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Original Citation

Cantin, Anna and Marshall-Lucette, Sylvie (2011) Examining the Literature on the Efficacy of Equine Assisted Therapy for People with Mental Health and Behavioural Disorders. *Mental Health and Learning Disabilities Research and Practice*, 8 (1). pp. 51-61. ISSN 1743-6885

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**Examining the Literature on the Efficacy of Equine Assisted Therapy
for People with Mental Health and Behavioural Disorders**

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Examining the Literature on the Efficacy of Equine Assisted Therapy for People with Mental Health and Behavioural Disorders

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Abstract

This review aims to explore the literature relating to the efficacy of Equine Assisted Therapy (EAT) during which horses are used as a tool for emotional growth and learning helping adults and children with mental health and behavioural problems, such as mood disorders, addictive behaviours and communication difficulties. EAT arose during the 1970s, when alternatives to traditional talking therapies were created. A search for relevant literature was undertaken, using electronic and manual search strategies. The data bases used included, CINAHL, MEDLINE, AMED and INTERSCIENCE. It was evident that there was limited research-based literature within the UK compared with the USA. However, magazine articles, reporting opinions and case studies, originating from Canada and Northern Europe, were found useful and informative. The literature revealed promising results in the use of EAT in increasing positive and reducing negative behaviours as well as in proving beneficial for those suffering from general mental health problems. The review also indicates the need for further research and discusses its implication for practice.

Key words: Equine Assisted Therapy; Efficacy; Mental Health problems; horses; psychotherapy; children and adults.

Introduction

This paper explores the literature related to the efficacy of Equine Assisted Therapy (EAT) for people with mental and behavioural disorders, across the lifespan. The Equine Assisted Growth and Learning Association (EAGALA 2007) notes that EAT arose during the 1970s, when alternatives to traditional talking therapies were created. It is designed to provide a short-term, intensive treatment programme. Sessions usually last between 60 to 90 minutes and require setting up activities involving horses, which are facilitated by a therapist and horse practitioner. These activities require the client or group to convey certain skills, for instance, verbal communication, assertiveness, creative thinking and problem-solving, leadership, taking responsibility and teamwork. Taylor (2001) explains that EAT involves the use of horses in the treatment of psychological problems and that therapists can integrate equine based activities to complement other approaches, such as cognitive behavioural therapy and psychotherapy.

An increasing body of evidence shows that people suffering mental health problems, who struggle with more orthodox talking treatments, can be helped by non-verbal interaction with horses. Tidmarsh (2005) contends that the relationship between horse and client assists in developing insight and understanding of themselves, awareness of their difficulties and they can subsequently become challenged to change. Due to a small number of EAT professionals in the UK and Northern Europe (approximately 100) in contrast with the 3-4,000 in the USA (Tidmarsh 2005), it appears a less accessible form of therapy here. Currently in the UK, there are a handful of private clinics, such as the Priory's North London Clinic, Castle Craig Hospital and LEAP (Leading Equine Assisted Psychotherapy) which offer EAT. So far, it has proved difficult to persuade the NHS to recognise the benefits of using EAT. Tyler (1994) points out that EAT can be expensive and time consuming. However, Mann and Williams (2002) dispute this argument. They found more progress in a shorter time and at less cost in some cases of conduct disorders, mood disorders and psychiatric disorders. Powell (2008) suggests that provisions for EAT should be made for those who

have not been reached through other conventional methods and who cannot afford to seek private care.

Like other developing fields, EAT currently attracts more literature on practice than on research and theory. However, there are a number of research studies within the UK currently awaiting publication (Bexson 2008). Qualitative research results on EAT are proving promising. Quantitative studies have been less successful due to methodological issues. This may change once new methods are used to measure the benefits and the controls of other contributing factors. Overall, the research findings have been inconsistent and closer scrutiny of the literature is necessary.

Searching for Relevant Literature

Resources used to retrieve relevant literature were accessed through electronic and manual strategies. Single and combined keywords used to conduct the search were: ‘Horses’, ‘equine’, ‘therapy’, ‘psychotherapy’, ‘animals’, ‘horse riding’, ‘treatment’, ‘mental health’. The combination of search terms was designed to filter out literature on the use of horses for physical treatment such as hippotherapy, as due to word limitations this review will focus on the psychological benefits. Table 1 gives a breakdown of the search findings.

Table 1 Literature Search Findings

Key words used [single & combined]	Databases & Websites	No. of Citations found	Type of literature
Horses Equine Therapy	CINAHL	9	Reviews
		2	Studies
Psychotherapy	MEDLINE	15	Reviews
		2	Studies
Animals	AMED	2	Reviews
Experimental therapy	INTERSCIENCE	1	Study
	www.eagala.org/research.htm	5	Studies
Horse Riding	www.psychosocial.com	1	Review
	www.therapytoday.net	1	Discussion paper
Treatment	www.taoofequus.com	1	General information
Mental Health			

A Google internet search was also performed using the above keywords which revealed various information and articles. Caution was used here, as information from such sites did not always prove reliable and evidence-based and was, at times, anecdotal so rejected. Books and magazines were included in the search strategy. The search was extended beyond the UK to embrace an international perspective as not a single published study was found from within the UK. This is a relatively new field in the UK but countries such as the USA and Canada have been conducting research in EAT for over a decade. Overseas literature was considered appropriate for the purpose of this review as associations, such as EAGALA, operate worldwide providing professional standards and guidelines for practice. (See Table 2).

Table 2. Summary of studies within this review

Author, Year & Setting	Design	Area of focus Methods (Sampling, data collection & analysis)	Key Findings/results	Limitations
Klontz et al (2007) Residential programme in USA	Open clinical trial	Finding out whether Equine Assisted Therapy (EAT) would reduce psychological distress & enhance psychological well-being. Non-randomised sample: 66 individuals 8 programmes (only 31 participants included in the data analysis due to missing data i.e. 9 men 22 women. Age range 23-70yrs: 90% Caucasian from 13 states. 28 hrs of EAT in a group therapy: 8 participants per group. Pre-test, post-test 6 month follow up test. Multiple analysis of variance with repeated measures on the brief symptom inventory global severity index & Personal Orientation Inventory	Significant stable reductions in overall psychological distress enhancements in psychological well being from pre-test, post-test follow-up. Fewer psychological symptoms reductions in intensity of distress. Reported feeling more orientated in present, better able to live in the here & now, less burdened by regrets, guilt resentments, less focussed in fears, more independent self supportive	Non-randomised sample. Difficult to know whether changes were as a result of treatment, time alone or other factors unrelated to treatment. Client self report / subjective data can be unreliable. Greater improvement in functioning could be due to clients wish to portray this rather than the truth. No data collected on individuals who declined to participate in the study. Incompletion of 6-month follow-up data from some of the participants meant differences between stability of change in the group who responded 6 months following treatment & the group who did not respond.
Leslie A. Russell-Martin (2006) North Central region USA	comparative quantitative design	Comparing equine facilitated couple therapy (EFT) with solution focused couple therapy (SFT). 10 couples received 6 EFT sessions & 10 couples 6 SFT (n=20 heterosexual couples i.e. 40 individuals); aged 21-45yrs Relationship status: committed; faithful; monogamous; married; living together; pre-marital separated or exclusively dating. Dynamic Adjustment Scale (Spanier 1967) pre-therapy, week 1, 3 & 6. Data collection: relational experience, relationship length, horse experience, therapy experience, age, income, years of education. Multivariate analysis of variance (MANOVA).	Both EFT & SFT groups were similar in descriptive variable responses. The EFT group showed a significantly higher degree of marital satisfaction & relational adjustment than the SFT group by the 6 th week of treatment, demonstrated by scores on the DAS. Initially no difference in the scores on week 1 & 3. Gender effects did not exist between or within test groups.	A number of different, pre-defined types of relationship studied, based on the researcher's opinion. Potential for unconscious researcher bias: Therapist in this study was also the researcher Lack of a control group & pilot study.
Schultz et al (2006) New Mexico	Pilot study	Unselective Consecutive Sampling: 63 Children (37 males & 26 females) 4yrs – 16 yrs old. 51% non-Hispanic white, 46% Hispanic white & 3% black. 40% (n=25) history of inter-parental violence at home; 27% (n=17) abuse &/or neglect; 20% (n=12) sexual abuse; 32% (n=20) at least 1 parent with history of substance abuse; 57% (n=36) mood disturbance diagnosis; 16% (n=10) ADHD; 8% (n=5) PTSD; 5% (n=3) disruptive disorder & 5% (n=3) other disorders. DSM-IV used for classification of mental health diagnosis. 100-point rating scale Global Assessment Functioning (GAF) measuring psychological, social & school functioning for 6-17yrs.	All children showed an improvement in GAF scores. Young children showed the greatest improvement & children with a history of intra-family violence & substance abuse tended to show a greater improvement. A statistically significant correlation between the % improvement in the GAF scores & the number of treatments given. Children with history of physical abuse & neglect had a statistically significant greater % in GAF improvement score after treatment than those who did not have a history of abuse or neglect No statistically significant difference in scores or % improvement between Hispanic & Non-Hispanic	Couples not seeking therapy are not sampled in this study. Hence, increased relational adjustment not measured on a normative sample baseline. The sample was self-selected so may be considered bias The Global assessment scale is the only outcome measure of the study : it limits results/findings. It is possible other variables effected the pre & post treatment studies & increase GAF scores It is unclear how age, gender & environment effects the results The 14 children that dropped out were excluded from further analysis

Continued: Table 2. Summary of studies within this review

Author, Year & Setting	Design	Area of focus Methods (Sampling data collection & analysis)	Key Findings/results	Limitations
Trotter et al (2008) South Western region, USA	Comparative quantitative study	<p>Comparing Equine assisted counselling (EAC) with classroom-based counselling.</p> <p>n=205 students volunteered, 41 dropped out. 164 completed the study: 102 male 62 female children at risk of academic & social failure due to behavioural issues, learning difficulties, or social adjustment concerns</p> <p>136 Caucasian, 12 African-American, 11 Hispanic & 5 other ethnicities in grades 3-8.</p> <p>Behavioural Assessment System for children (BASC), self rating scale (SRS) & parent-rating scale (PRS). PRS sent home for the parents to complete pre & post treatment. SRS completed by students prior 1st & at end of final treatment sessions</p> <p>Psychosocial Session Form (PSF) –6 point likert scale, used to rate client social behaviours at the end of every treatment session.</p> <p>ANOVA used to compare the differences between the EAC & RD groups.</p>	<p>Participants in the EAC group demonstrated a statistically significant decrease in 5 negative behaviours & an increase of 2 positive behaviours. The SRS indicated this. The PRS indicated statistically significant improvement in 12 areas.</p> <p>Participants in the RD group demonstrated a statistically significant decrease in 1 negative behaviour & an increase in 4 positive behaviours.</p> <p>EAC proved to be effective with at risk children & adolescents + EAC treatment determined to be superior to RD treatment.</p>	<p>*The data collection methods limit full details of experience/improvement</p> <p>Client self-report data can be unreliable eg subjective view & a greater improvement in functioning could be due to clients wish to portray this rather than the truth, hence participant bias.</p> <p>The Psychosocial form has not standardised on a large national sample. Unclear if representative to the general population & varying age populations, hence further research is needed to established its validity & reliability</p>
Shultz (2005) Residential basic care facility, USA	Experimental Design	<p>Effects of EAT on the psychosocial functioning of at risk Adolescents</p> <p>Convenience sample. Adolescents aged between 12-18. n=15 in treatment group (8 males & 7 females; 5 in individual EAT & 10 in group). N=14 in control group (9 males & 5 females).</p> <p>Two types of youth within each group: those who lived in residential basic care facility & those who did not</p> <p>Different backgrounds included: living below poverty line; victims of crime & violence; abuse or neglect; alcoholic or drug abuser parents; divorced, separated or never married parents; more than 4 siblings living at home.</p> <p>Some of the behaviours/issues include anxiety, depression, fearfulness, hopelessness, self-harm, paranoia, OCD, hallucinations, delusions, suicide, mania, & eating disorder.</p> <p>Data collection: 6, 8, or 10 weeks of individual or group therapy.</p> <p>Youth outcome questionnaire (Y-OQ): A parent-reported measure of wide range of troublesome behaviours & moods, which commonly apply to adolescents. It assesses the occurrence of observed behaviour change. Whereas the Youth Outcome Questionnaire (Y-OQ-SR) measures the same criteria but is completed by the adolescent. They both assess the psychological, symptomatic, & social functioning of adolescents.</p>	<p>Both child & parent reported that adolescents who received EAT experienced greater total therapeutic change in psychosocial functioning & improvement in intrapersonal distress than those who did not.</p> <p>Improvement in intrapersonal relations also noted by both child & parent noted. However, only the child noted improvement in somatic pain whereas only parents noted improvement in social problems such as, running away, truancy, sexual problems, destruction of property; Behavioural Dysfunction & critical items change.</p>	<p>Data were analysed from those participating in either group or individual EAT but no distinction was drawn between the 2 treatment modalities.</p> <p>The sample size was not large enough to compare the effects of EAT between race, gender, age & risk level.</p> <p>The study does not address which aspects of EAT are most responsible for the therapeutic benefits.</p> <p>The researcher & other therapists collecting data were aware of which participants were members of the control group or the experimental group.</p>

The Effects of Equine Assisted Therapy on Behaviours

There is an increasing amount of discussion on the effects of EAT on behaviours in both children and adults. According to the EAGALA (2007), this therapy boosts skills such as non-verbal communication, assertiveness, creative thinking, problem solving, leadership and teamwork. Thomas (2002) was able to report that a group of 17-year-old boys in a correctional programme, who required physical management by staff on a daily basis, learned how to control their violent outbursts when EAT was introduced to their programme. According to Mann and Williams (2002), 82 per cent of youths participating in EAT showed significant clinical improvement after five sessions. They were also reported by their parents to have previously failed to make any progress during conventional methods of therapy. Bates (2002) asserts that he reviewed three 1997 studies in which horses were successfully used in decreasing the number of acts of aggression in young people who were seriously emotionally disturbed. Gamache (2004) reviewed literature on a randomised control trial by Mackinnon et al (1995) where therapeutic horseback riding helped improve attention span, social interaction and confidence amongst 19 children. Moreover, besides having a calming effect on behaviours, Karol (2007) describes how a 15-year-old old girl, who had no energy and spent most of her day in bed through no physical cause, became energised during her EAT sessions. This energy gradually converted to other environments.

Klontz et al (2007) conducted an open clinical trial on the effectiveness of EAT. This trial was to establish whether EAT would reduce psychological distress and enhance psychological well-being. A non-random sample of 31 individuals (9 men 22 women) participated in a 4½ residential equine assisted experimental programme in the Southern United States. They were aged between 23-70 years old. 90 per cent were Caucasian and from 13 states in the USA. The Brief Symptom Inventory (BSI) (Derogatis, 1993) and the Personal Orientation Inventory (POI) (Shostrom 1974) were administered prior to treatment, immediately following treatment and six months after treatment. The results of the clinical trial indicated that participants showed significant and stable reductions in overall psychological distress and enhancements in psychological well-being from pre- and post-test and follow-up.

EAT Compared with more Established Therapies

Tyler (1994) believes that work with horses lowers defensive systems, challenges old behaviours, develops insight and perspectives for dealing with problems in a way that conventional 'office' therapy does not. Ratey (2001) argues that for youngsters, in particular, talking therapies can be unsuccessful because they find it hard to cognitively articulate their emotions and that drug therapy for young people can be unrewarding because their bodies are sensitive to medication. In addition, Karol (2007) and MacDonald (2004) point to difficulty in encouraging young people to make a conscious free decision whether to start a therapy or not. They believe some children, especially those who had negative parental interactions, can often view therapists, teachers or adults in general with mistrust or apprehension. However, the fact that this therapy often starts in an environment away from traditional settings, can be a strong motivator.

Karol (2007) points out that there are few EAT programs that utilise the expertise of masters or doctoral-level psychologists, clinical social workers, or psychiatrists. She asserts that often people working in these programmes know more about horses rather than the theory and practice of psychotherapy. She believes that when an advanced level clinician works with EAT, the therapeutic work can move from narrow uses of cognitive behavioural techniques and here-and-now therapies, and limited stages of personality development to a more complete psychotherapeutic experience and involvement.

A comparative study conducted in the USA by Trotter et al (2008) compared the efficacy of EAT with classroom-based therapy. A convenience sample of 205 mixed gender students, at risk of academic and social failure as a result of behavioural issues, learning difficulties or social adjustment problems, was selected. The students were from different ethnic groups from the South Western region of the USA. Data were collected through the Behavioural Assessment System for Children, Self Rating Scale (SRS) and Parent Rating Scale (PRS) (Reynolds and Kamphaus 1992) and a Psychosocial Session Form, 6 Point Likert Scale (PSF). The PRS was sent home for the parents to complete pre- and post-treatment. The SRS was completed by the students before the first and at the end of the final treatment sessions. The PSF was used to rate the students' social behaviours at the end of every treatment session. The study showed a statistically significant decrease in five negative behaviours within the group receiving EAT, compared with one negative behaviour decrease in the classroom based therapy group. However, despite the benefits of a repeated measure design which helped determine how much change occurred between treatment 1 and 12, also during each session, the reliability of self report repeated measures could be questioned with the familiarity of completing re-administered questionnaires and the risk of participant bias when using self-rating scales (Houghton & Ousley 2004; Polit Hungler 2008).

Russell-Martin (2006) conducted a comparative study in the USA between, EAT and Solution Focused Therapy (SFT) for couples. Half of the participating dyads (n=40) received six sessions of EAT and the other half six sessions of SFT. The couples were heterosexual and aged between 21 and 45 years old. Couples in this study were married, living together, pre-marital or exclusively dating. A Dynamic Adjustment Scale (DAS) developed by Spanier (1967) was issued prior to therapy then on weeks 1, 3 and 6. There was, initially, no difference in the scores on week 1 and 3. However, the DAS scores showed that the EAT group had a significantly higher degree of marital satisfaction and relational adjustment than the SFT group by week 6 of treatment. The researcher who was the only therapist could have had the potential for unconscious researcher bias (Lawrie et al 2000), which may have influenced the study outcome. For instance, the many different relationship statuses in this study seem to be based on the researcher's subjective view.

Mental Disorders and Equine Assisted Therapy

There are a number of discussions concerning the efficacy of EAT for the treatment of mental disorders. Lancia (2008) suggests that EAT is helping treat psychologically injured combat veterans. Some of the psychological injuries included post traumatic stress disorder, depression, grief, panic attacks and sleep disorders. He describes how the horse unlocks fear, stimulates powerful thoughts and feelings, and gives individuals a sense of acceptance by the community as well as shifting feelings of detachment and numbing. However, it is unclear whether the soldiers had tried other methods of therapy or how many have benefitted from EAT therapy so far.

Powell (2008) contends that EAT is very effective for people with eating disorders and refers to such patients as being very particular about which horse they work with and not wanting to choose one which they perceive as having a defect. The patient's initial reaction is avoiding the horse even if it is desperate for attention. Such a reactive behaviour opens doors to physical appearance issues and body image perceptions. Lavender (2006) describes EAT as reducing fear in eating disorder patients teaching them to let go of control. He also contends that EAT successfully helps treat addiction patients and personality disorders and assists in resolving recent or old trauma.

In New Mexico, Schultz et al (2006) conducted a pilot study to test the efficacy of EAT on a sample of 63 children (37 males and 26 females) aged between 4 and 16 years old. 40 per

cent (n = 25) experienced inter-parental violence at home, 27% (n = 17) had a history of abuse and/or neglect, 20 per cent (n = 12) had history of sexual abuse and 32% (n = 20) had at least one parent with history of substance abuse. 57% (n = 36) of the children had mood disturbance diagnoses and disruptive disorders. The ICD-10 (1994) was used for classification of diagnoses. The mean number of EAT sessions received was 19. The Global Assessment Functioning (GAF) 100 point rating scale was used to assess treatment, measuring psychological, social and school functioning for children. The study indicated that all children showed an improvement in GAF scores. Young children, children with a history of intra-family violence and substance abuse showed the greatest improvement.

Shultz (2005) examined the effects of EAT on the psychosocial functioning of at risk adolescents. A convenience, mixed gender sample of 29 adolescents, aged between 12 and 18, was divided into two groups, 15 received EAT and 14 did not. The adolescents came from varied socio-economic backgrounds displaying a wide range of mental or behavioural problems, such as depression, anxiety, hopelessness, self-harm, paranoia, obsession, hallucinations, delusions, mania and eating disorders. The Burlingame et al (1996) Youth Outcome Questionnaire (Y-OQ) was used to collect data from parents and the (Y-OQ SR) from the adolescents. Both tools measure the psychological, symptomatic and social functioning of the adolescent. The study revealed that the adolescents who received EAT experienced greater total therapeutic change in psychosocial functioning than those not exposed to EAT. Both adolescents and caregivers reported statistically significant changes in symptoms of depression, anxiety and self-harm but only the caregivers reported significant change in other symptoms. However, no clear distinction was made between those who received individual EAT and group EAT. These two treatment modalities may have retrieved very different results. Group therapy and individual therapy have many differences, for example, within group therapy, trusting others and confidentiality may limit sharing or disclosure (Parsons 2004).

Implications for Practice

In this literature EAT is portrayed as a powerful and effective approach to help treat people with a variety of mental and behavioural disorders. However, due to the small number of studies, it is impossible to identify whether one therapy approach used within the EAT model is superior to another. Most of the studies consisted of adolescents and all were conducted in the USA. It is also difficult to establish if EAT is effective for all mental health disorders due to lack of studies on each specific disorder and to determine whether EAT alone was responsible for improvements. In the past, other experimental therapies such as art therapy, drama therapy and music therapy were treated with suspicion as a treatment modality for people with mental health problems. Now, they are all offered on the NHS. It is becoming more accepted that healthcare professionals have different ways of relating to and caring for their patients. Therefore, exploring a different therapy could only complement and enhance the care the NHS delivers as well as other care organisations.

Conclusion

This review suggests that EAT is a form of experimental therapy that enhances positive behaviours, reduces negative behaviours and has helped people with mental health problems. The studies have also indicated that EAT can be as effective as other therapies currently used. Thus, the potential of EAT, as an alternative to talking and existing experimental and creative therapies, is recognised. While the reviewed literature is fascinating and has revealed positive results in EAT on mental health and behavioural problems, research studies that are more comprehensive are required, especially in the UK before claims could be made for its evidence-based value. Empirical studies, such as

biofeedback tests to measure heart rate variability, skin conductance level and brain wave activity and blood samples measuring neurotransmitter uptake could significantly enhance research outcomes (Lentini and Knox 2008). Ways of measuring the benefits and controlling other contributory factors could also be refined for future research to help, for example, identify whether the changed environment alone would provide the same results as Trotter et al (2008) have suggested (Bexson 2008). Furthermore, research studies such as randomised controlled trials in service users with reasonably homogeneous conditions and with the assessors of outcome blinded to the treatment condition, as well as an analysis of cost against benefits, should be encouraged to attract NHS interest. Provision of EAT on the NHS would increase the number of equine therapists helping EAT to become more accessible in the UK as it is in other parts of the world.

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