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Reactive Attachment Disorder: Overview and Interventions

Reactive Attachment Disorder in the General Population: A Hidden ESSENCE Disorder

Reactive attachment disorder (RAD) is a severe disorder of social functioning. Previous research has shown that children with RAD may have poor cognitive and language abilities; however, findings mainly come from biased, institutionalised samples. This paper describes the characteristics of all children who were given a suspected or likely diagnosis of reactive attachment disorder in an epidemiological study of approximately 1,600 children investigating the prevalence of RAD in the general population. We found that children with RAD are more likely to have multiple comorbidities with other disorders, lower IQs than population norms, more disorganised attachment, more problem behaviours, and poorer social skills than would be found in the general population and therefore have a complex presentation than can be described as ESSENCE. We discuss the clinical and educational implications.

1. Introduction

Reactive attachment disorder (RAD) is a severe disorder of social functioning. It has two subtypes: inhibited type, where the child will display wary, watchful, and hypervigilant behaviours and disinhibited type, where the child displays indiscriminately friendly behaviours, engages socially with strangers, and shows no need to remain near the safety of their primary caregiver [1]. It is thought that RAD is a result of severe maltreatment in early childhood, and there is research indicating that adopted children will be more likely diagnosed as having RAD than children raised by a biological parent [2].

In addition to the core features described above, there are numerous symptoms associated with RAD for example, Stinehart et al. [1] describe some potential early symptoms including failure to gain weight or feeding difficulties developing into unusual eating habits, lack of empathy, or impulse control which could lead to criminal behaviours and cruelty to animals as the child grows older. Both DSM and ICD state that core symptoms of indiscriminate friendliness or emotional withdrawal/hypervigilance need to be present before age 5. We would therefore describe RAD as having early symptomatic symptoms eliciting neurodevelopmental examination (ESSENCE).

There have been many studies which have examined cognitive and developmental characteristics of children with this disorder. Minnis et al. [3] compared children who had been referred by a clinician as they were suspected to have RAD with a general population comparison group. They found that children with RAD had significantly higher problem scores on both parent and teacher reports in the Strengths and Difficulties Questionnaire (SDQ) which covers symptoms of conduct problems, emotional problems (anxiety and depression), hyperactivity, and peer relations. They also had a lower receptive vocabulary than the comparison group, on the British Picture Vocabulary Scale (BPVS). A further study with these children showed that children with RAD

demonstrate significant problems in social relatedness and pragmatic language skills with a degree of severity equivalent to children in an ASD comparison group [4].

Kocovska et al. [5] looked at the characteristics of adopted children with a history of severe maltreatment, who were indiscriminately friendly. They found that these children had a lower IQ than a comparison group, were more likely to have language problems and to have several comorbid psychiatric disorders.

Some of the key research in this area comes from the Bucharest Intervention Studies. Zeanah et al. [6] have published widely on their randomised controlled trial of foster placement as an alternative to institutionalisation in abandoned infants and toddlers in Romania. They have found high levels of Reactive Attachment Disorder symptoms in the sample and associations between RAD and lower cognitive ability [7]. In addition, their results show adverse effects of poor institutional care on later language development [8], and found attachment security as an important mediator of the relationship between the quality of early caregiving and later psychopathology [9].

These important studies have shown that children with RAD may experience additional problems affecting both development and future outcomes. Gillberg [10] discussed the coexistence of disorders, concluding that the sharing of symptoms across disorders is the rule rather than the exception and argued that numerous childhood disorders such as autism spectrum disorder, attention deficit hyperactivity disorder, and reactive attachment disorder all share symptoms in the early stages which should be treated by a multidisciplinary team of specialists. RAD has not traditionally been considered to be a neurodevelopmental disorder, as it is thought to be caused by maltreatment, but it may be that maltreatment in early life can set in train developmental trajectories that are shared by other ESSENCE disorders.

Because all of the previous research has been conducted in clinical or otherwise select samples, such as children from institutions, we were keen to explore the difficulties which children with RAD encounter while living in the general population. Minnis and colleagues [11] conducted the first epidemiological study focussing on the prevalence of RAD in the general population and found a prevalence of 1.4%. With such a high prevalence of RAD in the general population, it is imperative to understand the additional needs of these children. This study describes the characteristics of the children identified as having RAD in this sample. We were interested to explore whether children with RAD in the general population also have complex, overlapping problems i.e. are they an example of children with ESSENCE?

2. Method

2.1. Design and Participants. This study was part of a population-based study investigating the prevalence of Reactive Attachment Disorder (RAD) in 6–8 years old children from a sector of a UK city characterised by high levels of deprivation. For a detailed description of the methodology, see [11]. The prevalence paper predicted 23 RAD cases, made up of 13 children who were given a definite diagnosis of RAD and an additional 10 cases that would have been expected to have been diagnosed with RAD using an imputation dataset.

This current paper describes the characteristics of the 13 children who were given a definite diagnosis of RAD and an additional 9 with a suspected or likely diagnosis of Reactive Attachment Disorder after screening of the total population of 1600 children. Of this sample ($n = 22$), fourteen completed the whole procedure; however, the remaining 8 children did not complete the cognitive or attachment measures. One family had moved away, one was uncontactable, and six opted out including three who felt the child's difficulties were too extreme to cope with the assessment, or they were already seeing enough professionals that they did not want to place additional burden on the child.

2.2. Measures

2.2.1. Strengths and Difficulties Questionnaire (SDQ). The SDQ is a brief behavioural screening questionnaire for 3–16 years olds [12]. It contains 25 items, covering 5 subscales: emotional symptoms; conducts problems; hyperactivity/inattention; peer relationship problems; and prosocial behaviour. It can be completed by the children themselves, the caregiver, or the teacher. In this study, both the parent/carer and the teacher completed the SDQ.

2.2.2. Relationship Problems Questionnaire (RPQ). The RPQ is a 10-item parent and teacher-report screening instrument for RAD symptoms [13]. In a large general population twin sample, the RPQ had good internal consistency (Cronbach's alpha .85), and factor analysis identified that 6 items describe inhibited RAD behaviours and 4 items describe disinhibited RAD behaviours [13].

2.2.3. Waiting Room Observation (WRO). The waiting room observation is a structured observation of child behaviour with strangers in an unfamiliar waiting room setting [14]. It has been shown to discriminate between children with RAD and those without [14] as it identifies key relationship behaviours, for example, over friendliness with strangers.

2.2.4. Development and Well-Being Assessment (DAWBA). The DAWBA is a screening questionnaire for a number of psychiatric diagnoses including emotional, behaviour, and hyperactivity disorders used with parents of children aged 2–17 years [15]. The DAWBA can be completed either using a paper format or, as in this study, using a computerised format. The parent is asked a number of closed questions, for example, "does he ever worry?" which, depending on the answer, may lead to a section being skipped or to more questions, for example, about how often the child worries. The DAWBA has been shown to be a valid measure of child psychopathology [15] and has been used in nationwide surveys of child and adolescent mental health [16].

2.2.5. The Child and Adolescent Psychiatric Assessment, Reactive Attachment Disorder Module (CAPA-RAD). The CAPA-RAD is a 28-item semistructured parent-report interview, which assesses RAD symptoms and is a module of the Child and Adolescent Psychiatric Assessment, a well validated semistructured parent-report interview for child psychopathology used in large epidemiological studies (CAPA) [17]. The CAPA-RAD has good interrater reliability with good discrimination [3].

2.2.6. Social Skills Improvement System (SSIS). The SSIS assesses social skills, problem behaviours, and academic competence and has been shown to have good reliability and validity [18]. In this 140-item questionnaire, the child's caregiver rates the frequency that their child displays various behaviours.

2.2.7. Manchester Child Attachment Story Task (MCAST). The Manchester Child Attachment Story Task (MCAST) is a doll-play story stem technique measuring attachment patterns in middle childhood [19]. It includes four stories with attachment related themes using a dolls house, designed for use with school aged children. The child's story is videotaped and subjected to structured coding based on the SSP and Adult Attachment Interview (AAI) codes to provide an attachment classification [19]. It has good interrater reliability, stability of attachment patterns over time, and concurrent validity with well-validated measures of attachment [20].

2.2.8. Wechsler Intelligence Scale for Children (WISC IV). The WISC is a scale of intelligence producing both a cognitive score (IQ) as well as scaled scores by age [21]. It can be used with children aged between 6 years and 16 years. It covers 4 domains: verbal comprehension; perceptual reasoning; working memory, and processing speed, with a full-scale IQ produced when these are combined. Extensive reliability and validity evidence was provided by Wechsler [21] and by Prifitera, Saklofske, and Weiss [22].

2.3. Procedure. Our results describe the characteristics of a group of children identified in an epidemiology study examining the prevalence of RAD. That study involved a 3-stage approach with 1,600 participants. The procedure of that study is described in detail in Minnis et al. [11]. In brief, the first stage involved parents and teachers both completing the SDQ and the RPQ. The second stage involved the parents completing the DAWBA, the CAPA-RAD, and the SSIS, while the third stage involved the child being assessed using the MCAST and the WISC-IV. All the data was reviewed, and where criteria for RAD was met, a diagnosis was made. This paper describes the characteristics of those children with a suspected or likely diagnosis of RAD.

2.3.1. RAD Diagnoses. RAD diagnoses were made, based on DSM IV criteria, by HM and the research team, following review of the CAPA-RAD, the teacher RPQ, the Observational Checklist, 10 comorbid diagnoses (from the DAWBA), and videotaped interaction between the child and researcher (who was a stranger to the child at the assessment visit). In previous research, this has been shown to be highly sensitive and specific in discriminating children with RAD from typically developing children [3]. The child was given a "borderline/suspected" diagnosis when the diagnosis was not absolutely clear or when we were unable to see the child in school and were relying simply on interview and questionnaire data. Both DSM IV and ICD-10 suggest that RAD should only be diagnosed in the presence of a history of "pathogenic care." It was decided that it would be upsetting for participants, and it would reduce response rates if we asked parents from the general population direct questions about abuse and neglect of their child, although this was explored to some extent in the posttraumatic stress disorder section of the DAWBA.

3. Results

We describe the characteristics of all 22 children with RAD behaviours. We gave 13 a definite diagnosis with the remaining 9 given a suspected or borderline diagnosis.

3.1. Demographics. We found that, of the 22 children with RAD behaviours, 13 (59.1%) were male and 9 (40.1%) were female. Ten (45%) of the children were thought to be living with birth parents, while 9 (41%) were known to be in foster care, and a further 3 (14%) were known to be in kinship care, living with a relative.

3.2. Social Skills. Ten of the children (45.5%) were below average in the SSIS, as compared to American norms (UK norms are unavailable for the SSIS), while only 1 child scored above average in this measure.

3.3. Attachment. Attachment patterns of 14 of the children were classified using the MCAST and compared to general population norms. Of the 14 children included, 8 (57.1%) were given a secure attachment and 6 (42.9%) insecure. This is illustrated below and compared to the distribution which would be expected in a normative sample (Figure 1).

3.4. Problem Behaviours. The SDQ gives the total difficulties score which can characterise a child's risk of developing problems. Figure 2 shows the risk level of problem behaviours in the RAD sample, as reported by parents, and compares it with the risk level of the entire school sample from which this data was from, which is in line with the UK norms.

3.5. Cognitive Ability. The WISC showed that the children in this sample were below average (100) in every aspect of this test of intellectual functioning (Table 1).

3.6. Psychiatric Diagnoses. The DAWBA is a screening tool for a number of psychiatric diagnoses based on ICD-10 and DSM IV criteria. The results showed that 11 (52%) had a likely diagnosis of attention deficit hyperactivity disorder (ADHD); 6 (29%) oppositional defiant disorder; 6 (29%) conduct

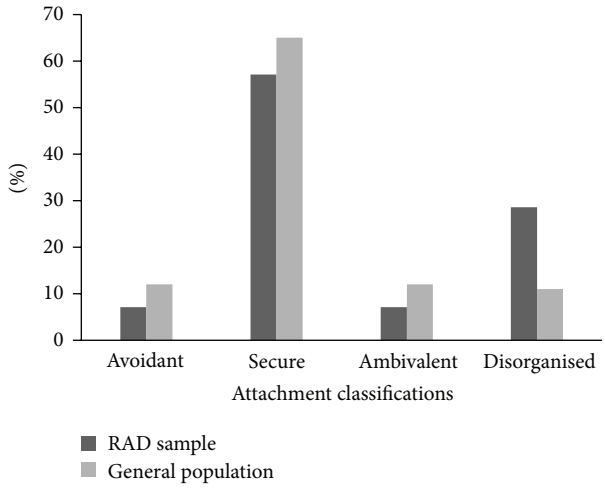

Figure 1: MCAST classifications in sample of RAD cases compared to the general population.

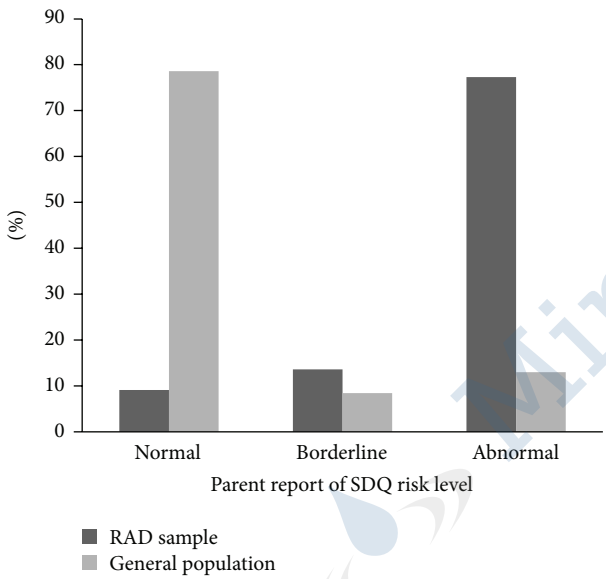

Figure 2: SDQ risk level for problem behaviours in sample of RAD cases compared to the general population.

Table 1: Average scores in the WISC in our sample of children with RAD ($n = 14$).

	Mean (SD)	Range
Verbal IQ	82 (14.3)	63–119
Perceptual reasoning	83.7 (11.9)	65–104
Working memory	82.9 (11.5)	62–104
Processing speed	87.1 (10.5)	68–106
Full-scale IQ	79.36 (12.0)	56–106

disorder; 4 (19%) posttraumatic stress disorder (PTSD); 3 (14%) an autism spectrum disorder (ASD); 3 (14.3%) a specific phobia; and 1 (5%) a tic disorder. Overall, over 85% of the children identified as having RAD in this sample had another diagnosis predicted by the DAWBA.

All but one of the children with a definite diagnosis of RAD had histories of definite or suspected maltreatment documented during the DAWBA interviews with parents or carers, and all but two of those with a borderline/suspected diagnosis of RAD had such a history. In the others, a history of maltreatment was impossible to determine but may well have been present; we made a child protection referral regarding one child on whom there was no clear previous history of maltreatment.

4. Discussion

We described the characteristics of 22 children with a suspected, borderline, or definite diagnosis of RAD. We found that they have a high level of comorbidity with other disorders, had lower IQs than population norms, had a higher level of disorganised attachment than has been found in general population studies, more problem behaviours, and had lower social skills than would be found in the general population. These findings are in line with previous research about children coming from institutions. This study shows that those children in the general population with RAD also have these additional problems, providing further evidence that a multidisciplinary approach is needed when working with these children, in line with the research on ESSENCE.

We found that over half of our sample had a secure attachment; this offers support to the growing body of research showing that RAD and insecure attachment are not the same thing [3]. We did, however, also find that there was a higher rate of disorganised attachment than would be found in the general population. This is not surprising as research has previously shown that those with a history of maltreatment have a greater chance of having a disorganised attachment in later development.

4.1. Implications of Results

4.1.1. Clinical Implications. The results of this study demonstrate that reactive attachment disorders are present in the general population. Previous research has shown that this may be as a result of both environmental factors and genetics [13]. Children who begin their lives with compromised/disrupted attachment are at significant risk for subsequent developmental difficulties including low self-esteem, lack of emotional regulation, difficulty with peer/social relationships, lack of empathy, and behavioural difficulties, any number and combination of which may see the child present to specialist children's services.

This has implications for the assessment, intervention, and education of this group of children when they present with difficulties. Aspects of the RAD presentation such as indiscriminate friendliness (a core feature of disinhibited reactive attachment disorder) may be overlooked in a child who presents from the general population. This has potential implications for targeting the most appropriate and effective intervention for the child. Such presenting difficulties should

not be underestimated when there is a suggestion of a history of pathogenic care.

This study also demonstrates the high levels of comorbidity with other disorders including ADHD. There are potential implications from a formulation and intervention perspective if there is a lack of awareness of RAD presenting within the general population group leading to exclusive treatment of the "comorbid" disorder coupled with a lack of recognition of the child's difficulties in forming and maintaining relationships.

4.1.2. In the Classroom. Most teachers in recent years have become more aware of the diverse needs of children in the classroom, and ongoing professional development will include training in attachment issues, autism, ADHD, and other social/emotional difficulties [23, 24]. The problem for the class teacher may be that children who have RAD may not be easily identifiable and are therefore not considered to be in an "at risk" group. So, while the teacher may have some kind of classification system to help support the children with specific conditions such as autism or ADHD, there is a need to raise awareness that there are some children who may well suffer from more than one psychiatric condition or educational difficulty. Support plans need to be flexible and individually tailored for each child with a difficulty.

Within a class situation, misbehaviour can escalate to exclusion for a child. For children who have been traumatised or abused, it is particularly important that they feel a part of the class and the wider school community with inclusion being even more vital for neglected or abused children [25]. Success for these children is essential for their emotional wellbeing, and training on good techniques to support vulnerable children has to involve all school staff members, not just teachers [26].

This study used the WISC to measure the cognitive ability of the children in this sample. Despite being a measure of general intelligence, there are components which are indicative of school taught material. We suspect that, due to both early maltreatment and behaviour issues, children with RAD may have been more likely to miss out on educational opportunities. This suggests that with proper learning support, cognitive scores could improve for the children in our sample.

4.2. Limitations. The findings here describe the characteristics of only a small sample of children; however, they are the first children with RAD to be described from a total population. In addition, these children were compared to population norms as opposed to a matched control group.

5. Conclusions

Our findings demonstrate that, even when identified through population screening, children with RAD have a complex presentation that fits well within the ESSENCE group of disorders. The logical conclusion to be drawn from this is that children presenting with RAD symptoms will require a detailed holistic assessment looking for comorbid disorders, cognitive, and language problems.

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Gender Variations and Symptom Expression in Reactive Attachment Disorder

Abstract

Reactive Attachment Disorder (RAD) is characterized by relational deficits that arise during the formative period and generally attributed to the presence of 'pathogenic' care. 'Pathogenic' care may encompass primary caregiver maltreatment and/or neglect as well as children raised under the guidance of institutional care. As a mental health illness that can be diagnosed during infancy, early recognition and therapeutic management may prevent progression and/or affect severity of disease; RAD manifestations are observed before the age of 5.

Keywords: Gender; Variations; Reactive; Attachment disorder

Background

Reactive Attachment Disorder (RAD) is characterized by relational deficits that arise during the formative period and generally attributed to the presence of 'pathogenic' care [1]. 'Pathogenic' care may encompass primary caregiver maltreatment and/or neglect as well as children raised under the guidance of institutional care. As a mental health illness that can be diagnosed during infancy, early recognition and therapeutic management may prevent progression and/or affect severity of disease; RAD manifestations are observed before the age of 5 [1,2]. Theoretically, intervention programs that are aimed at addressing RAD symptomatology should be based on the premise of the attachment theory framework. Due to the presence of overlapping features found in RAD, ADHD and autism, clinicians are at risk of conflating and/or misdiagnosing these conditions. Thus, it is of prime importance to recognize gender variations in order to adequately delineate RAD from superficially similar conditions. If psychiatric clinicians were to integrate a gender-centric diagnostic approach to RAD assessment, a streamlined, personalized intervention program may be designed in accordance with the patient's overall symptom profile.

The DSM IV recognizes two distinct variants of RAD expression, namely:

a) Inhibited Behavior: the child abstains from forming relationships or attachments with anyone. This subtype of RAD is often found in children that are vulnerable to maltreatment and/or neglect [3].

b) Disinhibited Behavior: the child seeks the company of any neighboring individual regardless of the level of familiarity. RAD children that are predisposed to this subtype are often placed under the care of a multitude of individuals and may be exposed to a number of contextual disturbances: placement instability, disordered sleep hygiene and dysfunctional peer interactions. Institution children may be predisposed to disinhibited behavior therefore experiencing anxiety, dependence and behavioral dysfunction [3,16].

The prevalence of RAD in institutionalized children has been observed to be out of proportion with the general population. It should be noted that roughly 50% of adopted children from U.S orphanages have exhibited the characteristic symptoms of RAD. Furthermore, when we take into consideration the fact that 40% of children placed in the foster care system also express RAD symptoms, these numbers are a potential cause for alarm and should be addressed, accordingly [17]. As a vulnerable subset of the pediatric patient population, institutional reforms will need to be implemented on a national level [17]. Psychiatrists and other mental health practitioners may expedite the therapeutic process by improving upon diagnostic assessments of RAD based on observable gender differences.

The ICD-10 distinguishes RAD as two discrete disorders and not simply as variants. DSM-5 appears to be following suit and will be re-categorizing the disinhibited behavior subtype as "Disinhibited Social Engagement Disorder". Moreover, if clinicians were to formally recognize and address symptomatology along gender lines, early diagnosis and management may be readily available. A brief literature search yields a number of studies that reveal relevant variations in the presentation of RAD between male and female patients. The authors of this paper are proposing that DSM-5's recent acknowledgement of Disinhibited Behavior as a discrete diagnostic entity (Disinhibited Social Engagement Disorder) will be instrumental in orienting clinicians in identifying cases of RAD that may have been otherwise overlooked, ultimately leading to a more streamlined assessment and therapeutic management plan. However, in light of these diagnostic changes, it would be prudent for clinicians to further explore gender discrepancies in RAD symptom expression in order to differentiate RAD from similar disorders (e.g. attention deficit hyperactivity disorder, autism, disruptive disorder nos, etc.). Overall, awareness of the complexities in RAD gender expression will allow for greater clinical precision as well as the potential for individualized treatment modalities.

Objective

Reactive Attachment Disorder (RAD) is a poorly understood psychiatric entity that is oft confused with pervasive developmental disorders (e.g. autism) and attention deficit hyperactivity disorder (ADHD). Our goal is to raise awareness for the diagnosis of RAD and to highlight key gender variations with respect to RAD symptomatology. From a clinical perspective, it is of considerable importance to discern the attributes of RAD from autism and ADHD, especially since these conditions may initially appear to have overlapping features.

Methods

A literature search via PubMed and Google on the topics of Reactive Attachment Disorder and gender variations has been performed.

Discussion

Although, there are numerous overlapping features that exist between RAD, ADHD and autism, the underlying etiology and overall response to therapy are actually quite different. Gender disparities in RAD expression may initially confound clinicians.

Exploring RAD with ADHD-like attributes

A presumable environmental basis is said to be responsible for the development of attachment disturbances. However, a group of researchers decided to test this common notion by applying factor analysis as well as statistical modeling techniques on 13,472 twins. The results are intriguing for demonstrating a pronounced genetic component for the male gender [4]. Interestingly enough, ADHD is known for having a strong genetic basis and numerous studies have also demonstrated the existence of gender disparities in RAD expression; boys with RAD exhibited a greater frequency of ADHD-like behaviors. It is conceivable that a shared pathway may encompass ADHD and RAD symptomatology in the male gender. In a study involving 38 children from both institutional and foster care settings, researchers aimed to observe and assess the effect of particular rearing contexts on developing symptomatology. The study affirmed the existing literature regarding the susceptibility of institutional children with respect to 'disinhibited' type RAD. Moreover, symptom expression for boys was notable for marked features of ADHD, namely, inattentiveness and hyperactivity [5]. Relational deficits that exist between the primary caregiver and the child may also account for symptom expression in the form of reactive attachment disorder. The authors of a literature review reported the presence of inattentiveness, impulsiveness and hyperactive features in children formally diagnosed with RAD. It has been proposed that a wholly distinct neuropsychiatric mechanism may be responsible for the presence of ADHD-like attributes in RAD children. As stated earlier, RAD expression in the male gender may partly be due to the presence of a unique etiological basis. The authors suggest that RAD patients should be evaluated and treated based on a non-categorical system [6]. Previous research has maintained that select genes are responsible for increased risk of developing ADHD. As far as sexual dimorphism is concerned, it has been suspected that COMT and SLC6A4 variants exert an influential effect on ADHD phenotypes in males [10,13]. However, it should be noted, whereas RAD with coexisting ADHD features is associated with inattentiveness in males and conduct issues in females, ADHD, in and of itself, appears to be associated with inattentiveness in females but disruptive behavior in males. Discrepancies in observations may be accounted for by the overwhelming presence of environmental factors (i.e. rearing context) in RAD individuals as opposed to their ADHD counterparts. The impact of gene-environmental interplay should also be acknowledged for RAD individuals [10]. Environmental factors may include prenatal stress, maternal smoking, stress and/or underlying psychopathology, as well as nutritional status [13]. A shared contextual milieu may provide a plausible framework for the development of RAD with ADHD-like attributes.

Exploring RAD with autistic attributes

The authors of an article presented 3 cases involving children that exhibited behavioral dysfunction that resembled autism. It has been suggested that these children could be labeled as having "attachment disorder with autistic withdrawal" [7]. As a means to differentiate RAD from autism, especially with respect to prosocial engagement, the authors of a study suggested raising the quality of diagnostic modalities beyond the level of structured interviews [14]. A number of assessment techniques have demonstrated that individuals with RAD display marked advancements in language and/or cognitive scores than individuals that are exclusively autistic subsequent to education-based programs [8]. Furthermore, RAD individuals tend to respond more readily to therapeutic interventions [7,8]. However, it is worth noting that there exists research that also reported the presence of impaired language and concomitant cognitive deficits in institution based RAD children [15]. Perhaps, inherent issues pertaining to institutional care and/or the existence of RAD comorbidities (e.g. depression) were relevant factors that produced the disturbed cognitive effects in the samples. In conjunction with the aforementioned autistic behavior, adopted females with RAD have been observed to displace aggression towards people and inanimate objects; RAD females exhibited malicious intent and engaged in breaking rules of convention [9]. Although autism occurs four times more often in males than in females, RAD with autistic attributes seem to be found in the female gender. The CNTNAP2 gene, in particular, appears to be associated with an increased risk of autism. CNTNAP2 also seems to portend language dysfunction that is characteristic of autism spectrum disorder (ASD), rendering it as an improbable epigenetic factor for RAD symptom expression in females [11]. Additionally, autism is associated with MET promoter variant rs1858830; diminished MET expression confers a 2-fold overall susceptibility to ASD [12]. In order to investigate the etiological basis for RAD development, systematic studies in epigenetics will need to be undertaken. The aforementioned genes may provide a valuable starting point for further research.

Conclusions

Reactive Attachment Disorder (RAD) is often confused with ADHD and autism as well as learning disorders. Perhaps, it may be prudent to treat RAD children on a case-by-case basis, with individualized treatment plans based on a dimensional model. Alternatively, a categorical shift by DSM-5 may allow for a more focused approach to clinical management. Furthermore, clinical awareness of gender disparities with respect to RAD expression may facilitate the overall therapeutic process. A controversial form of attachment therapy is currently available, but critics maintain that it fails to adhere to the principles of attachment theory. Future investigations should evaluate evidence based therapeutic models in light of DSM-5's recent recognition of "Disinhibited Social Engagement Disorder" as a distinctive entity relative to RAD. DSM-5's newfound recognition of "Disinhibited Social Engagement Disorder" as a discrete disorder will only serve to increase our overall awareness and understanding of the underlying pathophysiology as well as envisioning RAD as a homogeneous phenotype. This in turn will lead to early diagnosis and expedited clinical management.

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The Effectiveness of Play Therapy and Reactive Attachment Disorder: A Systematic Literature Review

Abstract

The focus of this systematic literature review was to assess the effectiveness of play therapy used in treatment of children diagnosed with reactive attachment disorder (RAD). Children diagnosed with RAD experience long-term implications including inability to regulate emotions, difficulty building and maintaining relationships, behavioral issues, anxiety and poor autonomy. Play therapy is a therapeutic approach that eliminates barriers between the child and therapist. This review examined fourteen articles. The articles were found using inclusion criteria of including treatment of RAD, use of play therapy with RAD, published between 2000 and 2015 and used research with children age 0-18 years old. All articles were reviewed and articles that did not meet inclusion criteria were discarded. The full texts were reviewed and four themes were determined for effective treatment of RAD. These themes included strong family component, structured treatment, child-led treatment and a stable environment. These aspects of treatment proved to be effective in reducing symptoms of RAD.

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Cheers! To relaxation and time.

Background

Children diagnosed with reactive attachment disorder face a life of persistent social and emotional disturbances and significant impairment in the ability to form secure relationships throughout their life. Treating reactive attachment disorder can be difficult and it is important that clinicians are able to utilize effective interventions with the goal to improve the child's social and emotional functioning.

J. Bowlby, the father of Attachment Theory, started his research in 1956 to explore the responses of children with the loss of their mother. Then, Bowlby and colleague, James Robertson, began to analyze the reaction from children when they were separated and subsequently reunited with their mothers (Bowlby, 1982). The conclusion reached, was that the loss of the mother had a significant impact on the child's emotional wellbeing.

Attachment is defined as, "an affectional tie that one person or animal forms between himself and another specific one—a tie that binds them together in space and endures over time" (Ainsworth & Bell, 1970, p. 50). Humans are predisposed to form an attachment and build a secure bond with their primary caregiver. Attachment provides children with a secure base and allows for exploration out into the world (Main, 2000).

Children demonstrate their attachment type through attachment behaviors. Attachment behaviors are behaviors that encourage children to be in close physical contact with their caregiver; it is uncomfortable for children to be away from their caregiver (Ainsworth & Bell, 1970). Examples of these attachment behaviors are crying, sucking, cooing, smiling, and general interaction with the caregiver (Main, 2000). Bowlby

was able to look at attachment behaviors and organize criteria that led to categorizing different types of attachment. The criteria were based on the child's reaction when their mother left them and then the child's reaction when their mother returned (Bowlby, 1982). Main describes, the child's use of an attachment figure, typically the primary caregiver, as their only solution to resolve their distress (2000).

The Strange Situation was a research study conducted by Mary Ainsworth with the purpose of observing the degree to which a child uses their mother as a secure base for exploration in a strange environment (Ainsworth & Bell, 1970). Situations observed included: separating from the mother, reunifying with the mother and being introduced to a stranger. The behaviors of exploration, alarm and attachment were all observed (Ainsworth & Bell, 1970). Based on *The Strange Situation*, the child's behaviors could be organized into different styles of attachment including; secure, avoidant or resistant/ambivalent. Main describes in later work the addition of a fourth style of attachment: disorganized/disoriented (Main, 2000).

The attachment style a child forms is based on the organization of the relationship between the child and their primary caregiver (Ainsworth & Bell, 1970). Bowlby explains, the attachment style formed between the child and the primary care giver is dependent on when and how the caregiver responds to the child's attachment behaviors (Bowlby, 1982). The attachment style is typically formed within the first year of the child's life.

Forming a secure attachment versus an insecure attachment reveals behaviors throughout the child's life. Secure attachments lead to healthy development through

the child's existence. Forming a secure attachment can improve the quality of life from the beginning. Kerns and Brumariu, 2014, claimed that children with secure attachments have positive expectations of others and strong autonomy. Children who initially form insecure attachments can be less likely to be successful both developmentally and emotionally. Insecure attachments can lead to behavioral issues, anxiety, internalizing behaviors, poor relationships, and inability to regulate emotions (Kerns & Brumarin, 2014).

The number of children who form an insecure attachment as their primary attachment is of significant concern given the implications that insecure attachments suggest throughout the child's lifetime.

According to an article written by B. Rose Huber, out of 14,000 U.S. children, 40% lack strong emotional bonds or secure attachments with their parental figures or caregivers. Of these 40%, 25% are determined avoidant and 15% of the children resist their parental figure because their parent causes them distress. Another article by Sean Brotherson, 2005, a Family Science Specialist at NDSU Extension Service, identifies that 55-65% of children form secure attachments and 35-45% form insecure attachments. These statistics show there is a significant number of children who are unable to form a secure attachment with their primary caregiver. Children who have formed a secure attachment can have an increase in positive relationships with peers, cooperation with adults and authority figures, and are better able to regulate emotions (Kerns & Brumarin, 2013).

Reactive Attachment Disorder

All attachments fall on a spectrum. Children with the most acute symptoms of an insecure attachment are often diagnosed with reactive attachment disorder (RAD). According to the Diagnostic and Statistical Manual of Mental Disorders Fifth Edition (DSM-5), reactive attachment disorder is diagnosed in children with the most severe attachment problems. The DSM-5 identifies RAD as, "characterized by a pattern of markedly disturbed and developmentally inappropriate attachment behaviors, in which a child rarely or minimally turns preferentially to an attachment figure for comfort, support, protection, and nurturance, " (American Psychiatric Association, 2013 p. 265). RAD is diagnosed based on criteria determined when there is an attachment between caregiver and child that is nonexistent or markedly underdeveloped (American Psychiatric Association, 2013). Identifying criteria includes: consistent patterns of inhibited and emotionally withdrawn behavior towards caregiver, persistent social and emotional disturbances, patterns of extremes in insufficient care, repeated changes in primary caregiver and clinician is able to rule out all other disorders. The diagnosis can only be made when a child is younger than the age of five and has a developmental age of above nine months (American Psychiatric Association, 2013). The DSM-5 identifies, "Reactive attachment disorder significantly impairs young children's abilities to relate interpersonally to adults or peers and is associated with functional impairment across many domains of early childhood" (American Psychiatric Association, 2013, p. 267).

Play Therapy

Child psychotherapy can be a hard task to accomplish for any clinician/therapist. Children think and behave differently than adults, therefore, therapeutic approaches that are successful with adults need to be revamped for therapeutic work with children. Many children need support with emotional literacy. According to Play Therapy International, 71% of children referred to play therapy will show a positive change (2008).

Play therapy is an approach that has tailored traditional psychotherapy to accommodate the child's brain. It symbolically disguises itself in a child's natural way of communication; play (Webb, 2007). Play therapy is a strategy utilized with children due to play being a child's natural expression (Cooper & Lesser, 2011). Several different approaches can be utilized including: using objects metaphorically, reinforcing or extinguishing behaviors, modeling behaviors, adapting behaviors, directions by the therapist or relying on the child's direction of play (Cooper & Lesser, 2011). Play therapy allows for clinicians to work with children despite their developmental stage or cognitive functioning. This approach can also be used to gain knowledge and understanding when there may be cultural barriers or language barriers between the child and the clinician. Children will rarely admit to have any behavioral problems or difficulties at home when their family may be at their wits end about it. Working with a play therapist can allow for these issues to be addressed without the child becoming defensive (Webb, 2007). Finally, the ability to use play to express themselves allows children to experience reduced stress that might otherwise have been a barrier if the child is expected to

communicate verbally. Cooper & Lesser, 2011, describe that play can be a valuable way to gather information related to the child's internal conflict.

The long-term implications of children diagnosed with reactive attachment disorder along with the effective use of play therapy eliminating barriers in the child-clinician relationship is the reason for more research to be done on the effectiveness of play therapy with children diagnosed with reactive attachment disorder.

Conceptual Framework

The focus of this systematic literature review is to assess the effectiveness of play therapy used in treatment of children diagnosed with RAD. With the goal to help social workers identify clinical approaches that will improve the functioning of children diagnosed with RAD. The main theory identified as guiding the research presented is Attachment Theory. Attachment theory focuses on the initial attachment formed with a primary caregiver and the impact this relationship has on the child's development, response to anxiety and security in attachments (Teyber & McClure, 2011). Infant's primary instinct is to establish a secure emotional attachment to their primary caregiver. The argument is made that this primary attachment shapes the child's subsequent relationships. Teyber & McClure (2011) explain, when parents are able to accurately respond to their child's emotional needs the child is able to form a secure attachment. However, when the parent does not adequately respond to their child's emotional needs the child forms an insecure attachment.

To further categorize these attachment styles, there are two organized attachments identified and one disorganized attachment that all fall under the umbrella

of insecure attachments. The organized attachments include avoidant and ambivalent (Teyber & McClure, 2011). Avoidant attachment is formed when the child becomes conditioned to the primary caregiver consistently ignoring, dismissing and rejecting the child's needs. The caregiver of a child with an avoidant-insecure attachment is unresponsive (Teyber & McClure, 2011). Ambivalent attachment is formed when the caregiver is intrusive, responds inconsistently, and demonstrates difficulty supporting the child's independence. Disorganized attachment is developed when the attachment pattern is unpredictable and demonstrates no organization. Without strong characteristics of any attachment pattern, the child has often experienced or experiences trauma, abuse, neglect or dissociative behavior from their parents (Teyber & McClure, 2011). Children who are identified as having a disorganized attachment have difficulty sustaining consistent relationships and are at high-risk for more serious mental health issues throughout their life.

Methods

A systematic literature review is research and evaluation of literature that currently exists on a specific topic. A systematic review was used to bridge a gap in the current research and use knowledge and language previously defined to analyze a specific topic. Using this research method, a collection of the most applicable research done addressing the effectiveness of play therapy used with children diagnosed with Reactive Attachment Disorder was assessed. The research was found using specific inclusion criteria and data analysis methods.

Inclusion Criteria

The topics of the articles that meet criteria focus on reactive attachment disorder or play therapy. All articles included research on RAD however, not all articles included play therapy as the intervention. Research that was reviewed included treatment approaches for children diagnosed with RAD, published between 2000 and 2015 and included research based on children ages 0-18 years old. The abstracts were reviewed to determine if the source was applicable and articles that were discarded are further explained in the finding sections of this review.

Empirical research was used to identify effectiveness of play therapy when treating RAD. Empirical research can be defined as research derived from experience rather than theory and is based on observation and measurement of a situation (Amsberry, 2008). Articles that use other therapeutic interventions besides play therapy were considered for inclusion when the research was on children diagnosed with RAD. All studies included address the treatment of children diagnosed with RAD. Any studies that did not include children diagnosed with RAD were excluded.

Search Strategy

Sources were established using databases found through University of St. Thomas library and included Ebscohost, socINDEX, and Social Work Abstracts. The key words used to search included: play therapy, reactive attachment disorder, attachment disorder, attachment disruption, attachment therapy, play therapy techniques, attachment based interventions, evidence based interventions to address attachment,

and treatment for RAD. Any articles that did not include identified topics were discarded.

Data Analysis

The analysis of data included tracking the articles found during each key word search and the number sources excluded due to identified inclusion criteria. The sources included are rated on a scale of one to there. Three different characteristics; sample size, sampling strategy and longitudinal study were rated. The findings will report scores. The scores for articles individually have the three different characteristics added together. An average score will be reported in regards to each theme. The following table describes the rational for each rating.

Data Abstraction Table

Method	**Quality**		
	1 (poor)	**2 (moderate)**	**3 (high)**
Sample size	<5	6-15	>16
Sampling strategy	Convenience or snowball	Matched	Random
Longitudinal	Cross sectional	< 6 months	>6 months

Sample size was determined based on the low prevalence of diagnosed RAD as determined by the DSM-5 criteria. According to the DSM-5 the prevalence of RAD is unknown but is identified as seen rarely by clinicians. In populations of severely neglected children the disorder occurs in less than 10% of children (DSM-5, 2013).

Sampling strategy was reviewed and scored. Random sample was the highest quality as random samples are the most unbiased sample. Matched design was determined to be moderate quality due to RAD being rarely diagnosed in children, therefore, picking a sample diagnosed with RAD will narrow down the sample size as a whole. A longitudinal study was determined to be the most valuable use of measurement due to the research question including the effectiveness of play therapy as a treatment and the results of effectiveness is only able to be studied over time.

The sources included in the research were recorded in an excel spreadsheet to ensure accurate organization. After each search using the search topics and key words, the number of sources found was recorded. The abstracts were reviewed first to ensure the inclusion criterion was met. If so, the methods and findings were reviewed and organized into the Analysis Table. The Analysis Table is organized using the headings: author/date, design, sample size/groups, measures, and quality score obtained from the Data Abstraction Table previously described. The sources with the highest sum quality score were then filtered down and the number was recorded. All sources were reviewed and filtered to determine the most applicable sources. Any sources that were excluded will be explained in the Data Collection Table on page 14.

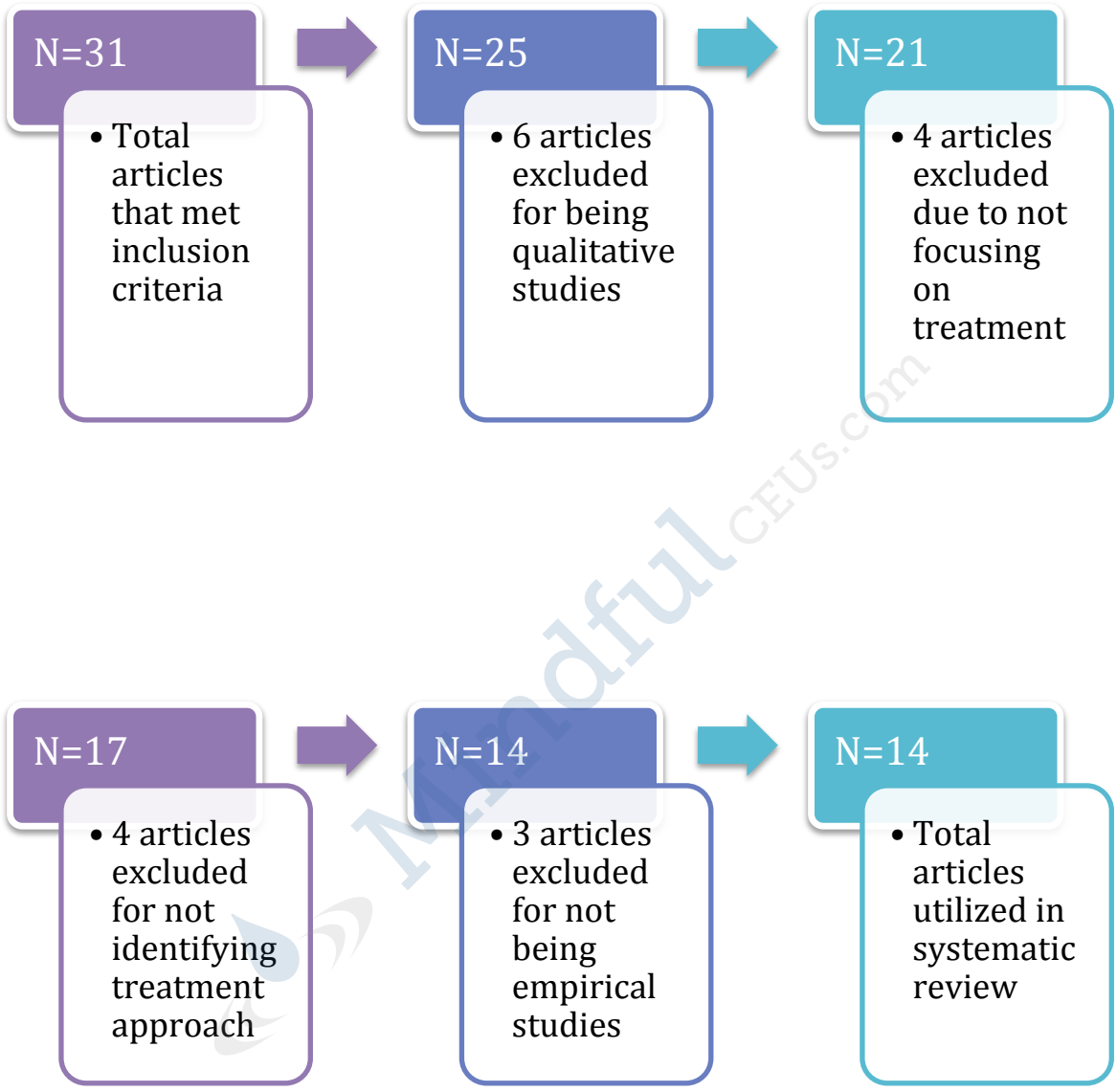
Findings

The goal of this systematic literature review was to examine and review research previously done to address the effectiveness of play therapy with children diagnosed with RAD. The articles used in this systematic review were obtained from electronic databases including Ebscohost, socINDEX and Social Work Abstracts. Search terms used

included: reactive attachment disorder, play therapy, attachment based interventions and treatment for reactive attachment disorder. When reviewing the findings for these searches, 31 articles met inclusion criteria and were set aside for further review. Upon further review of the 31 articles, six of these articles were qualitative research and were discarded. Four articles were discarded due to studying the type of attachment children presented with during treatment process and did not focus on the effectiveness of treatment for children with RAD. Four more articles were discarded due to not identifying any specific treatment approach and the last three articles were discarded due to not being empirical studies. See the data collection table for further review.

Fourteen articles were identified as applicable due to meeting the inclusion criteria described in the Methods section of this paper. The fourteen articles were further reviewed and analyzed for the purpose of this systematic review. Common themes included a strong family component in the treatment approach, structured treatment, child-lead treatment and a stable home environment before treatment can be successful. Multiple studies are included in one or more themes and some in all four. The Data Analysis Tables outline the fourteen articles, their sum quality score, and are organized by theme.

Data Collection Table



Theme Comparison

All fourteen articles focused on the aspects of treatment that are effective for children diagnosed with RAD. The characteristics of each treatment approach are more

relevant than the specific type of therapy being used. Therefore, the characteristics of the treatment approach will be the focus rather than a specific type of therapy. There are four themes that the research identified as important characteristics for effective treatment working with children diagnosed with RAD: strong family component, structured treatment, child-led treatment and stable environment.

Strong Family Component

The first theme identified is a strong family component in the child's treatment. Having the caregiver involved in treatment allows for a secure attachment to be built with the caregiver. The caregiver will provide a secure base for that child. "Caregiver involvement in the treatment process, providing that caregiver is psychologically healthy enough to participate appropriately, is believed to be an important contributor to positive treatment outcomes" (Hardy, 2007, p. 33).

Nine of the fourteen articles identified a strong family component in treatment is an aspect that indicates effective treatment for children diagnosed with RAD. The overall average quality score for the all articles with a strong family component as a theme is 6.8. Making these articles above average quality of research. The idea of a strong family component is for the child to have a secure base to build a secure attachment to their caregiver or caregivers. Shi (2104) reports that the essence of attachment therapy is the establishment of a safe haven and a secure base for that child. The most significant aspect of therapy focusing on attachment is to rebuild the human connection (Shi, 2014). In order for the child to be functioning in social and familial settings and reduce symptoms of RAD, the child must amend the insecure

attachment they formed earlier in life. Becker-Weidman (2006), with an overall quality score of 8, identified that involving the family in treatment allowed for the formation of a secure base to explore past trauma. Dyadic developmental psychotherapy was used "… as a way of creating a safe and secure base from which the child can explore past trauma" (Becker-Weidman, 2006, p. 159-160). Furthermore, behavioral changes will not be seen until the child is able to form a secure attachment (Wimmer, Vonk, & Bordnick, 2009). Research supports that when working with a child diagnosed with RAD the first goal is to form a secure attachment for the child to have a safe haven and secure base to work through the remaining issues. "The clinical decision to work first on human connection rather than behavioral intervention was based on the critical understanding that secure attachment is the precursor for any desired behavioral changes" (Shi, 2014, p. 11). Taylor reported that once the treatment focused on the family as a system instead of an "identified patient," being the child, the treatment proved to be effective (Taylor, 2002). This specific study used Eye Movement Desensitization and Reprocessing (EMDR) as the treatment approach. As the child felt a positive increase in their missing developmental stages the social and family behaviors improved (Taylor, 2002). Henley, with an overall quality score of 7, utilized the treatment approach of art therapy that also included an active parent component and saw a decrease in RAD symptoms because of the improvement in relationship between mother and child (Henley, 2005). Weir studied the use of Theraplay when working with children diagnosed with RAD. Theraplay approach "suggests that healthy attachments are formed when a balance of structure, engagement, nurture, and challenge dimensions are fostered in a relationship

through the therapeutic context of playfulness" (Weir, 2007, p. 5). Theraplay directly addresses the relational strains that a RAD diagnosis indicates and assists attachment in the family system (Weir, 2007). "The model requires and assists parental (or caregiver) participation that is healthy as a contrast to the pathogenic care a child received from their abusive or neglectful caregivers as part of their early history" (Weir, 2007, p. 12). The use of Theraplay proved to be an effective treatment of RAD due to the consistent participation with the child's caregivers for the ability to reconstruct a secure attachment. Dozier et al., with an overall quality score of 7, used clinical professionals to train parents in order for parents to provide the therapeutic environment and be able to form a secure attachment with their child rather than the therapist providing the environment. Therefore, the child would form and attachment with the parent and not the therapist, this approach proved effective in reducing symptoms of RAD because it focused on the attachment between child and parent (Dozier et al., 2009). Inclusive research supports a strong family component in treatment, for the purpose of rebuilding the attachment, is effective in reducing symptoms of RAD.

Table 1: Strong Family Component Data Analysis

Author/ Date	Sample Size (score)	Method (Score)	Design (score)	Total Quality Score
Wimmer, J., Vonk, M., & Bordnick, P. (2009).	N=24 3	Matched 2	>6 mo. 3	8
Taylor, R. (2002).	N=1 1	Matched 2	>6 mo 3	6
Shi, L. (2014).	N=1 1	Matched 2	<6 mo 2	5
Weir, K. N. (2007).	N=1	Matched 2	>6 mo 3	6
Becker-Weidman, A. (2006).	N=64 3	Matched 2	>6 mo 3	8

Hardy, L. T. (2007).	N=1 1	Matched 2	>6 mo 3	7
Scott Heller, S., Boris, N. W., Fuselier, S., Page, T., Koren-Karie, N., & Miron, D. (2006).	N=2 1	Matched 2	>6 mo 3	6
Henley, D. (2005, January).	N=11 3	Matched 2	>6 mo 3	8
Dozier, M., Lindhiem, O., Lewis, E., Bick, J., Bernard, K., & Peloso, E. (2009, Febraury).	N=46 3	Matched 2	<6mo 2	7

Structured Treatment

Structured treatment was included in eleven of the fourteen research articles. The average quality score for said eleven articles is seven. Seven is an above average quality score for research based on the *Data Abstraction Table,* meaning, the research supporting structured treatment approach when working with children diagnosed with RAD is satisfactory research.

The use of structure in the therapeutic approach provides the child with consistency and predictability. Similar the strong family component theme, this theme focuses on the child having a stable environment both in therapy and at home. In order to decrease the symptoms of RAD. According to Hardy, a study with a quality score of 7, in children with RAD and drastically maladaptive attachment patterns, more directive therapeutic approaches are required (2007). The experience of the child knowing what to expect each time they come to therapy allows for the stability to calm their mind. Children with RAD tend to live in a persistent state of fear, have a dysregulated affect and avoid intimacy (Taylor, 2002). Having a methodical and predictable therapy process provides a framework to hold their emotions while they sort through them. Shi, with a quality score of 5, finds that having reasonable rules and structure to therapy sessions plays an important role in helping the child feel safe (2014). “Despite the chaotic session

the therapist still believed it was important to apply the structure that had been established because it was a predictable routine and a structure he had grown comfortable with" (Shi, 2014, p. 7-8).

Structure is vital to children with RAD because of the internal chaos they experience relentlessly. Structured treatment can provide the only order in their disoriented mind. Becker-Weidman, with an overall quality score of 8, reports, "effective parenting methods for children with trauma-attachment disorders require a high degree of structure and consistency, along with an affective milieu that demonstrates playfulness, love, acceptance, curiosity and empathy" (2006, p. 159). Predictability is key to effective treatment for RAD. Weir uses a combination of Structural Family Therapy and Theraplay with specific methodology for each therapy session to ensure the child is able to predict the therapeutic space in which they will work through their attachment disorder (2007). The family has specific roles during the therapy sessions and homework to continue to bridge the structure of therapy into the home. The crucial quality to successful treatment is structure (Weir, 2007). Becker-Weidman utilized Dyadic Developmental Psychotherapy when working with children diagnosed with RAD, a therapeutic approach that consists of intense structure and predictability. He stressed the importance of the structure not being contained to the therapy sessions but must be transmitted into the home through parenting techniques. "Effective parenting methods for children with trauma-attachment disorders require a high degree of structure" (Becker-Weidman, 2006, p. 159). Because of this, Becker-Weidman chose to teach the parent methods that focus on non-verbal interaction to

address the negative internal working models that co-exist with RAD (2006). This approach ensures structure provided by the therapist and the caregivers. "The caregivers provide a high degree of structure to provide safety for the child" (Becker-Weidman, 2006, p. 159). Research provides an outline for the therapeutic process to include consistent structure in order to effectively treat RAD.

Table 2: Structured Treatment Data Analysis

Author/ Date	Sample Size (score)	Method (Score)	Design (score)	Total Quality Score
Wimmer, J., Vonk, M., & Bordnick, P. (2009).	N=24 3	Matched 2	>6 mo 3	8
Taylor, R. (2002).	N=1 1	Matched 2	>6 mo 3	6
Shi, L. (2014).	N=1 1	Matched 2	<6 mo 2	5
Weir, K. N. (2007).	N=1 1	Matched 2	>6 mo 3	6
Becker-Weidman, A. (2006).	N=64 3	Matched 2	>6 mo 3	8
Hardy, L. T. (2007).	N=1 1	Matched 2	>6 mo 3	7
Sheperis, C. J., Renfro-Michel, E. L., & Doggett, R. A. (2003, January).	N=1 1	Matched 2	>6mo 3	6
Henley, D. (2005, January).	N=11 3	Matched 2	>6 mo 3	8
Dozier, M., Lindhiem, O., Lewis, E., Bick, J., Bernard, K., & Peloso, E. (2009, Febraury).	N=46 3	Matched 2	<6mo 2	7
Philip, F., & Hyoun, K. (2007).	N=117 3	Matched 2	>6mo 3	8
Hoffman, K.T., Marvin, R.S., Cooper, G., & Powell, B. (2006, December).	N=65 3	Matched 2	>6mo 3	8

Child-Led Treatment

Child-led treatment focuses on children expressing themselves and dealing with their trauma in a way that is most comfortable to them. Five of the fourteen articles provide research to support a child-led treatment approach that is effective in treating RAD. The overall quality score of child-led treatment theme is seven. The overall quality

score of seven evidences the research is applicable to effective treatment processes. Henley, with an overall quality score of eight, uses art therapy as an approach where the child is given the ability to lead the therapeutic process by way of art and is proven to be effective in reducing the symptoms of RAD. “Treatment strategies for reactive attachment disorder are often non-conventional and even controversial, reflecting the condition’s severity and intractability” (Henley, 2005). Non-traditional treatment includes allowing the child to lead therapy and is effective because of the severity of RAD symptoms. Often, symptoms of RAD include lack of self-control and the diagnosis of RAD implies maltreated or traumatic treatment at an early age, which was not in the child’s control. For these reasons, allowing the child to have some control in their treatment provides them with a newfound sense of self-effectiveness (Sheperis, Renfro-Michel, and Doggett, 2003). Due to the trauma the child experienced, that warranted them the diagnosis of RAD, typically occurring at a young, pre-verbal, age allowing the child to lead the treatment to express and work through this trauma in whatever, non-traditional, format works for the child is most effective. It is effective because the trauma took place at a pre-verbal age and a child typically articulates their trauma through play, a non-verbal use of communication. If the child is not allowed to direct therapy utilizing their play, they will be unable to reduce their symptoms of RAD (Becker-Weidman, 2006). Shi argues that a child with RAD often exhibits dangerous behaviors because they are unable to use words to describe the chaos within their mind (2014). It is because of this that the significance of child-led treatment is emphasized. Children with RAD often refuse to respond when talked to or talked at but have been

said to interact with therapeutic play. Shi reports the entire treatment process consists of "moments after moments of assessments and responses" (2014, p. 11) to the child that begin to change the child's state of mind. If the therapist is unwilling to do this moment-by-moment child-led treatment, the child's mind will not be able to create order and the security of attachment, which lead to effective treatment of the RAD symptoms. Therapeutic approaches grounded in attachment theory allow for the child to express as they see fit as a base in which the rebuilding of their attachment style can occur (Wimmer, Vonk, & Bordnick). Child-led treatment is proven to provide effective outcomes when working with children diagnosed with RAD.

Table 3: Child-Led Treatment Data Analysis

Author/ Date	Sample Size (score)	Method (Score)	Design (score)	Total Quality Score
Wimmer, J., Vonk, M., & Bordnick, P. (2009).	N=24 3	Matched 2	>6 mo. 3	8
Shi, L. (2014).	N=1 1	Matched 2	<6 mo 2	5
Becker-Weidman, A. (2006).	N=64 3	Matched 2	>6 mo 3	8
Sheperis, C. J., Renfro-Michel, E. L., & Doggett, R. A. (2003, January).	N=1 1	Matched 2	>6mo 3	6
Henley, D. (2005, January).	N=11 3	Matched 2	>6 mo 3	8

Stable Environment

Twelve out of the fourteen articles proved a stable environment is necessary for the treatment of children with RAD. The average quality score for research on a stable environment being a vital part of treatment is 7.2. This quality score shows that the research is pertinent research. Research shows that before a child can explore their trauma they need a stable environment to do so within. Similar to the stability described

with a strong family component, a stable environment is necessary for effective treatment of RAD. Within an attachment centered, stable environment, a child is able to allow themselves to feel the love in forming a secure attachment with their caregiver (Shi, 2014). The effective application of treatment is able to occur within a stable living environment. Shi (2014) describes that a stable environment provides a ground for a child to "nurture their roots and start to grow into a secure attachment" (2014). Furthermore, a child is likely to be re-traumatized and become more distrustful if a secure environment is offered and then removed. If the environment is unpredictable the child may also be re-traumatized (Shi, 2014). The unstable nature of RAD needs a stable environment to reduce the symptoms. Weir researches the effectiveness of treatment of RAD once a child has been adopted (2007). Thus, the child is in a stable environment of the adoptive family. According to Becker-Weidman, attachment-based parenting is intertwined with a stable environment (2006). Hardy explains that the therapeutic environment is the most consistent precursor for effective treatment (2007). Since treatment for attachment disorders is based on attachment theory, stable environment is deeply embedded into any treatment of attachment related disorders, including RAD. Consequently, the research also shows treatment of attachment related disorders in children not in stable environment proves to be ineffective because of the arbitrary and impulsive environment (Hardy, 2007). Beneficial treatments of RAD should include a secure and nurturing environment (Sheperis, Renfro-Michel, & Doggett, 2003). Because of this, Sheperis, Renfro-Michel, and Doggett researched the effectiveness of in-home therapy building on the idea of a stable environment allows for

effective treatment (2003). Smyke, Zeahan, Gleason, Drury, Fox, Neson, & Guthrie argue that no treatment approach will be successful with RAD until the child is in a stable environment (2012). It is difficult to separate the stable caregiver involvement and stable environment, as these two appear to go hand in hand within the research. Both allow for the child to stay true to attachment theory and need a secure base (attachment figures and environment) to return to in order to successfully explore the world around them. When the child is able to feel the effects of having a secure base he or she is able to form a secure attachment thus reducing the symptoms of RAD and proving to be an effective aspect of treatment. The child will use the secure attachment to explore the unknown.

Table 4: Stable Environment Data Analysis

Author/ Date	Sample Size (score)	Method (Score)	Design (score)	Total Quality Score
Shi, L. (2014).	N=1 1	Matched 2	<6 mo 2	5
Weir, K. N. (2007).	N=1 1	Matched 2	>6 mo 3	6
Becker-Weidman, A. (2006).	N=64 3	Matched 2	>6 mo 3	8
Hardy, L. T. (2007).	N=1 1	Matched 2	>6 mo 3	7
Scott Heller, S., Boris, N. W., Fuselier, S., Page, T., Koren-Karie, N., & Miron, D. (2006).	N=2 1	Matched 2	>6 mo 3	6
Sheperis, C. J., Renfro-Michel, E. L., & Doggett, R. A. (2003, January).	N=1 1	Matched 2	>6mo 3	6
Smyke, A.T., et. Al (2012, May).	N=208 3	Random 3	>6 mo 3	9
Henley, D. (2005, January).	N=11 3	Matched 2	>6 mo 3	8
Cappelletty, G. G., Brown, M. M., & Shumate, S. E. (2005).	N=54 3	Matched 2	>6 mo 3	8
Dozier, M., Lindhiem, O., Lewis, E., Bick, J., Bernard, K., & Peloso, E. (2009, Febraury).	N=46 3	Matched 2	<6mo 2	7
Philip, F., & Hyoun, K. (2007).	N=117 3	Matched 2	>6mo 3	8

Hoffman, K.T., Marvin, R.S., Cooper, G., & Powell, B. (2006, December).	N=65 3	Matched 2	>6mo 3	8

Play Therapy Treatment

Four articles utilized play therapy as the treatment approach for children diagnosed with RAD. The use of play is used as a treatment approach due to the non-verbal nature of play. Play is a child's natural impulse. Play is meeting the child where they are at in terms of communication and allowing for the child to utilize what is normal to them in order to contain the chaos of a RAD mind. Treatment utilizing play therapy brings the joy and fun of play to contrast the strain often found in the relationship between the child and caregiver and the pain and trauma typically experienced in pervious attachment when the child is diagnosed with RAD (Weir, 2007). When the play is geared to the developmentally appropriate age of the child, the children will feel safe enough to use play to express themselves (Weir, 2007). Becker-Weidman reports that a playful, loving, and accepting therapeutic environment is the basis for effectively treating RAD (2006). "Treatment of the child has a significant non-verbal dimension since much of the trauma took place at a pre-verbal stage and is often dissociated from explicit memory" (Becker-Weidman, 2006, p. 160). The non-verbal treatment often involves play, as this is the child's natural way of communicating. Children with RAD often have not had the role modeling of expressing emotions effectively as their attachment is so disorganized. Therefore, they cannot put into words their emotions. Play allows for their emotions to be conveyed. Processing the trauma through play therapy allows for the treatment to continue despite the child's lack of ability to communicate.

Strengths and Limitations

There are both strengths and limitations to RAD research and play therapy. One significant limitation included the small frequency of children diagnosed with RAD according to the DSM-5. This limited the amount of research studies conducted along with the size of the sample utilized in each of the research studies. Another limitation of the research stems from play therapy being a more recent intervention used with children. This resulted in a lack of research including longitudinal studies and the effectiveness of play therapy working with children diagnosed with RAD. Lastly, another limitation of the research included the sample size being matched due to the research exploring effective treatment for children diagnosed with RAD. Therefore, the research had to select children that were diagnosed with RAD and eliminated the possibility of a random sampling type.

Strengths in the research included attachment theory being the focus of extensive research that has been conducted and documented for over fifty years. Another strength to this review included the increased frequency of play therapy used by clinicians working with children in recent years leading to increased research done on the effectiveness of play therapy more recently. Finally, a strength includes play therapy being an evidenced based approach indicating applicable research in regards to play therapy as a treatment approach.

Discussion

This systematic review examined the effectiveness of play therapy when working with children diagnosed with RAD. Fourteen articles were reviewed and four themes

were identified and discussed. The purpose was to examine current literature to determine effective treatment for RAD. Although there is minimal research specifically utilizing play therapy as the treatment approach (four of the fourteen articles) many of the elements of play therapy are discussed in all other treatment approaches. There were four main themes that proved to be effective in the treatment of RAD. These included a strong family component in the treatment process, a structured treatment approach, child-led treatment and the need for a stable environment. All proved to be vital pieces in effectively treating symptoms of RAD.

Results of this review suggest that a specific treatment approach has not yet been identified as the one effective treatment for RAD. However, the research brought fourth specific elements of the treatment process that prove to be effective. The findings advise that in order for a child to show progress in symptoms of RAD they must form a secure base and a secure attachment in which the child will utilize as scaffolding to create order in the chaos of their mind. While several studies (ten of the fourteen) did not utilize play therapy specifically, all fourteen studies found the importance of forming a secure attachment as effective treatment for RAD.

All fourteen articles utilized treatment that was effective in reducing symptoms of RAD. This aspect proves that it is more important to incorporate the elements of effective treatment: strong family component, structured treatment, child-led treatment and a stable environment. Using these elements replace the need for a specific therapeutic approach in the treatment of RAD. For example, EMDR, Dyadic Developmental Psychotherapy, art therapy and Theraplay all attested to be effective

treatment for RAD. Nevertheless, all fourteen studies discussed the limitation of not enough research being done for treatment of RAD or any attachment disruptions.

Fourteen of the studies were longitudinal studies as this is pertinent to measure the effectiveness of treatment. Of theses fourteen, twelve studies were researched for more than six months. However, it is unclear the length of time specifically proven to see a reduction in behaviors. As predicted, all fourteen studies discussed the uncertainty of length that is effective in treatment as each child's process will be different. The overall theme of the research included the importance of implementing treatment including a strong family component, structure, child-led treatment, and a stable environment. These qualities of treatment are what substantiate the effectiveness of treatment when working with children diagnosed with RAD.

Implications for Social Work Practice

It is important for clinicians to continue to develop knowledge and understanding to effectively treat RAD due to the severity and brutality the disorder brings. The purpose of this review was to determine effective elements in treatment to reduce symptoms of RAD. Clinicians should understand the difficulty that developing an insecure attachment brings on the child and the life long implications that impact the child. Once the child is in a stable environment with supportive caregivers the child is able to build a secure attachment and improve their functioning in social and familial environments.

Treatment is most beneficial when it includes a strong family component, structure, child-led activities and a stable environment to implement the treatment

within. Based on research, clinicians should incorporate these techniques when working with children diagnosed with RAD. However, there is an inconclusive amount of research to determine specific therapeutic approaches. Much more research will need to be conducted to further the understanding of treating children diagnosed with RAD.

Implications for Research

While the results were all favorable to techniques effective in treating RAD, there are many further research opportunities. There is a significant opportunity to research the effectiveness of play therapy when working with children diagnosed with reactive attachment disorder. It will be beneficial to identify a specific therapy approach or approaches that can be utilized when working with the child and their family when the child is diagnosed with RAD.

Due to the specific research question of identifying if play therapy was effective in working with children diagnosed with RAD, it would prove beneficial to research the effectiveness of play therapy. Focusing on the effectiveness of play therapy will determine if the use of play therapy would be beneficial in reducing RAD symptoms. Further research in the area of play therapy and its effectiveness will provide clinicians with a framework for training and implementation of the treatment approach.

The goal of this systematic review was determining the effectiveness of play therapy working with children diagnosed with RAD. Within the fourteen articles analyzed, there are four elements of treatment that present as effective. These elements include a strong family component to treatment, structured treatment, child-led treatment and for the child to be living in a stable environment. Said aspects of the

therapeutic process prove to be effective in treating RAD. There is a significant indication that more research is needed to prove the effective treatment approach for treatment of children diagnosed with RAD. Further research will provide clinical social workers with a framework for improving the quality of life for children and their families affected by RAD. While results of this systematic review found effective treatment, there continues to be an ambiguous amount of knowledge that can be applied when working with these families. For more detailed and specific therapeutic approaches, more research should be conducted to determine definite methodology when treating children diagnosed with RAD. When that methodology is further developed it can be allocated to the clinical social work community.

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