systematic review employed a comprehensive peer-reviewed search strategy, two-stage screening process and rigorous critical appraisal, which resulted in the inclusion of 13 studies. Results demonstrated that exercise interventions consisting individually of jogging, horseback riding, martial arts, swimming or yoga/dance can result in improvements to numerous behavioural outcomes including stereotypic behaviours, social-emotional functioning, cognition and attention. Horseback riding and martial arts interventions may produce the greatest results with moderate to large effect sizes, respectively. Future research with well-controlled designs, standardized assessments, larger sample sizes and longitudinal follow-ups is necessary, in addition to a greater focus on early childhood (aged 0–5 years) and adolescence (aged 12–16 years), to better understand the extent of the behavioural benefits that exercise may provide these populations.

<http://aut.sagepub.com/content/early/2016/01/27/1362361315616002.abstract>

8. Studie die effect van een EFT programma op jongeren met autisme meet met de inzet van leeftijdsgenoten zonder autisme. 3 deelnemers, 10 weeks programma. Enige positieve resultaten op sociale vaardigheden.

The impact of an equine facilitated learning program on youth with Autism Spectrum Disorder By P. Erdman, D. Miller, S. Jacobson. Human-Animal Interaction Bulletin Volume 3 Issue2 Pages21-36
The purpose of this study was to assess the impact of an equine facilitated learning program on youth with Autism Spectrum Disorder (ASD) who were paired with typically developing peers. Even though there has been an increasing interest in the field of animal assisted interventions and the benefits for youth with ASD, to date there is no research on using equine facilitated, peer assisted learning programs, emphasizing ground work rather than riding, with youth with ASD. An exploratory, mixed methods case study design was used with 3 youth with ASD and 3 youth without disabilities. An equine program based on a natural horsemanship framework that emphasized groundwork was implemented over 10 weeks of after-school sessions. Data from behavioral observations, parent interviews, and the Social Responsiveness Scale indicate that the three youth with ASD improved their social awareness and social cognition, with two of the youth also improving their social motivation. Implications for future research and practice are discussed.

9. Studie die effect op EEG meet bij kinderen met autisme tijdens contact met een paard. 2 kinderen, geen controlegroep. Activiteit in hersenen veranderde zichtbaar van linksfrontaal dominant naar rechtsfrontaal dominant. Grotere studies nodig hiernaar om effect van het paard op kinderen met autisme kunnen verklaren.

Effects of equine interaction on EEG asymmetry in children with autism spectrum disorder: a pilot study Chih-Chia (JJ) et al. Volume 61, Issue 1 (January 2015), International Journal of Developing Disabilities pp. 56-59

Background: This purpose of this study was to determine the relationship between resting frontal electroencephalogram (EEG) brain activity and the interaction with the horse in young children with autism spectrum disorder (ASD).

Methods: Resting frontal EEG alpha asymmetry was recorded from two young children with ASD and two young typical children matched for age and gender during a baseline and an interaction conditions with the horse.

Results: Young children with ASD exhibited higher left frontal dominance during the baseline condition. While grooming the horse, young children with ASD exhibited the right frontal dominance.

Conclusions: This change may be attributed to the interaction with the horse. It changed the attentional focus of young children with ASD. In addition, the calmness of the horse might be transformed to young children with ASD. Future studies with larger sample sizes and behavioural measures of social functioning may help explain the horse related benefits in children with ASD.

<http://www.maneyonline.com/doi/abs/10.1179/2047387714Y.0000000044>

BEROERTE

Koreaanse studie naar effect aangepast paardrijden op mensen met een hersenbloeding. 30 personen, controlegroep. Positieve effecten op fysiek functioneren en depressie.

The influence of horseback riding training on the physical function and psychological problems of stroke patients. Dong-Kyu Lee¹ Eun-Kyung Kim², Korea. Journal of Physical Therapy Science Vol. 27 (2015) No. 9 September p. 2739-2741

The purpose of this study was to determine the influence of horseback riding training on the physical function and psychological problems of stroke patients. Thirty stroke patients were divided evenly into an experimental group and a control

group. Both groups carried out neurodevelopmental treatment. The experimental group additionally performed mechanical horseback riding training for 30 minutes a day, 5 days a week, for 6 weeks. Physical function was evaluated using the Berg Balance Scale (BBS) and the Timed Up and Go Test (TUGT). Psychological problems were assessed using the Beck Depression Inventory (BDI). In order to compare differences within groups between before and after the experiment, the paired t test was conducted. In order to compare differences between groups before and after the experiment, the independent t test was conducted.

[Results] In the experimental group, the BBS, TUGT, and BDI showed significant improvements after the intervention. The experimental group's BBS, TUGT, and BDI postintervention changes were significantly better than those observed in the control group.

[Conclusion] According to our results, horseback riding training has a positive effect on the physical function and psychological problems of stroke patients.

DEPRESSIE EN ANGST

Deze Australische kwalitatieve gepubliceerde studie onderzocht therapeutische uitkomsten van EAP bij adolescenten met depressie en/of angsten. De uitkomsten suggereren verbeteringen zoals toename in zelfvertrouwen, zelfrespect/eigenwaarde en assertiviteit en ook de afname van ongewenst gedrag.

[Equine-Assisted Psychotherapy for adolescents experiencing depression and/or anxiety: A therapist's perspective.](#) Wilson K et al, Australia. Clin Child Psychol Psychiatry. 2015 Dec 14.

Animal-Assisted Interventions (AAIs) are thought to overcome some of the limitations of traditional therapies as they do not rely exclusively on language as a medium for change. One such Animal-Assisted Therapy (AAT) approach involves horses as a therapeutic medium. Equine-Assisted Psychotherapy (EAP) comprises a collaborative effort between a licensed therapist and a horse professional working with clients to address treatment goals. The purpose of the present Australian-based qualitative study was to examine EAP facilitators' perspectives on the biopsychosocial benefits and therapeutic outcomes of EAP for adolescents experiencing depression and/or anxiety. The findings suggest a range of improvements within adolescent clients, including increases in confidence, self-esteem and assertiveness, as well as a decrease in undesirable behaviours. The effectiveness of the therapy was thought to be due to the experiential nature of involving horses in therapy. The lack of understanding in the wider community about EAP was seen as a barrier to recognition and acceptance of EAP as a valid therapeutic intervention.

HECHTING

1. Amerikaans gepubliceerd artikel naar effect van Equine Assisted Interventie op moeders en kinderen met hoog risico achtergrond qua hechting. EAI werd vergeleken met speltherapie. 20 deelnemers. Beide interventies leidden tot significante verbeteringen in de moeder-kind relatie en interactie, waarbij iedere interventie zijn eigen voordelen heeft. Cliënten gaven aan dat EAI de voorkeur had (draagt bij aan motivatie).

A Comparison of Equine-Assisted Intervention and Conventional Play-Based Early Intervention for Mother–Child Dyads with Insecure Attachment 2015. 1026017 Andrea Beetz et al. Journal of Occupational Therapy, Schools, & Early Intervention Volume 8, Issue 1, 2015 pages 17-39 Early interventions aim at promoting a good mother–child relationship as basis for a good socio-emotional development, especially in high-risk populations, and at correcting already unfavorable patterns of interaction and are common today. Insecure attachment, both of the child and of the mother, has been identified as a risk factor for early regulation disorders and further child development. Based on accumulating evidence of effectiveness of animal-assisted interventions, we implemented an Equine-Assisted Intervention (EAI) as an early intervention approach for mother–child-dyads and investigated its effects in comparison to a conventional play-based early intervention (PBI) in a randomized controlled trial. Both interventions took place once a week for 45 minutes over a period of 8 weeks and aimed at improving maternal caregiving and security in the mother–child relationship. Twenty mother–child dyads (children aged 12 to 24 months) from a high-risk background, in some of which the child already displayed dysregulation symptoms, were investigated. Attachment of mother and child, maternal caregiving, and interaction within the dyad were assessed before and after the intervention. There was not statistically significant difference ($p < 0.05$) between intervention groups with regard to changes from insecure to secure attachment or from disorganized to organized attachment, assessed via the Ainsworth Strange Situation Test. The only significant group-difference with regard to self-reported caregiving, was found for proximity maintenance in mothers without previous therapy experience ($n = 8$), those in the EAI reaching higher scores ($p = 0.064$). Play interaction, assessed via the CARE-Index, showed that mothers and children in PBI improved significantly more in their interaction behavior on several scales, while child's difficultness only significantly improved in EAI. Overall both approaches led to significant improvements in mother–child relationship and interaction, both having specific advantages over the other. When given the choice, the majority of mothers would prefer EAI, which points to a potential motivational effect.

2. Gepubliceerd literatuur search naar publicaties over effect van zorgboerderij zorg op jonge mensen die pleegzorg hebben of in instellingen verblijven. Er werden geen publicaties gevonden

en er is dus geen evidentie dat zorgboerderijen een effectieve interventie zijn voor hechtingsproblemen bij deze groep.

Evidence for Using Farm Care Practices to Improve Attachment Outcomes in Foster Children: A Systematic Review British Journal of Social Work. Martin J. Downes et al.

Anecdotal evidence suggests that care farming practices have the potential to provide positive outcomes for young people in foster-care and residential care environments. A systematic review (searching; CINAHL, Web of Knowledge, PsychInfo) was conducted to explore how participation in care farming initiatives impacts attachment in children in foster-care and what aspects of care farming initiatives provides positive attachment outcomes. The systematic review did not identify any research publication in care farming and foster-care. Therefore, it is imperative that practitioners realise that the evidence is lacking when using these types of interventions and keep a close account of the benefit and harms that may be encountered during the interaction processes.

JEUGDELINQUENTEN

1. Engelse kwalitatieve studie waarbij het effect van Equine facilitated learning (Parelli methode) op het gedrag van jonge delinquenten (n =20) werd onderzocht. Gedrag werd geobserveerd en er werden interviews afgenomen. Er was toename in kalme assertiviteit, toename van zelfvertrouwen en betere focus, ook in hun dagelijkse situatie. De deelnemers vonden de methode heel praktisch en de feedback van de paarden en begeleider zeer helder en waardevol. In een kwantitatieve beoordeling werd gevonden dat deze groep 25% minder recidive vertoonden.

An Exploration of an Equine Facilitated Learning Intervention with Young Offenders. Professor Ann Hemingway, Professor Rosie Meek, Dr Caroline Ellis Hill UK

This research reports a qualitative study to explore the behavioural responses to, and reported reflections from Young Offenders undertaking an Equine Facilitated Learning (EFL) Intervention in prison in the UK. Learning was facilitated by an instructor and the participants were taught introductory natural horsemanship skills. Establishments holding young adult prisoners are typically characterised by increased disruption to the regime, and with greater incidents of violence, bullying and conflict than in other types of prison. A resulting challenge for those working with young prisoners is the need to respond to increased levels of social isolation, and difficulties in managing impulsivity, problem solving, temper and conduct.

Through working in a way with the facilitator and the horse which was action-based, experiential, with a non-judgemental approach the young offenders who usually find it difficult to engage; they were observed to move from appearing anxious, tense and ineffective to being calm, assertive and confident when working with the horses. They reported feeling more confident and more in control of situations away from the horses. This short intervention appeared to have a deep effect on them.

It is hoped that this research will provide some initial evidence to contribute to ideas around the nature of learning practical positive skills and knowledge through inter species interactions.

2. Engelse kwalitatieve gepubliceerde studie over Equine Facilitated Learning voor jonge gedetineerden. Dit onderzoek is nog gaande en zou moeten bijdragen aan ideeën en kennis over praktische methoden om positieve vaardigheden te leren via interactie mens-dier.

An Exploration of an Equine-Facilitated Learning Intervention with Young Offenders

[Ann Hemingway](#) et al. [Society & Animals, Volume 23, Issue 6](#), pages 544 – 568 Publication Year : 2015

This research reports a qualitative study to explore the behavioral responses and reflections from Young Offenders undertaking an Equine-Facilitated Learning (EFL) Intervention in prison in the United Kingdom. Learning was facilitated by an instructor, and the participants were taught introductory natural horsemanship skills. Establishments holding young adult prisoners are typically

characterized by increased disruption to the regime, and by greater incidents of violence, bullying, and conflict than in other types of prison. A resulting challenge for those working with young prisoners is the need to respond to increased levels of social isolation, and difficulties in managing impulsivity, problem solving, temper, and conduct. It is hoped that this research will provide some initial evidence to contribute to ideas around the nature of learning practical, positive skills and knowledge through inter-species interactions.

<http://booksandjournals.brillonline.com/content/journals/10.1163/15685306-12341382>

MULTIPLE SCLEROSE

Amerikaanse gepubliceerde pilot studie naar effect hippotherapie bij MS patiënten. 3 deelnemers, geen controlegroep. Positieve resultaten voor balans, functioneel lopen en sensorische informatie verwerken.

Does hippotherapy effect use of sensory information for balance in people with multiple sclerosis? Jodi L. Lindroth DPTa, Jessica L. Sullivan DPTb& Debbie Silkwood-Sherer, Physiotherapy Theory and Practice: An International Journal of Physiotherapy Volume 31, Issue 8, 2015

O b j e c t i v e: This case-series study aimed to determine if there were observable changes in sensory processing for postural control in individuals with multiple sclerosis (MS) following physical therapy using hippotherapy (HPOT), or changes in balance and functional gait. **D e s i g n:** This pre-test non-randomized design study, with follow-up assessment at 6 weeks, included two females and one male (age range 37–60 years) with diagnoses of relapse-remitting or progressive MS. The intervention consisted of twelve 40-min physical therapy sessions which included HPOT twice a week for 6 weeks. Sensory organization and balance were assessed by the Sensory Organization Test (SOT) and Berg Balance Scale (BBS). Gait was assessed using the Functional Gait Assessment (FGA). **R e s u l t s:** Following the intervention period, all three participants showed improvements in SOT (range 1–8 points), BBS (range 2–6 points), and FGA (average 4 points) scores. These improvements were maintained or continued to improve at follow-up assessment. Two of the three participants no longer over-relied on vision and/or somatosensory information as the primary sensory input for postural control, suggesting improved use of sensory information for balance. **C o n c l u s i o n:** The results indicate that HPOT may be a beneficial physical therapy treatment strategy to improve balance, functional gait, and enhance how some individuals with MS process sensory cues for postural control. Randomized clinical trials will be necessary to validate results of this study.

OUDEREN

1. Koreaanse gepubliceerde studie die het effect van paardrijd simulatie op de balans en spieractivatie van middenrif van oudere mensen onderzocht. Experimentele groep 30, controlegroep, 8 weken 5x per week. Er waren significant positieve resultaten op stabiliteit/balans.

[The effects of horse riding simulation exercise on muscle activation and limits of stability in the elderly. Kim SG, et.al., Korea. Arch Gerontol Geriatr. 2015 Jan-Feb;60\(1\):62-5.](#)

This study aimed to investigate the effect of horse riding simulation (HRS) on balance and trunk muscle activation as well as to provide evidence of the therapeutic benefits of the exercise. Thirty elderly subjects were recruited from a medical care hospital and randomly divided into an experimental and a control group. The experimental group performed the HRS exercise for 20 min, 5 times a week, for 8 weeks, and conventional therapy was also provided as usual. The muscle activation and limits of stability (LOS) were measured. The LOS significantly increased in the HRS group ($p < 0.05$) but not in the control group ($p > 0.05$). The activation of all muscles significantly increased in the HRS group. However, in the control group, the muscle activations of the lateral low-back (external oblique and quadratus lumborum) and gluteus medius (GM) significantly decreased, and there was no significant difference in other muscles. After the intervention, the LOS and all

muscle activations significantly increased in the HRS group compared with the control group. The results suggest that the HRS exercise is effective for reducing the overall risk of falling in the elderly. Thus, it is believed that horse riding exercise would help to increase dynamic stability and to prevent elderly people from falling.

2. Amerikaanse gepubliceerde studie naar effect therapeutisch rijden op de balans en stabiliteit van oudere mensen. Groepsgrootte 9, controlegroep, 10 weken aangepast rijden. Er waren net geen significante verbeteringen aantoonbaar. Er wordt wel een grotere studie opgezet.

[The effect of therapeutic horseback riding on balance in community-dwelling older adults: a pilot study.](#) Homnick TD et al. VS. J Appl Gerontol. 2015 Feb;34(1):118-26.

Equine assisted activities (hippotherapy and therapeutic riding) improve balance in patients with disabilities such as cerebral palsy, but have not been systematically studied in older adults, at risk of falls due to balance deficits. We conducted a 10-week, single blind, controlled trial of the effect of a therapeutic horseback riding course on measures of balance in community-dwelling adults 65 years and older. Nine riders and six controls completed the trial. Controls were age matched to riders and all participants were recruited from the local community. Both groups showed improvements in balance during the trial, but did not reach statistical significance. Sample size was small, participants had relatively high initial balance scores, and controls tended to increase their physical activities, likely influencing outcomes. No adverse events occurred and the supervised therapeutic riding program appeared to be a safe and effective form of exercise to improve balance in older adults. A power analysis was performed to estimate numbers of participants needed for a larger study.

PTSS

1. Amerikaanse gepubliceerde studie om effect EAT op cliënten met PTSS te onderzoeken. 16 cliënten, geen controlegroep, 6 weken 1x per week therapie. Sommige symptomen van PTSS verbeterden, andere niet. De volgende studie zou een grotere groep, random verdeling en een controlegroep en nameting na langere periode moeten bevatten.

[Equine-assisted therapy for anxiety and posttraumatic stress symptoms.](#)

Earles JL et al. J Trauma Stress. 2015 Apr;28(2):149-52.

We tested the efficacy of the Equine Partnering Naturally(©) approach to equine-assisted therapy for treating anxiety and posttraumatic stress disorder (PTSD) symptoms. Participants were 16 volunteers who had experienced a Criterion A traumatic event, such as a rape or serious accident, and had current PTSD symptoms above 31 on the PTSD Checklist (PCL-S; Weathers, Litz, Herman, Huska, & Keane,). Participants engaged in tasks with horses for 6 weekly 2-hour sessions. Immediately following the final session, participants reported significantly reduced posttraumatic stress symptoms, $d = 1.21$, less severe emotional responses to trauma, $d = 0.60$, less generalized anxiety, $d = 1.01$, and fewer symptoms of depression, $d = 0.54$. As well, participants significantly increased mindfulness strategies, $d = 1.28$, and decreased alcohol use, $d = 0.58$. There was no significant effect of the treatment on physical health, proactive coping, self-efficacy, social support, or life satisfaction. Thus, we found evidence that the Equine Partnering Naturally(©) approach to equine-assisted therapy may be an effective treatment for anxiety and posttraumatic stress symptoms. Future research should include larger groups, random assignment, and longer term follow-up.

2. Amerikaans proefschrift met kleine studie naar effect equine therapie programma bij kinderen met PTSS. 10 kinderen, geen controlegroep. Kwaliteit van leven neemt toe en PTSS symptomen af.

Riding Free Pilot Study, an Equine Therapy Program for Children Diagnosed with Post-Traumatic Stress Disorder: Analysis of the PedsQL and Parent Report of Post-traumatic Symptoms (PROPS) Dene Mitchell, et al. Background: Research shows animal assisted therapy and equine therapy are beneficial when used with children exhibiting behavioral and anxiety disorders, including PTSD. However, there remains a gap in empirical research that uses precise measures with prevalidated

scales to quantify program outcomes.

Purpose: The research program, Riding Free equine therapy, was developed by the author for individuals diagnosed with Post-traumatic stress disorder (PTSD). The research goals were to improve quality of life and lower PTSD symptoms in children who completed the program. The study purpose was to assess the program outcomes and fill research gaps.

Methods: The program consisted of twelve, objective-driven, sessions to improve social skills, self-confidence, and self-efficacy. Pre-validated questionnaires were used to specifically measure quality of life (PedsQL) and PTSD symptoms (Parent Report of Post-traumatic Symptoms (PROPS)). Data was used from the first 10 children to complete the program. Differences in the pre-test and post-test averages were evaluated. Arcadia University IRB approved the study.

Findings: The average PROPS score showed a 32.35% decrease in PTSD symptoms. The average PedsQL scores showed an increase in quality of life by 2.01%.

Implications: Data supported that completion of the Riding Free program lead to an increased quality of life and a decrease in PTSD symptoms. Both research goals were met and the study adds to empirical research in equine therapy, using precise outcome measures and prevalidated scales. Studies using larger samples are needed to further support the program.

Learning Objectives: Evaluate the outcome of completing the Riding Free program in children with PTSD. Analyze results of pre and post test questionnaires, research in children with PTSD. Describe results.

3.Een stand van zaken (white paper) over Animal Assisted Therapy en PTSS: er is geen gepubliceerd onderzoek dat aantoon dat AAT effectief is, er zijn wel anekdotische meldingen dat mensen met PTSS zelf ervaren dat ze er baat bij hebben.

Is AAT an Effective Treatment for PTSD? By Ines Pandzic, M.A. Naval Center for Combat & Operational Stress Control

The literature reveals positive effects of AAT on both physiological and psychological factors in various age ranges and with a wide number of psychological disorders, including hospitalized psychiatric patients, children with developmental disorders, substance abuse and victims of trauma. It has been noted that human-animal interaction is associated with lower levels of cholesterol, blood pressure and heart rate. Furthermore, AAT appears to be associated with better self-esteem, lower stress and improved behavior. Other benefits include better physical health and reduced stress for elderly and improvement in cognitive functioning, mental health and relationships for younger persons.

Research related to the effect of AAT on symptoms of post-traumatic stress disorder (PTSD) is limited. Altschuler suggested that pet-facilitated therapy might be a good adjunct to treatment of PTSD because it could help alleviate fear and anxiety of patients.

Altschuler's idea grew from a comment a patient made about his anxiety elevating when separated from his pet. Stemming from this recommendation, Lefkowitz and colleagues proposed the use of AAT in conjunction with prolonged exposure (PE). In the animal-assisted prolonged exposure (AAPE) model, combining animal-assisted therapy with an already existing treatment for PTSD could help hesitant individuals participate and complete the treatment by creating more tolerable demands of them and altering their perception of themselves, as well as the world.

The claim made is that incorporating AAT with PE could help build an alliance between the client and the therapist more quickly and increase compliance with attendance. Also, animals might help decrease physiological responses; however, an animal should not be introduced until an optimal anxiety level is reached. Recently, one study examined the effects of animal-assisted therapy on wounded warriors, who participated in three to six occupational therapy classes. When compared to a control group receiving only occupational therapy, AAT groups did not show significant differences in mood state, stress levels, resilience, fatigue and most measures of daily functioning. Although there were no significant differences between the two groups, participants in the AAT group anecdotally expressed benefits from the intervention.

Beck CE, Gonzales F, Sells CH, Jones C, Reer T, Wasilewski S, et al. The effects of animal-assisted therapy on wounded warriors in an Occupational Therapy Life Skills program. *The United States Army Medical Department Journal*, April-June 2012, 38-45.

What are Concerns about ATT?

With interest in AAT gaining popularity, another important issue is the well-being of assistance animals. Individuals interested in AAT typically will go through the International Delta Society, an organization that certifies and defines AAT. The organization warns against the use of ATT when an animal can get injured from rough handling or from other animals, when basic animal welfare cannot be met, or when an animal does not seem to enjoy participating.

Certain species have cognitive, emotional and social intelligence and are working in a variety of settings, including the military. Dogs, for example, are considered to be highly effective in detecting improvised explosive devices, which is why the number of working dogs on active duty is on the rise. At the same time, evidence is emerging that military dogs deployed with combat forces are suffering from canine PTSD-like symptoms. This further supports the notion that animals, like humans, are capable of experiencing emotion. When examining how animals contribute to human well-being, it is therefore just as important to understand how incorporating animals into mental health might influence their well-being. This will determine how to best use animals for AAT paradigms.

Is AAT a Good Treatment for Service Members?

Literature posits that AAT can help build an alliance between the client and the therapist, increase adherence to treatment, promote social interactions, decrease anxiety and lower psychological arousal. It can be integrated with numerous counseling practices in treating depression, anxiety, dementia, emotion regulation and substance abuse. Although the most commonly used animal is a dog, there has been an increased interest in other animals and interventions, such as dolphin-assisted therapy and equine-assisted therapy. These programs are producing anecdotal evidence that the use of animal-assisted therapy reduces PTSD symptoms; however, the mechanisms underlying benefits of AAT for the treatment of PTSD are yet to be defined. AAT has been tested in a few different populations that vary in age and disorders; however, more research is needed to test the method in war veterans. It seems appropriate to consider the use of AAT given its benefits, but due to lack of scientific evidence supporting or refuting AAT as an effective model in treating PTSD, more methodologically sound studies need to be conducted. Special attention also should be given to consideration of moral concerns with AAT. This will lead to the development of clear and strict guidelines protecting the well-being of animals, while offering an alternative therapeutic approach for humans.

4. Gepubliceerde studie over effect EFP op mishandelde kinderen met PTSS. 11 kinderen, geen controlegroep, 8 weken programma. Resultaten wijzen in positieve richting.

Equine Facilitated Psychotherapy: A Pilot Study of Effect on Posttraumatic Stress Symptoms in Maltreated Youth Leslie McCullough et al. *Journal of Infant, Child, and Adolescent Psychotherapy* Volume 14, Issue 2, 2015 pages 158-173 online: 28 May 2015

Chronic maltreatment of children can provoke a host of neuropsychological and physiological anomalies that manifest as developmental, emotional, behavioral, cognitive, and psychosocial disorders and posttraumatic stress disorder (PTSD). Considering the multidimensional landscape of trauma and PTSD alongside the nonverbal and symbolic language of children, a nondidactic, somatic treatment intervention that engages the body's own inner communication system seems well suited for young victims of maltreatment. The authors describe the results of a pilot study utilizing equine facilitated psychotherapy (EFP), an experiential, cognitive-behavioral based intervention, for the treatment of PTSD symptoms of maltreated youth. A purposive sample of 11 youth ages 10–18 who

presented with PTSD symptomatology participated in eight weekly EFP outpatient sessions 1.5 to 2 hours in length. Pre and post, as well as midpoint, tests were administered. Results suggest the EFP treatment effects are multimodal, working in multiple directions at the same time. Results also suggest that the EFP model may be a viable psychotherapy for traumatized youth suffering PTSD symptomatology.

<http://www.tandfonline.com/doi/full/10.1080/15289168.2015.1021658>

RISICOJEUGD

1. Moving Beyond “Just Fun and Games”: The Process and Outcomes of Equine-Assisted Psychotherapy Programming for Institutionalized Girls. Allison J. Foley Abstract
Over the past two decades, criminological scholars have increasingly sought to determine “what works” to control crime and delinquency and whether these approaches should vary by gender. In fact, the 1992 reauthorization of the Juvenile Justice and Delinquency Prevention Act called for research designed to determine the needs of delinquent girls in particular, and to develop strategies to address these needs.

Alternative Offender Rehabilitation and Social Justice pp 99-119

2015 DOI 10.1057/9781137476821_6

Artikel nog opzoeken.

2. Amerikaanse gepubliceerde studie naar effect van equine assisted learning (LASSO) op gevoelens van hoop en depressie bij risico jeugd. Een vijfweekse therapie (zonder rijden) gaf significante verbeteringen in gevoelens van hoop en afname van depressie. Grootte van de studie niet vermeld, wel random verdeling en controlegroep.

[Not Just Horsing Around: The Impact of Equine-Assisted Learning on Levels of Hope and Depression in At-Risk Adolescents.](#) Frederick KE et al. VS. Community Ment Health J. 2015 Oct;51(7):809-17.

Equine-assisted learning (EAL) is an experiential modality which utilizes horses to provide a unique learning experience for personal growth. Research by Damon et al. (Appl Dev Sci 7:119-128, 2003) suggests a positive relationship between hope and positive developmental trajectories. Hagen et al. (Am J Orthopsychiatr 75:211-219, 2005) showed hope to be a protective factor associated with adaptive functioning in at-risk youth. Ashby et al. (J Couns Dev 89:131-139, 2011) found a significant inverse relationship between hope and depression: as hope increases, depression decreases. The current study investigates the impact of a non-riding EAL curriculum entitled L.A.S.S.O. (Leading Adolescents to Successful School Outcomes) on levels of hope and depression in at-risk youth. The study uses an experimental design with longitudinal, repeated measures. Participants were randomly assigned to treatment and control groups. Participants in the treatment received 5 weeks of EAL, while participants in the control group received treatment as usual. Repeated measures ANOVA of participants' levels of hope and depression showed statistically significant improvements in the treatment group as compared with the control group. Even a brief (5-week) intervention of EAL had a positive impact on the lives and attitudes of at-risk adolescents, with increased levels of hope and decreased levels of depression.

3. Noorse studie naar de manier waarop paarden ingezet kunnen worden bij cliënten met zelfbeschadigend gedrag tijdens Equine facilitated social work. Uitkomst is dat hulpverleners meer moeten focussen op emoties en het paard als een individu dat empathie verdient.

Mentalizing and Emotional Labor Facilitate Equine-Assisted Social Work with Self-harming Adolescents. Catharina Carlsson et al., Oslo. Child and Adolescent Social Work Journal August 2015, Volume 32, [Issue 4](#), pp 329-339 online: 20 January 2015

This article explores equine-assisted social work (EASW). Horses' capacities to mirror human emotions create possibilities for authentic relationships between clients and staff. This study examines what eases or counteracts the horse's capacity to facilitate relationships perceived by humans to be authentic. Video recordings of the human-horse interactions of three staff members and four female self-harming clients aged 15–21 years in a residential treatment facility were analyzed. The findings show that if the staff gave instructions and advice similar to traditional equestrian sports in combination with viewing the horse as an object, EASW is not facilitated. EASW seems to be facilitated when the horse is perceived as a subject by both staff and clients, provided that the staff gave meaning to the horse's behavior. The staff needed to highlight empathy for the horse when the horse is not able to fulfill its task without adding depth to the client's performance, to avoid raising defense mechanisms. The essence of EASW were perceived as eased by staff members when they focus on the client's emotions and help the client understand that the horse is acting in response to the client's and the staff's behavior through mentalizing and enacting emotional labor in regarding the horse as a subject. The results indicate the need for higher demands on staff members in order to facilitate EASW. Depending on whether the staff and the clients focus on performance or on emotions, different positive or negative outcomes on communication, self-confidence, self-esteem, and self-image will be likely to emerge

<http://link.springer.com/article/10.1007%2Fs10560-015-0376-6>

SCHIZOFRENIE

1. Amerikaanse gepubliceerde studie naar effect EAP en hond ondersteunde therapie bij psychiatrische intramurale patiënten (schizofrenie en en/of gedragsproblemen/delictie) met risico op agressief gedrag. Aantal deelnemers 90, controlegroep was interventie met honden, sociale vaardigheden therapie of normale hospitaal zorg. Hond en paardondersteunde therapie gaven significant positieve resultaten op vermindering agressie.

[Animal-assisted therapy with chronic psychiatric inpatients: equine-assisted psychotherapy and aggressive behavior.](#) Nurenberg et al, VS. Psychiatr Serv. 2015 Jan 1;66(1):80-6.

Animal-assisted therapy (AAT), most frequently used with dogs, is being used increasingly as an adjunctive alternative treatment for psychiatric patients. AAT with larger animals, such as horses, may have unique benefits. In this randomized controlled study, equine and canine forms of AAT were compared with standard treatments for hospitalized psychiatric patients to determine AAT effects on violent behavior and related measures.

METHODS: The study included 90 patients with recent in-hospital violent behavior or highly regressed behavior. Hospitalization at the 500-bed state psychiatric hospital was two months or longer (mean 5.4 years). Participants were randomly selected to receive ten weekly group therapy sessions of standardized equine-assisted psychotherapy (EAP), canine-assisted psychotherapy (CAP), enhanced social skills psychotherapy, or regular hospital care. Participants' mean age was 44, 37% were female, 76% had diagnoses of schizophrenia or schizoaffective disorder, and 56% had been committed involuntarily for civil or forensic reasons. Violence-related incident reports filed by staff in the three months after study intake were compared with reports two months preintake.

RESULTS: Interventions were well tolerated. Analyses revealed an intervention group effect ($F=3.00$, $df=3$ and 86 , $p=.035$); post hoc tests showed specific benefits of EAP ($p<.05$). Similar AAT effects were found for the incidence of 1:1 clinical observation ($F=2.70$, $df=3$ and 86 , $p=.051$); post hoc tests suggested benefits of CAP ($p=.058$) as well as EAP ($p=.082$). Covariance analyses indicated that staff can predict which patients are likely to benefit from EAP ($p=.01$).

CONCLUSIONS: AAT, and perhaps EAP uniquely, may be an effective therapeutic modality for long-term psychiatric patients at risk of violence.

2. UK/België onderzoek. Gepubliceerde metastudie: Sporten in het algemeen is positief voor mensen met schizofrenie, 1 studie therapeutisch paardrijden hierin meegenomen van Cerino et al. uit 2011.

Individuals with schizophrenia: a systematic review; *Psychiatria Danubina*, 2015; Vol. 27, No. 1, pp 2-13 Review.

Background: The purpose of this review was to consider the impact of being introduced to a sport and sport participation on (a) weight loss and psychiatric symptoms, (b) any other health benefits in people with schizophrenia, supported by quantitative and qualitative findings.

Subject and methods: A systematic review in accordance with the PRISMA statement was conducted. Searches were undertaken in January 2014. Articles were eligible that (1) considered the effect (quantitative studies) and experience (qualitative and case studies) of either; being introduced to a 'sport' or undertaking a sport activity, (2) included >85% of patients diagnosed with schizophrenia or schizo-affective spectrum disorders according to recognised criteria.

Results: A total of 10 studies including 5 trials (2*pre-experimental, 2*controlled trials, 1*randomised control trial), 2 qualitative studies and 3 case studies were included (n=185). Two out of 3 studies that considered weight as an outcome measure reported significant reductions in weight and psychiatric symptoms following sports participation. The mean reduction in body mass index (BMI) ranged from -0.7kg.m² (p<0.001) following 12 weeks of basketball to -1.33 kg.m² (p<0.001) after 12-weeks of soccer. The mean reduction in the Positive and Negative Symptoms score ranged from 2.4 points (F=-19.0, p<0.001) following 12 weeks of basketball to 7.4 points (t=-5.0, p<0.001) following a 40 week programme of horse riding. A range of secondary health and wellbeing outcomes identified some significant results. Qualitative findings showed that participants had positive experiences from participating in sports.

Conclusions: Sport participation may result in reduced BMI and psychiatric symptoms in patients with schizophrenia. Sport has the potential to improve an individual's quality of life through providing a meaningful normalizing activity that leads to achievement, success and satisfaction. Well-designed randomised controlled trials are required to fully determine the health effects of sports participation in schizophrenia.

3. Afrikaanse gepubliceerde studie naar effect EAT op kostschooljongeren met probleemgedrag. Er waren bescheiden positieve effecten op welzijn en coping.

The evaluation of an equine-assisted therapy programme with a group of boys in a youth care facility [Christa Boshoff](#) et al. *Psychology in Africa*, pages 86-90. Published online: 26 Feb 2015

The goal of this study was to evaluate the efficacy of an equine-assisted therapy programme aimed at improving the psychological well-being of boys in a custodial school of industry. Participants were 39 boys who live in a youth care facility for boys who display problem behaviour. They were from different cultural groups (Black, Coloured, and White) and aged between 14 and 18 years. Horses were utilised in the structured sessions to help the boys learn different coping skills through experiential learning. Data were collected on the boys' level of coping and subjective well-being in order to assess the efficacy of the programme. The data were analysed using independent groups t-test comparisons. The results showed that the programme significantly improved the boys' subjective well-being, problem focused coping, and emotion focused coping. However, their levels of dysfunctional coping were unchanged following the intervention. An equine-assisted therapy programme appears to show modest evidence of enhancing psychological well-being of adolescent boys in custodial care.

<http://www.tandfonline.com/doi/abs/10.1080/14330237.2015.1007611>

SCOLIOSE

Georgisch onderzoek op een conferentie gepresenteerd dat aantoonde dat hippotherapie effectief is voor kinderen met Scoliose type II.

Management of the process of rehabilitation in children with idiopathic scoliosis of II degree
Manana Rukhadze, MD, PhD, Modu Madona, MD, GP. Tbilisi State Medical University. Tbilisi. Georgia
4th Baltic and North Sea Conference on PRM – 16–18 Sept 2015

At present, treatment of the children with idiopathic scoliosis remains the topical problem. There is controversy over the treatment tactics, as in the American and European medicine the role of muscles is neglected, and the primary methods of rehabilitation are bracing and surgery. The study aimed to determine the effectiveness of the optimal subsequence of rehabilitation methods in the complex treatment of II degree idiopathic scoliosis. The study included 24 patients, female, aged 12–15 years, with a diagnosis of thoracolumbar idiopathic scoliosis, II degree, with an angle of curvature of 23–27°. The objective of rehabilitation was elimination of the asymmetric strain (relaxation) of extensor muscles of the back, traction, detorsion (rotation) and fixation of the spine with a strong muscular corset around it. The participants underwent a complex rehabilitation using amplipulse therapy, manual therapy, kinesiotherapy and hippotherapy using a method suggested by D. Tsverava (1985). The main subjective, objective and radiological parameters were studied in dynamics, before and 3 months after treatment; the functional state of the spinal, back and abdominal muscles was investigated using a static muscle endurance test that was conducted before treatment and at one and three months of rehabilitation. Analysis of the results shows that all of the proposed rehabilitation scheme and subsequence of methods are highly effective for the children with II degree of idiopathic scoliosis. This was demonstrated by improvement of all parameters: discomfort and feeling of fatigue in the back, pain on exertion, pain in trigger points were eliminated; there was a trend of aligning asymmetry between the orientation points; static endurance of trunk and abdominal muscles, angle of curvature decreased (average 5–6°).

Conclusion: Complex rehabilitation using physical methods such as amplipulse therapy, manual therapy and kinesiotherapy may be effective for II degree of thoracolumbar idiopathic scoliosis. Hippotherapy enables significant strengthening of the muscles supporting the spine, and besides, creates a favorable environment due to contact of children with a horse.

SEKSUEEL MISBRUIK

Braziliaanse gepubliceerde studie bij twee seksueel misbruikte vrouwen, geen controlegroep, die het effect onderzocht op coördinatie, houding, balans en lichaamscorrectie en eigenwaarde. Al deze factoren werden positief beïnvloed.

[Hippotherapy as a treatment for socialization after sexual abuse and emotional stress.](#)

[Guerino MR](#) et al. Brazil. J Phys Ther Sci. 2015 Mar;27(3):959-62.

[Purpose] Hippotherapy is a therapeutic resource that uses the horse as a kinesiotherapy instrument to elicit motor and cognitive improvements in individuals with special needs. [Subjects and Methods] This research evaluated two women aged 18 and 21 years, who had suffered sexual violence when they were children between the ages of 6 and 7 years old. The subjects did not have mental dysfunction but they were regular students registered at a school of special education. The patients presented severe motor limitation, difficulty with coordination, significant muscular retractions, thoracic and cervical kyphosis, cervical protrusion which was basically a function of the postures they had adopted when victims of the sexual violence suffered in childhood. The patients performed twenty sessions of 30 minutes of hippotherapy on a horse. The activities were structured to stimulate coordination, proprioception, the vestibular and motor-sensorial systems for the

improvement of posture, muscle activity and cognition. [Results] The activities provided during the hippotherapy sessions elicited alterations in postural adjustment resulting in 30% improvement, 80% improvement in coordination in, 50% improvement in corporal balance and in sociability and self-esteem. [Conclusion] Hippotherapy proved to be an effective treatment method for coordination, balance and postural correction, and also improved the patients' self-esteem that had suffered serious emotional stress.

TAALONTWIKKELING

Proefschrift waarin effect therapeutisch paardrijden wordt gemeten bij kleuters met taalachterstand. 2 deelnemers en controlegroep. Geen significante resultaten gevonden, therapeutisch paardrijden had dus geen effect op taalachterstand.

The Benefits of Therapeutic Horseback Riding on the Expressive Language of Toddlers who Present with Delays. Alyssa Mourey, et. Al., VS.

A variety of evidence shows that therapies involving animals, such as dogs and horses, have benefitted individuals with special needs in many areas including physical, cognitive, emotional, and communication skills. However, there is a limited amount of empirical evidence for the benefit of therapeutic horseback riding on speech and language skills. The present study aimed to provide evidence for the efficacy of therapeutic horseback riding as a treatment for toddlers who present with language delays. The treatment group consisted of two children, ages 2;2 and 2;5, who received 6 therapeutic horseback riding lessons over the course of 4 weeks, while one also received speech therapy. The control group consisted of two children, ages 2;4 and 2;8 who did not receive therapeutic horseback riding lessons, while one received speech therapy and the other did not. MLU, Number of Total Words (NTW) and Number of Different Words (NDW) were measured through pre-and post-language samples collected in the childrens' homes. Results showed that all four children made gains, providing insufficient evidence for the efficacy of therapeutic horseback riding as a treatment for language delay. Therapeutic horseback riding may be considered as a supplemental therapy to other traditional therapies such as speech and occupational therapy, on a case by case basis. Additional research is needed regarding the efficacy of therapeutic horseback riding for the treatment of language delays.

VERSLAVING

1. Publikatie die stelt dat positieve resultaten worden gezien voor EAT bij jonge verslaafden bij een programma in de VS. Geen verdere gegevens. Evidence grows for equine therapy as treatment engagement tool. Alcoholism & Drug Abuse Weekly Volume 27, Issue 41, pages 1–7, 26 October 2015 The young-adult addiction treatment program that debuted last February at The Oxford Centre in Lafayette County, Miss., is seeing early results from its significant focus on equine therapy, heading a list of experiential therapies used extensively in the program. Besides its clinical appeal for young patients who tend not to respond strongly to lecture-focused group treatment, equine therapy also is being seen as a cornerstone of the organization's marketing.

2. Scandinavisch onderzoek online gepubliceerd naar effect horse assisted therapie op jonge verslaafden. 108 deelnemers en controlegroep kreeg normale behandeling gedurende 18 maanden. Er was een positieve samenhang tussen Horse Assisted Therapy en langere deelname en de behandeling geheel afmaken, therapie met inzet van paarden lijkt dus te zorgen voor volhouden programma.

Substance use disorder treatment retention and completion: a prospective study of horse-assisted therapy (HAT) for young adults Ann Kern-Godal et al. , Research Addict ion Science & Clinical Practice December 2015, 10:21 First online: 14 October 2015. Background Keeping substance use disorder patients actively engaged in treatment is a challenge. Horse-assisted therapy (HAT) is increasingly

used as a complementary therapy, with claimed motivational and other benefits to physical and psychological health. This naturalistic study aimed to assess HAT's impact on the duration and completion of treatment for young substance users at Oslo University Hospital.

Methods Discharge and other data were derived from the Youth Addiction Treatment Evaluation Project (YATEP) database for patients (n = 108) admitted during an 18-month period. An intention-to-treat design, and univariate and multivariate analyses were used to compare those receiving treatment as usual (n = 43) with those who received treatment as usual plus HAT (n = 65).

Results Despite a lack of randomization, the baseline characteristics of the two groups were similar. However, more HAT participants completed treatment (56.9 vs 14 %, p < 0.001), remained in treatment for longer (mean 141 vs 70 days, p < 0.001) and had a significantly higher chance of completing their treatment than those not given the HAT program. Excluding time in treatment, and after controlling for the potentially confounding influence of age, sex, education, number and severity of substances used, psychological distress and number of temporary exits, the adjusted odds ratio for treatment completion was 8.4 in the HAT group compared with those not participating in HAT (95 % CI 2.7–26.4, p < 0.001).

Conclusion The study found a statistically significant association between HAT participation and time in treatment, and between HAT participation and completion of treatment. This association does not infer causality. However, it adds supporting evidence for the development of an innovative therapy, and warrants investment in further research in relation to its inclusion in substance use disorder treatment.

3. Canadese case studie betreffende een programma opgezet voor Canadese Inuit jongeren die vluchtige stoffen als drugs misbruiken. In eerdere wetenschappelijke publicaties was al beschreven dat het programma positieve effecten heeft op het welzijn van de jongeren. De auteurs beschrijven in deze case studie wat de jongeren onder welzijn verstaan. Ze gebruikten daarbij een holistisch bio-psykosociaal model. Vooral het ervaren van gezonde, veilige aanraking, leren over eigen identiteit, vergroten van eigenwaarde, positief ervaren van sociale relaties met paard en begeleider en tijd doorbrengen met de paarden werden door de jongeren genoemd.

The Helping Horse: How Equine Assisted Learning Contributes to the Wellbeing of First Nations Youth in Treatment for Volatile Substance Misuse

[Cindy Adams](#), et al., Hum Anim Interact Bull. 2015; 1(1): 52–75.

There has been recent interest in Canada exploring the benefits of equine assisted interventions in the treatment of First Nations youth who misuse volatile substances. Using the richness of an exploratory case study involving the White Buffalo Youth Inhalant Treatment Centre and the Cartier Equine Learning Center, our community-based study examined the question of how an Equine Assisted Learning (EAL) program contributes to the wellbeing of First Nations female youth who misuse volatile substances. Both programs are grounded in a holistic bio-psycho-social-spiritual framework of healing. Our study shares how the EAL horses, facilitators and program content contributed to youths' wellbeing in each area of the healing framework (bio-psycho-social-spiritual), with emphasis on the cultural significance of the horse and its helping role. The horse is a helper in the girls' journeys toward improved wellbeing—the horse helps through its very nature as a highly instinctive animal, it helps the facilitators do their jobs, and it also helps put the treatment program activities into practice. In addition, the role of First Nations culture in the girls' lives was enhanced through their encounters with the horses. The findings support the limited literature on equine assisted interventions and add important insights to the youth addictions treatment literature. Key implications to consider for EAL and volatile substance misuse policy, practice and research are identified.

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4716821/>

VERTRAAGDE MOTORISCHE ONTWIKKELING

Spaans gepubliceerd onderzoek naar effect van hippotherapie op kinderen met langzaam ontwikkelende psychomotore functies. 11 deelnemers, geen controlegroep, uitkomst positief voor motorische functies, maar niet voor kwaliteit van leven.

[Effectiveness of equine therapy in children with psychomotor impairment.](#)

[Del Rosario-Montejo O](#) et al., Spain, Neurologia. 2015 Sep;30(7):425-32.

INTRODUCTION: Equine therapy, an intervention method that has been practiced for decades around the world, is used to treat patients susceptible to psychomotor delays.

OBJECTIVES: We examine development of gross motor function compared to other psychomotor skills in patients undergoing this therapy, and analyse how this improvement affects general health status and quality of life.

MATERIAL AND METHODS: The study includes 11 children with delayed psychomotor development (aged 8.82 ± 3.89 ; 6 boys, 5 girls). The main study variables were gross motor function (GMFM-88) and perceived quality of life (Pediatric Quality of Life Inventory, PedsQL). Three measurements were performed: before and after a period of inactivity, and once again 2 months after the second measurement, following completion of a sustained period of therapy.

RESULTS: We observed significant differences in overall results on the GMFM-88 between the initial and final tests and between the intermediate and final tests. Regarding the PedsQL quality of life scale, no statistically significant results were recorded.

CONCLUSIONS: Noticeable changes in motor control were recorded throughout the course of the intervention, which suggests that equine therapy may be appropriate treatment in cases of delayed psychomotor development.

OVERIGE ONDERWERPEN

1. Beschrijvend onderzoek (ter publicatie aangeboden) dat een voorstel doet voor eenduidige begrippen bij interventies met paarden.

Confusion abounds in the world of animal-assisted interventions (AAI) due to lack of clarity surrounding their definitions. This problem in terminology leads to a blurring of boundaries between different interventions, disagreement concerning type of actions, goals and degree of training and certification needed for humans and accompanying animals involved in interventions associated with any given field, and negative implications for practice, research and policy decisions. This editorial article takes a critical look at current attempts at defining these interventions through definitions, descriptions of training, and credentials for acceptance into AAI-related organizations. A call is made for a typology which sets clear expectations for each AAI and clear limits between them, taking into account the richness of each animal-assisted field. Once the expectations, definitions and limits are clear and widely accepted, those involved in the interventions will have a clearer view of and respect for their own work and for that of others. Dialogue may then develop between various AAI fields about issues concerning all, such as ethics and possibilities for cooperation, leading to improvements in practice, research and policy decisions.

2. Amerikaans artikel tbv een conferentie dat stelt dat Animal Assisted Therapie Counseling ook goed ingezet kan worden bij supervisie. Auteur beschrijft in twee casusbeschrijvingen hoe twee supervisanten tot een bepaald inzicht komen over hun eigen gedrag door feedback van een hond. Deze effecten zouden mijns inziens ook met inzet van een paard bereikt kunnen worden.

Animal Assisted Therapy Interventions in Supervision: Leslie A. Stewart et al.

A key task in supervision is to establish a strong working alliance (Bordin, 1983). As the supervisory relationship contains many parallels to the counseling relationship (Bernard & Goodyear, 2009) counseling interventions that enhance working alliances may extend to supervision. One such intervention is animal-assisted therapy in counseling (AAT-C). Including AAT-C in supervision may help the supervisor build a strong working alliance with the supervisee and enhance the process of supervision in ways that would not be possible without the inclusion of a therapy animal. The

authors present several case studies that illustrate ways that AAT-C interventions impacted supervision.

3. Dit nog uit te voeren onderzoek richt zich op de vraag of paarden anders reageren op mensen met een psychische aandoening (zoals PTSS) dan op mensen zonder psychische aandoening. Toegewezen fonds door Horses and Humans Research Foundation (2015), Dr. Katrina Merckies, Canada.

Equine-assisted activities (EAA) rely on appropriate pairing of a horse with a human participant to extract applicable learning opportunities that enable the participant to benefit fully from the interaction with the horse. Facilitators need not only to know the temperament of the horses at their disposal, but also to understand how certain human personalities or actions affect the behaviour of certain horses. Some criticisms of research studies in this area target the (unproven) assumption that horses will respond differently to humans with psychological/emotional issues (eg. PTSD) than to humans not experiencing any psychological trauma – the implicit belief that the horse “intuits” the needs of the emotionally-challenged human and responds benevolently. As a foundational pilot study to expand research of behavioural responses of horses in equine-assisted settings, the working hypothesis of this project is that horses will respond differently to humans with clinically-diagnosed psychological conditions than to neurotypical humans. Horse behaviours (gait, head height, body orientation, ear orientation, distance to human) and horse heart rate and salivary cortisol will be compared during interaction with each type of human. Understanding the horse's role in the processes involved in equine-assisted therapy is essential for furthering research into animal assisted therapies not only from the human perspective, but from the lens of horse welfare to minimize stressful experiences for the horse and ensure participant safety.

4. Amerikaanse beschrijvende studie die 24 andere EAT studies bekijkt (20 scripties en proefschriften, 4 gepubliceerde artikelen). Conclusie: er is beginnende evidentie dat EAT de communicatie en relatie vaardigheden verbetert bij volwassenen en het emotionele, sociale en gedragsfunctioneren van kinderen en adolescenten positief stimuleert. Over effectiviteit kan nog weinig geconcludeerd worden door beperkingen in de meeste onderzoeksopzetten.

[Narrative synthesis of equine-assisted psychotherapy literature: Current knowledge and future research directions.](#) Lee PT et al. VS. Health Soc Care Community. 2015 Mar 2.

Equine-assisted psychotherapy (EAP) is an innovative emerging approach to mental health treatment. This narrative synthesis explores the current state of knowledge and areas for future research in EAP. Specifically reviewed are qualitative and quantitative empirical studies, including both articles published in peer-reviewed journals and research presented in theses and dissertations. We selected 24 studies for final inclusion in this study, dating between 2005 and 2013, and including the first EAP empirical research completed in 2005. Four of these studies are peer-reviewed journal articles, while 20 are master's theses or doctoral dissertations. The reviewed qualitative research provides initial evidence for the value of EAP for enhancing adolescents' communication and relationship skills. The reviewed experimental and quasi-experimental research provides initial evidence for the value of EAP for enhancing children's and adolescents' emotional, social and behavioural functioning. Yet, conclusions about the effectiveness of EAP must still be considered preliminary due to various methodological limitations in the reviewed research. The narrative review describes these methodological limitations and concludes with recommendations for future research.

5. Amerikaanse gepubliceerde studie die de bekkenbewegingen bij wandelen en paardrijden met elkaar vergelijkt. Paardrijden genereert vele vergelijkbare bekkenbewegingen, maar niet alle, vergelijkbaar met wandelen. Interessant omdat EAT effecten zouden kunnen ontstaan doordat paardrijden de wandelbeweging nabootst en daarmee een sensorische prikkel geeft.

[Human pelvis motions when walking and when riding a therapeutic horse.](#) Garner BA et al, VS. Hum Mov Sci. 2015 Feb;39:121-37. doi: 10.1016/j.humov.2014.06.011. Epub 2014 Nov 28.

A prevailing rationale for equine assisted therapies is that the motion of a horse can provide sensory stimulus and movement patterns that mimic those of natural human activities such as walking. The purpose of this study was to quantitatively measure and compare human pelvis motions when walking to those when riding a horse. Six able-bodied children (inexperienced riders, 8-12years old) participated in over-ground trials of self-paced walking and leader-paced riding on four different horses. Five kinematic measures were extracted from three-dimensional pelvis motion data: anteroposterior, superoinferior, and mediolateral translations, list angle about the anteroposterior axis, and twist angle about the superoinferior axis. There was generally as much or more variability in motion range observed between riding on the different horses as between riding and walking. Pelvis trajectories exhibited many similar features between walking and riding, including distorted lemniscate patterns in the transverse and frontal planes. In the sagittal plane the pelvis trajectory during walking exhibited a somewhat circular pattern whereas during riding it exhibited a more diagonal pattern. This study shows that riding on a horse can generate movement patterns in the human pelvis that emulate many, but not all, characteristics of those during natural walking.

6.Amerikaanse antropologische studie die de paard-mens interactie meet bij gewone vrouwelijke ruiters zonder psychische beperkingen. Via interviews 50 levensverhalen van vrouwelijke paardenliefhebbers/ruiters. Hieruit blijkt hoeveel leerervaringen deze vrouwen halen uit de omgang met hun paard en steeds de grens overgaan tussen plezier en beperkingen. Je hoeft geen beperkingen te hebben om positieve effecten te ervaren van de omgang met en het rijden op paarden.

[My Horse Is My Therapist: The Medicalization of Pleasure among Women Equestrians.](#)

[Lee Davis D](#) et al. Med Anthropol Q. 2015 Sep;29(3):298-315. doi: 10.1111/maq.12162. Epub 2014 Dec 14.

Pink t-shirts that proclaim "My horse is my therapist" are for sale in a wide variety of horse-sport catalogues. Literature on the healing power of human-nonhuman animal encounters and the practice of a variety of animal-assisted therapy programs, such as hippotherapy and equine-facilitated therapy, show dramatic growth over the last 30 years. Less attention is paid to the role that horse-human interactions may play in more popular accountings of well-being and impairment among a sample of everyday riders. Analysis of 50 lifecycle narratives, collected from accomplished but nonprofessional equestriennes, demonstrates the complex and ambiguous ways in which women draw from their experience of human-horse relationships as they challenge and transgress the borderlands between pleasure and impairment. Combining the perspectives of multispecies ethnography and medical anthropology that engages the complexities of well-being, analysis is informed by and contributes to recent controversies concerning the medicalization of normality and pleasure in DSM 5.

7.Amerikaanse metastudie die vele andere studies naar therapeutisch paardrijden en hippotherapie op een rij zet. Conclusie is dat al deze methoden effectief zijn in het verbeteren van fysieke gezondheid, maar dat er meer onderzoek nodig is naar de optimale frequentie en duur van de methoden. Nu lijkt 1x per week gedurende enkele weken goede resultaten te geven. Ook is er onderzoek nodig naar de fysiologische basis van de resultaten die bereikt worden.

[The Efficacy of Equine-Assisted Activities and Therapies on Improving Physical Function.](#)

[Rigby BR](#) et al, VS. J Altern Complement Med. 2016 Jan;22(1):9-24. doi: 10.1089/acm.2015.0171.

Epub 2015 Dec 14.

OBJECTIVE: To summarize the physical benefits of therapeutic horseback riding and hippotherapy and suggest directions for future research.

METHODS: Review of databases for peer-reviewed articles related to equine-assisted activities and therapies. Databases included MEDLINE via EBSCO, Web of Science, PubMed, Google Scholar, and Academic Search Complete. Articles were limited to those with full-text access published in English since 1987.

RESULTS: Acute and residual improvements in physical benefits, such as gross motor function (e.g., walking, running, jumping), spasticity, muscle symmetry, posture, balance, and gait occur in adults and children with varying disabilities. The benefits appear to be greatest following multiweek interventions with one or more sessions per week. Modest acute cardiovascular responses are observed during equine-assisted activities and therapies with little or no evidence for training improvements in heart rate or blood pressure at rest or during riding.

CONCLUSION: The present body of literature provides evidence that equine-assisted activities and therapies are an effective means of improving many measures of physical health. However, more controlled trials are urgently needed to strengthen the current knowledge base, establish dose-response characteristics of equine-assisted activities and therapies, and explore the physiologic basis for the promising results suggested from the literature.

8. Amerikaanse studie die onderzocht welke ondergrond betere resultaten oplevert voor houdingscontrole tijdens hippotherapie. Zand kwam bij een bepaalde maat als beste eruit, gevolgd door gras en asfalt.

[Parameters of the center of pressure displacement on the saddle during hippotherapy on different surfaces.](#) Flores FM1, Dagnese F1, Mota CB1, Copetti F1. Braz J Phys Ther. 2015 May-Jun;19(3):211-7. doi: 10.1590/bjpt-rbf.2014.0090. Epub 2015 Jun 12.

BACKGROUND: Hippotherapy uses horseback riding movements for therapeutic purposes. In addition to the horse's movement, the choice of equipment and types of floor are also useful in the intervention. The quantification of dynamic parameters that define the interaction of the surface of contact between horse and rider provides insight into how the type of floor surface variations act upon the subject's postural control.

OBJECTIVE: To test whether different types of surfaces promote changes in the amplitude (ACOP) and velocity (VCOP) of the center of pressure (COP) displacement during the rider's contact with the saddle on the horse's back.

METHOD: Twenty two healthy adult male subjects with experience in riding were evaluated. The penetration resistances of asphalt, sand and grass surfaces were measured. The COP data were collected on the three surfaces using a pressure measurement mat.

RESULTS: ACOP values were higher in sand, followed by grass and asphalt, with significant differences between sand and asphalt (anteroposterior, $p=0.042$; mediolateral, $p=0.019$). The ACOP and VCOP values were higher in the anteroposterior than in the mediolateral direction on all surfaces (ACOP, $p=0.001$; VCOP, $p=0.006$). The VCOP did not differ between the surfaces.

CONCLUSION: Postural control, measured by the COP displacement, undergoes variations in its amplitude as a result of the type of floor surface. Therefore, these results reinforce the importance of the choice of floor surface when defining the strategy to be used during hippotherapy intervention.

9. Metastudie van 47 recente publicaties over Equine facilitated psychotherapie. In de meeste studies werden positieve resultaten gevonden voor diverse aandoeningen. Autisme bij kinderen was de meest onderzochte aandoening.

Equine-Facilitated Psychotherapy With Children and Adolescents: An Update and Literature Review [Jennifer A. Lentini](#) & [Michele S. Knox](#) Journal of creativity in mental Health, pages 278-305, online: 15 Oct 2015

During the past several years, there has been a large increase in the number of studies of equine-facilitated psychotherapy (EFP) with children and adolescents. However, due to the diversity of methods, samples, and publication types represented in the literature, it may be difficult for EFP practitioners to synthesize the existing research into useful guidelines and treatment recommendations for patients. This article summarizes and tabulates investigation findings by methods, theoretical underpinnings, and treatment populations. This review of 47 recent

publications suggests that EFP is a useful modality with children and adolescents. In the large majority of reviewed papers, benefits were found for a variety of presenting problems and disorders. The most often studied populations were “at-risk” youth and children with an Autism Spectrum Disorder diagnosis. Recommendations for counselors and directions of future EFP research are made.

<http://www.tandfonline.com/doi/full/10.1080/15401383.2015.1023916>

10. Metastudie naar AAT voor jeugd met risico op mentale gezondheidsproblemen. Van de 1535 studies voldeden er slechts 24 aan kwaliteitscriteria voor onderzoek. Conclusie is dat er veelbelovende positieve effecten zijn, vooral voor EAT bij autisme en hondentherapie bij trauma in kindertijd.

Animal-assisted therapies for youth with or at risk for mental health problems: A systematic review
Kimberly Eaton Hoagwood et al. Applied Developmental Science. online: 25 Jan 2016

To systematically review experimental evidence regarding animal-assisted therapies (AAT) for children or adolescents with or at risk for mental health conditions, we reviewed all experimental AAT studies published between 2000–2015, and compared studies by animal type, intervention, and outcomes. Studies were included if used therapeutically for children and adolescents (≤ 21 years) with or at risk for a mental health problem; used random assignment or a waitlist comparison/control group; and included child-specific outcome data. Of 1,535 studies, 24 met inclusion criteria. Of 24 studies identified, almost half were randomized controlled trials, with 9 of 11 published in the past two years. The largest group addresses equine therapies for autism. Findings are generally promising for positive effects associated with equine therapies for autism and canine therapies for childhood trauma. The AAT research base is slim; a more focused research agenda is outlined.

<http://www.tandfonline.com/doi/abs/10.1080/10888691.2015.1134267>

11. Gepubliceerde beschrijving van een programma voor equine facilitated lichaam- en emotie georiënteerde psychotherapie voor patiënten met mentale stoornissen die niet op reguliere therapie reageren.

Equine-facilitated body and emotion-oriented psychotherapy designed for adolescents and adults not responding to mainstream treatment: A structured program.

Johansen, Siv Grethe; Arfwedson Wang, Catharina Elisabeth; Binder, Per-Einar; Malt, Ulrik Fredrik
Journal of Psychotherapy Integration, Vol 24(4), Dec 2014, 323-335

Equine-facilitated body and emotion-oriented psychotherapy (EBEP) is a new manual-based treatment for patients with mental disorders who have participated in conventional psychotherapy in the past without a positive treatment outcome. The horse's high sensitivity and responsiveness to human body language is used as an aid for the patient to improve awareness of his or her emotions, bodily responses, and communication. During the program, the therapist helps the patient not only to be more aware of emotions, cognitions, bodily sensations, and behavior when interacting with the horse, but also to verbalize his or her experiences. Gradually, the patient demonstrates more consistent behavior; improves nonverbal and verbal communication skills, becomes more self-confident and assertive with increased problem-solving skills, and functions better with fewer mentally distressing symptoms. In this paper, we describe the content and the different therapeutic steps of the program and have discussed further steps needed to establish EBEP as an alternative therapy for patients not responding to or accepting traditional psychotherapy.

<http://psycnet.apa.org/?&fa=main.doiLanding&doi=10.1037/a0038139>

12. Metastudie naar literatuur over EAI. Uitkomst dat EAI veelbelovend is, maar standaardisatie, documentatie en beter opgezette studies zijn nodig.

A systematic review of the efficacy of equine-assisted interventions on psychological outcomes

[Elizabeth Kendall](#) et al. European Journal of Psychotherapy & Counselling, [Volume 17](#), [Issue 1](#), 2015 pages 57-79, online: 12 Mar 2015

Much research attests to the beneficial effects of equine interventions on physical development and ability. However, less is known about the possible psychological benefits of horse activities, such as therapeutic riding or interactions with horses. Although there is public consensus that horses can have psychological benefits, it is an under-researched area and conclusions are largely based on anecdotal data. The little empirical evidence that is available about the efficacy of equine-assisted interventions on psychological outcomes tends to be mixed and is often difficult to interpret due to the lack of rigorous research designs. The purpose of this review was to examine the current state of the literature regarding the psychological effects of equine-assisted interventions, and to make recommendations for future research. Findings from this review suggest that equine-assisted interventions hold much promise, particularly in terms of child/adolescent social and behavioural issues, and perhaps adult affective disorders. However, the current state of the literature does not allow us to definitively conclude that equine-assisted interventions are efficacious. Well-designed randomised controlled trials are greatly needed in this area, as it is an appreciation of the need to standardise and document equine-assisted interventions and outcomes in future research.