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Autism Write-up

Introduction

The task of answering the questions "what is autism?" or "what are the characteristics of an autistic child?" simply cannot be accomplished in a single paper. In fact, reflecting on the vast quantity of diverse and at times conflicting literature on this topic, I doubt if these questions can by any means be answered at this present time. My reason for this seemingly negative statement is based primarily upon the fact that although there are dominant areas of difficulties, each child with autism is unique and presents with an array of different characteristic behavioural patterns and signs. As Sicile-Kira (2003) suggests, in the same way there is no typical type of non-autistic individual, so there is no typical type of autistic individual. It is this characteristic of uniqueness that has ensured the search for a single cause or single cure for autism is an ongoing process. In fact, it appears some of the most prevalent debates in the research of autism are around the etiology of this disorder and around the most effective means of treatment. Since each child with autism is unique in their autistic characteristics, what works for one child may not work for another. It seems that in many cases it is not simply one treatment modality that offers benefits for the autistic child, but a combination of these. I alert you to the urgency of remembering that as each mother's experience of her autistic child is different and each professional working with autistic children again offer different experiences; you yourself will have a unique story to share of your experiences after working with autistic children in therapy. For me, it is this that makes such an endeavor, while seemingly challenging, also so exciting.

Autism and the autistic spectrum

Autism is a lifelong disorder (Baron-Cohen, 1997) and forms one of the five developmental disorders on the autistic spectrum. The others, listed alongside autism in the DSM-IV-TR, under pervasive developmental disorders are Asperger's Disorder, Rett's Disorder, Pervasive Developmental Disorder Not Otherwise Specified (PDD-NOS) and Childhood Disintegrative Disorder. Autism itself is sometimes referred to as an autistic spectrum disorder (ASD). According to the National Autistic Society (2008a), the reason for the use of the word spectrum is that although those with autism share areas of difficulty, this disorder affects

individuals in very different ways. While some are able to live relatively normal lives, others will require lifelong support.

Regarding the prevalence, 1 in 150 eight year olds in the United States of America present with autistic spectrum disorders (Centers for Disease Control and Prevention, 2008). Statistics for the prevalence of ASD's in South Africa is not known but would presumably be similar. Autism affects individuals from all socio-economic and culture backgrounds (Autism Speaks, 2009b; Alloy, Riskind & Manos, 2005) but boys are four to five times more likely than girls to be affected by this disorder (Siegel, 1996). It is for this reason that I have chosen to use the pronoun "he" even when referring to autistic children in a non-gendered sense.

Diagnosis and presentation of autism

While autistic spectrum disorders are usually diagnosed by approximately age 3, the age of diagnosis is slowly being pushed back, even to as early as 6 months (Autism Speaks, 2009b). Although a child diagnosed with autism will in most cases become an adult with the same disorder, diagnoses are able to change (Siegel, 1996). The number and severity of the presenting autistic "symptoms" changes over time and in some cases this reduction is so great that the child becomes better diagnosed as having PDD-NOS (Siegel, 1996). Since there is currently no medical test for the diagnosis of autism, diagnosis is based on observable behavioural characteristics (Sicile-Kira, 2003). In diagnosing autism there are checklists available, such as the CHAT checklist for toddlers (appendix A) which includes both questions to ask the child's parents and observations you, as a professional, should note during your session with the child. The three main areas of difficulty experienced by those with autism, referred to as the *triad of impairments*, include difficulty with communication, difficulty with social integration and difficulty with social imagination (The National Autistic Society, 2008a) sometimes called pretend play (Baron-Cohen, 1997).These social impairments are seen as the primary features of autism (Siegel, 1996).

The National Autistic Society (2008a) explains difficulty with *social communication* as the struggle with both verbal and non-verbal language. Body language is misunderstood and

difficulties are experienced in understanding jokes or sarcasm as language is understood in a very literal sense. Some individuals with autism may have very limited speech and tend to communicate in alternative means such as sign language (The National Autistic Society, 2008a). Another classic means of communicating for children with autism is what is referred to as "hand-leading" (Siegel, 1996, p.45). Here the child takes the hand of another and leads them to perform a desired action. Hand-leading is unique to children with autism as unlike with other children, the method involves no pointing or eye contact (Siegel, 1996). Those with good vocabularies may still have difficulty in engaging in an everyday conversation and are prone to either talking endlessly about their own interests or simply repeating everything the other person says. This repetitive kind of talk is known as echolalia (The National Autistic Society, 2008a). Having difficulty reading the facial expressions of others, a person with autism may talk tirelessly about a single topic and be unable to detect the boredom of those to whom they are speaking (Lantz, 2002). Those with autism often speak in a monotone as they cannot grasp the concept that how they say something conveys just as much meaning as what they say (Sicile-Kira, 2003). They may have an unusual way of using pronouns and, for example, rather than speaking in the first person they may refer to themselves using the words "you", "he" or "she" (Alloy et al., 2005).

Socialization for those with autism does not come naturally and is experienced as a difficult learning task. Difficulty in *social interaction*, as explained by The National Autistic Society (2008a), means that individuals with autism have difficulty fitting in with the rest of the social world as they see this world differently to others. They find it difficult to recognize the emotions of others and struggle to express their own emotions. They would often prefer to spend time alone than with others and others often perceive them as being insensitive or as behaving in strange or inappropriate ways. For example, when interacting with others the individual with autism may begin an inappropriate topic of conversation or may stand uncomfortably too close to others when they are talking (The National Autistic Society, 2008a). In other words, people with autism struggle to understand the unwritten rules of society and how these rules may change in different contexts, for example how while one behaviour may be acceptable in the privacy of ones home, it may not be accepted outside these boundaries (Lantz, 2002).

Difficulties in social interaction, in the same way as the other difficulties in the triad, can be expressed in very different ways. Frith (1989) explains the conceptualization, proposed by Wing and her colleagues, around these difficulties in social interaction. They classified these difficulties into three types, namely aloof, passive and odd. In the *aloof type*, the child with autism completely withdraws from others and doesn't respond to them. Although social contact is sought on some occasions, he does not speak, fails to use eye contact and refuses to be comforted by others (Frith, 1989). On the other hand the *passive* autistic child allows others to approach him. He is able to speak well, responds to others and complies with what he is asked to do. However this social contact is more a part of an everyday routine rather than a means of enjoyment (Frith, 1989). The autistic child described as *odd* enjoys being around people but is unable to distinguish between acceptable and unacceptable social behaviour. He may for instance approach a complete stranger and request their name and age (Frith, 1989) or he may wish to smell or touch them. All three types point to difficulties a child with autism experiences with acting in socially appropriate ways and with fitting in alongside the rest of the social world.

Difficulty with *social imagination*, again in line with the explanation given by the National Autistic Society (2008a), means that individuals with autism battle to understand and make predictions about the behaviour of others, have difficulty understanding abstract ideas and struggle to imagine situations not falling into their daily routine. They also have difficulty understanding dangerous situations. For example, they may run onto a busy road without realizing they could be hit by a car. Since individuals with autism prefer structure and fixed daily routines, they battle to cope in situations new or unfamiliar to them or in situations requiring change (The National Autistic Society, 2008a). Children with autism generally play in a very repetitive, routine like way, without showing much imagination (Aaron & Gittens, 1992). As Case-Smith & Arbesman (2008) explain, children with autistic spectrum disorders have limited social play as they lack the ability for joint attention. They also lack creativity and struggle to play out pretend scenarios. For example a child with autism may prefer to consistently line up a row of toy cars rather than engage in pretend play such as "making tea" or "going to the shops" (Frith, 1989). Thus it seems the play of autistic children is very literal – similar to the way they comprehend language – without any imagination.

Comorbidity in autism

Autism is sometimes associated with other biological abnormalities for example epilepsy, mental handicaps and other pathologies of the brain (Baron-Cohen, 1997). In fact, considering the association between autism and *epilepsy*, Gabis, Pomeroy & Andriola (2005) found that in their study 40% of children diagnosed with autism also had the diagnosis of epilepsy. According to the DSM-IV-TR in most cases of autism, there is a related diagnosis of *mental retardation*. This mental retardation is not simply a result of the child socially withdrawing from others, but is a primary deficit in cognition (Alloy et al., 2005). However levels of cognitive functioning vary between those with autism, some experiencing extreme mental retardation, others with advanced intellectual abilities (Santangelo & Tsatsanis, 2005). In many cases this high level of intelligence is expressed in a single area (Alloy et al., 2005). The intellectual development of the autistic child acts as an indicator for his prognosis, as autistic children who are not also mentally retarded – about a quarter of cases – have a better prognosis (Alloy et al., 2005). *Learning difficulties* such as dyslexia [a reading disorder (DSM-IV-TR)] and dyspraxia [impairment in the ability to carry out skilled gestures (Dziuk, Gidley Larson, Apostu & Mahone, 2007)] may also be present in children with autism (The National Autistic Society, 2008a). Again, the degree of these difficulties differs and thus the level of coping also differs (Sicile-Kira, 2003).

Children with autism also display an array of stereotypical behaviours, such as flapping the hands, tensing different body parts, walking on tip-toes, twirling and head banging. These behaviours are performed in a ritualistic, rather than a goal directed manner (Alloy et al., 2005). Children with autism may also throw tantrums, particularly as the result of any change to their everyday routine or surroundings (Alloy et al., 2005). Characteristics of *ADHD* such as impulsivity, limited attention span and hyperactivity, may also, according to the DSM-IV-TR, be seen in children with autism. In fact close to a half of children with autistic spectrum disorders also suffer from impulsivity, inattention and hyperactivity (Sinzig, Morsch, Bruning, Schmidt & Lehmkuhl, 2008). Children with higher functioning autism, such as Asperger's disorder, may also experience *depression or anxiety* and exhibit behaviour oppositional in nature (Jacobsen, 2004). *Sensory sensitivity* may contribute to this expression of anxiety (The National Autistic Society, 2008a). Sensory sensitivity means that the senses are either extremely intense

(hypersensitive) or restrained (hypo-sensitive). For those who are hypersensitive, certain background noises which other people are able to easily block out, are felt as intolerably loud (The National Autistic Society, 2008a). A child who is highly sensitive to sound may cover their ears or act deaf, for example not responding when they are called. They may also frequently remove their clothes as over reactive tactile stimulations render certain fabrics uncomfortable on the skin (Sicile-Kira, 2003). For those who are hypo-sensitive, pain or extreme temperatures may not be felt. They may also rock or flap their hands in order to stimulate sensation (The National Autistic Society, 2008a). This sensory sensitivity may help explain while a child with autism prefers not to engage with other children who may be seen as noisy and who are associated with particular smells and textures which the child with autism has difficulty tolerating (Sicile-Kira, 2003).

Theory of mind: A way of understanding autism

Baron-Cohen (1997) along with his colleagues Frith and Leslie proposed that the triad of impairments characterizing autism – difficulty with communication, social integration and social imagination – may well be the outcome of a failure in the development of a theory of mind – a process beginning during infancy (Lantz, 2002). A theory of mind is the ability to reflect on the content of one's own mind as well as the minds of others. Theory of mind is thus basically the ability to read and understand minds. Abnormalities in theory of mind (or mindblindness) are experienced by those with autism and other autistic spectrum disorders and form a core feature of these disorders (Baron-Cohen, 2000). Thus those with autism are unable to appreciate and make sense of mental states, such as desires or beliefs, and are thus not able to make predictions of or understand behaviour based upon such states (Alloy et al., 2005).

These abnormalities in theory of mind can be used to explain the difficulties those with autism have in communicating and socializing with others (Lantz, 2002). During normal development children learn to understand that the feelings of others are not always reflected in their actions and that they may hold a number of conflicting feelings at one time. Children also learn to distinguish between literal and non-literal speech. Metaphors, sarcasm and irony are all accepted and understood means of communicating, which while part of normal development, is

something children with autism find difficult (Lantz, 2002). Thus a child with autism, with the absence of a theory of mind, cannot understand the ways in which other people think. This helps to explain why autistic children struggle to fit in with the rest of society and why language, as it is used in everyday life, is experienced as a challenge.

Possible referral problems

Despite the seemingly structured nature of autism presented in the triad of impairments, there is in fact a vastly wide-range of presentation of those on the autistic spectrum (Aarons & Gittens, 1992). Again, it cannot be stressed enough how children with autism and other disorders on the spectrum express their autistic characteristics in unique ways. It appears that it is the uniqueness of every case that creates such a vast array of possible referral problems. In cases where babies develop normally and begin to regress, it may be easier to identify problematic behaviour as it can be compared to the child's behaviour before (Sicile-Kira, 2003). However it can be difficult for a first time mother to recognize developmental delays in her child as she has no previous experiences to use as a base for comparison (Sicile-Kira, 2003). Parents may seek help for concern that their child exhibits unusual behaviour such as being obsessed and highly informed by a particular topic of interest or playing in the same way with the same toy. The child's teacher may note that the child has difficulty in routine change or in interacting with other classmates (Sicile-Kira, 2003). Absent or delayed development of language, lack of engagement in meaningful activity, absence of interactive communication as well as destructive and aggressive behaviour in school (Aarons & Gittens, 1992) are other possible reasons for referral.

Differential diagnoses

Falling on the autistic spectrum diagnosis of autism may easily be confused with other milder forms of autistic disorders. *Asperger's disorder* is seen to present with many of the characteristics associated with classic autism (Autism Speaks, 2009a). There is in fact quite a debate concerning whether or not Asperger's should be considered a separate disorder or whether is should be merely considered as the highest functioning form of autism (Stephens, 2003). Unlike children with autism, children with Asperger's disorder do not usually experience

cognitive difficulties (Autism Speaks, 2009a). In general, the development of language in a child with Asperger's occurs in an unusual manner. Their first words are different to the first words of a normally developing child (Stephens, 2003). Those with Asperger's usually present with a normal or even superior range IQ and reach the majority of developmental milestones in acceptable time frames (Autism Speaks, 2009a). As such Asperger's disorder is usually diagnosed later in the child's life compared to autism (Stephens, 2003). Children with Asperger's disorder also display a greater social interest compared to children with autism. They show a desire to want to interact and make friends but they seem unable to do so (Stephens, 2003). Another feature distinguishing Asperger's disorder from other disorders on the spectrum is a limited range of activities and interests (Sicile-Kira, 2003). In fact, rather than simply a mere interest in a topic, a person with Asperger's disorder can become an expert in that area (Autism Speaks, 2009a) from their total obsession with that topic.

Unlike in classic autism, far more girls than boys are affected with *Rett's disorder*. In fact, it is believed no boys are affected by this disorder (Siegel, 1996). Rett's disorder is described as a debilitating developmental disorder in which the child experiences difficulty in speaking and walking which may progress to a stage in which they are almost immobile (Autism Speaks, 2009a). While some of the characteristic behaviours of autism are present in those with Rett's disorder there are a considerable number of differences. For example, children with Rett's disorder have unique hand movements. Unlike the flapping movement of the hands found in children with autism, those with Rett's disorder may grasp, squeeze or tap their hands in a manner in which they are seemingly unable to stop. Many also suffer from apraxia and are unable to perform the simplest of movements such as opening their mouths (Autism Speaks, 2009a). The development of Rett's disorder also appears to occur more suddenly than other disorders on the spectrum and is followed by a progressive regression of behaviour (Autism Speaks, 2009a). This is the only disorder on the spectrum that can be tested by the means of a genetic blood test (Sicile-Kira, 2003).

In *Childhood disintegrative disorder*, children exhibit normal development at first but begin to regress sometime within their first five years of life (Siegel, 1996) and significantly lose previously acquired skills (Sicile-Kira, 2003) such that their difficulties in behaviour are

relatively the same as children with autism or PDD-NOS (Siegel, 1996). Children with *PDD-NOS* also exhibit many of the behaviors characteristic of classic autism, however they do not satisfy all the criteria necessary for a diagnosis of autism. For example, onset of difficulties may have occurred at a later age or the severity of the behavioural signs may be less extreme than in autism (Autism Speaks, 2009a). As with the case of Asperger's disorder, it is not yet settled whether PDD-NOS warrants a separate diagnosis or whether it is rather a milder form of autism. The category was developed to indicate a child with "related, but not 'full-blown' autistic pathology" (Stephens, 2003, p.2).

Schizophrenia may also in some cases be confused with autism; however the major defining characteristic separating these two diagnoses is time of onset. While schizophrenia is rarely diagnosed before adolescence, autism in most cases is diagnosed before the age of three (Frith, 1989). According to the DSM-IV-TR where schizophrenia has onset in childhood it usually only occurs after a few years of normal development. The DSM-IV-TR states that a diagnosis of autism also needs to be differentiated from selective mutism, expressive language disorder, mixed receptive-expressive language disorder, mental retardation, stereotypic movement disorder and ADHD. All of these disorders may express certain behavioural characteristics indicative of autism but in lesser degrees or in the absence of other diagnostic criteria for autism.

DEBATE 1: The etiology of autism – Understanding the nature of the presentation

It appears from examination of the literature that one of the biggest and ongoing debates around autism has to do with its etiology. Reflecting on the uncertainties regarding the cause of autistic spectrum disorders (ASD's) Sicile-Kira (2003) writes, "It is known for a fact that ASD's cannot be caught through osmosis, dirty doorknobs or bad parenting. Other than that, nothing can be said for sure" (p. 27). Since 1943, when autism was first identified by Dr. Kanner (Autism Speaks, 2009b) various theories have been stipulated as to the cause of this childhood developmental disorder. One of the most striking and absurd of these, in my opinion, is that of autism as a disorder of psychogenic origin.

Psychogenic Autism

In this view, popular during the 1950s and 1960s (Alloy et al., 2005), children develop autism as the result of either a psychodynamic conflict occurring between the mother and the child or anxiety experienced by the child in early years (Frith, 1989). It is from such a view that Bettelheim raised the claim that autism was caused by "refrigerator mothers" (Sicile-Kira, 2003, p.6). Thus parents were seen as simply too busy to love and take care of their babies. As a result these babies developed the aberrant behaviours characteristic of autism. Mothers of autistic children were thus blamed for their child's abnormal behaviours as they were seen as cold and unloving parents. Such a view held the belief that autism was a mental illness, rather than a developmental disorder and as such offered limited treatment options (Sicile-Kira, 2003). A similar theory by Tinbergen & Tinbergen (1972) is that autism occurs as a result of a breakdown in the process of bonding between the child and his mother. Again such a view blames the mother for her inability to secure a bond with her child and thus allowing him to become autistic.

Tustin (1991), a strong proponent of psychogenic autism, suggests that children develop autism as a protective strategy to deal with an infantile trauma of having to be pulled away from the protective body of the mother. This psychoanalytic approach suggests that during the nursing phase of infancy the mother and the child, in close bond, are experienced as undifferentiated from one another. The infant experiences the mothers body as a permanent part of its own body and in taking this experience for granted, is shocked when exposed to the realization that this is not so (Tustin, 1991). This psychogenic theory of autism has been contested on many grounds by a number of theorists and professionals. According to Frith (1989) it is not possible for a child to develop autism as a result of him not being loved by his mother, or because he feels threatened or anxious in his life. He explains how autism occurs, not simply in problem families but in all kinds of families and across cultures. If the psychogenic theory of autism was to hold true any child experiencing poor parenting would present with autism and this is simply not the case (Frith, 1989).

Another theory, although not psychogenic in nature, was that the measles-mumps-rubella (MMR) vaccine, given to young children, was the cause of autism. The belief here was that gastrointestinal problems, caused from the vaccine lingering in the gut, led to the development of

autism (Falco, 2009). However vaccinations alone cannot be the cause of autism, otherwise again many more children would be autistic (Sicile-Kira, 2003). This theory was thus largely discredited only a few years later and in 2008, it was definitively declared that vaccines were not to blame as no evidence was found linking the MMR vaccine to gastrointestinal problems or to autism (Falco, 2009). Despite this declaration, it cannot be ignored that there are thousands of cases in which autism did develop in the child after these routine vaccinations. However it may be that these vaccinations, rather than being the sole cause for this disorder, act as a trigger in children who are already predisposed to autism or in children with very weak immune systems (Sicile-Kira, 2003).

Through reflection upon these theories it appears they were an attempt to explain why autism is not apparent in the child from birth. Although age of diagnosis is now being pushed back, autism is usually diagnosed by approximately age 3 (Autism Speaks, 2009b). Thus it seemed to make sense that autism would occur at this time (between the ages of 1 and 3) either because it was the time the child was first being separated from the mother and thus the child developed autism from this seemingly traumatic experience, or because it was the time the child was taken for his routine immunizations. Either way, the blame is placed on the parents, in particular the mother. If it was poor parenting or parents taking their children for vaccines that cause autism, then the prevalence of autism could be reduced with a few changes in behaviour or parenting skills. If that were the case, autism wouldn't be around any more, but it is. It is no wonder such theories were so contested and the search for a cause of autism continued.

Biological Autism

It was a psychologist by the name of Rimland who changed the perception of autism as a mental illness and recognized it as a biological disorder (Sicile-Kira, 2003). Now it is generally agreed upon by most researchers that autism is the result of a range of brain abnormalities (Alloy et al. 2005). Santangelo & Tsatsanis (2005) explain how autism is a neurodevelopmental disorder originating in the genes with 90% heritability. However there is no single gene known to be responsible for autism. Rather a combination of up to 15 or more genes is seen to play a role (Santangelo & Tsatsanis, 2005).

According to Baron-Cohen (1997) the risk of autism in identical twins or biological siblings is considerably high. For example, if one identical twin is autistic, the other is 60-95% likely to also present with this disorder, even if the expressions and severity of the autistic spectrum disorder (ASD) differs between the two (Sicile-Kira, 2003). Children presenting with a genetic form of autism are seen to have either a sibling or a first cousin also with autism (Siegel, 1996). In fact the presence of autism in one child is a risk factor for this disorder in the child's siblings (Alloy et al., 2005). Siblings of children with autism are 50 times more likely to be at risk for this disorder when compared to the risk found in the general population (Tsai, 2004). Families of those with autism are also shown to have a high percentage of relatives with other cognitive disabilities such as speech or learning disorders (Aarons & Gittens, 2002).

Although for a long time the favoured etiology for autism has been genetic predisposition, this alone cannot explain the drastic rise of ASD's in recent years. More resent research is focusing on the combined role that biological and environmental factors play in the development of autism. Frith (1989) explains that many studies have shown that environmental factors such as complications during pregnancy and birth are found more often in autistic children than other children. An increased risk of autism has been found to be associated with decreased birth weight, a mother's previous termination of pregnancy, a father's increasing age, poor maternal education and a late start in prenatal care (Burd, Severud, Kerbeshian & Klug, 1999).

Viral infections and dysfunctions in the immune system can also in some cases be seen as resulting in the onset of autism. Viral infections in pregnant mothers or viral infections in the early years of the child's life have shown to precede the emergence of typical autistic features (Frith, 1989). Aarons & Gittens (2003) explain a theory that a virus, affecting the baby before he is born, may remain dormant until it becomes activated by stresses in life such as the birth of a sibling. This then leads to the onset of autism. This theory helps to explain why some parents report normal development of their child until some stressful experience after which they became autistic. Thus it is highly likely that genetic predisposition combines with environmental factors which together affect the immune system, sensory nervous system, the brain and the gastrointestinal tract thus resulting in ASD's (Sicile-Kira, 2003).

Over the years there have been many differing hypotheses and theories regarding the etiology of autism with research in this area being an ongoing endeavor. In light of the seeming uncertainty in this area, Frith (1989) suggests that rather than looking for a singe cause of autism the search should occur around the *causal chain* of autism. He explains the links in the chain as including hazards, havoc and harm. The nature of the hazard varies, as can be seen in the various explanations given above. It may be one of gene or chromosome abnormalities, viral infections, and immune deficiencies, problems during pregnancy or birth or metabolic disorders. These hazards, as Frith (1989) goes on to explain, have the potential to disrupt the development of neurons and subsequently cause harm to the developmental process of various brain systems.

DEBATE 2: The treatment of autism – is there a cure?

The controversy in the debate concerning what causes autism is echoed by the seemingly more controversial debate as to the way autism and other autistic spectrum disorders should be treated. Part of the treatment debate concerns the inquiry into weather or not autism can actually be cured. It would appear that some of the disorders on the autistic spectrum would be more amenable to treatment than others, in particular Asperger's disorder as one of the more high functioning autistic disorders. However, while there are many useful interventions which may help a person with autism, according to the National Autistic Society (2008b) there is currently no known cure. Children with autism need both educational and therapeutic interventions due to the many behavioural and learning challenges they experience (Campbell et al., 1998). Thus, while those with autism may not be cured from their disorder, they can be helped to better function in everyday life. The earlier the diagnosis is made, the sooner intervention can begin and the better the prognosis for the child (Sicile-Kira, 2003). Autism appears to improve with age as the child is exposed to a number of various interventions and as they learn certain coping strategies and skills necessary for everyday life (Baron-Cohen, 1997). Thus, a diagnosis of autism should by no means imply a sense of hopelessness for either the child or his parents (Aarons & Gittens, 1992).

Many more doctors and researchers are now referring to autism in its plural (autisms) based on the fact that each case of autism is different. Since the causes of autism are different in

each case so are the therapies and means of treatment (Falco, 2009). Thus any treatment intervention needs to be tailored to the specific needs of the autistic child. The possible treatment modalities discussed below are in no way meant to be an exhaustive list of possible treatment options. I merely wish to provide a narrow overview of the many and various interventions available to children on the autistic spectrum. My lack of experience in this area in no way places me in a position to dictate which is the most effective to use. Looking to research in this area appears to suggest that every treatment has had cases of success depending upon the child to whom the intervention is applied. I believe as upcoming professionals, it is important to be aware of what's out there, to make treatment decisions jointly with all stakeholders in the child's life and to record the child's behaviour prior and subsequent to any treatment administered in order to track his changes. This will assist in the decision regarding the most effective treatment for the child.

According to Sicile-Kira (2003) when deciding on the most beneficial and suitable treatment for a child with autism, one needs to consider any potential risk of the treatment on the child, the dynamics of the family, the cost of the treatment, whether the treatment fits in with the programme in which the child is already involved and the evidence validating the method of treatment. Whether or not is has proved effective used with other autistic children, how the treatment effectiveness will be measured and tracked, the professional level of the treatment providers and whether the treatment provider knows all the necessary information regarding the child are also important factors to consider (Sicile-Kira, 2003). The treatment of those with autism is also determined by their chronological age. Very young children will have different treatment needs, for example a focus on vocabulary, while treatment for older children, who may already have a concrete vocabulary, may focus more on the development of social skills (Sicile-Kira, 2003). Overall the most important areas in need of intervention are the child's socioemotional and communicative abilities. Development in these areas is associated with better long-term outcomes for the child (Prizant, Wetherby, Rubin & Laurent, 2003).

Skills based treatments

The focus of skills based treatments is the development of skills required for the child with autism to be able to function better in life (Sicile-Kira, 2003). Applied behavioural analysis (ABA), picture exchange communication system (PECS), social stories and speech therapy are just four of the skills based treatments available to children with autism.

Applied behavioural analysis (ABA)

Principles from behaviourism, for example positive reinforcement in which a desired behaviour is rewarded and thus reinforced, have been used in the treatment of children with autism. It is based on the premise that our "behaviour is shaped by the consequence of our actions, meaning that we are motivated by the consequence to repeat that behaviour" (Sicile-Kira, 2003, p.83). Irrespective of the age of the child with autism, the primary goal of ABA is to assist the child to develop the behaviour required for him to function more independently in a variety of environments (Autism Speaks, 2009c). Positive reinforcement can be used to build communication and social skills, to assist the child in play, academic or self-care activities (Autism Speaks, 2009c). Task analysis is an example of an ABA technique where a task or skill is broken down into the steps required for its completion (Sicile-Kira, 2003). The child then learns these steps so he is able to carry out the task in his everyday life. It is important, with such an intervention, that the child is clearly assessed regarding his or her preferred reward systems as many of the traditional rewards, such as clapping, touching or verbal praise are not seen by many autistic children as rewarding (Research Autism, 2008).

Early Intensive Behavioural Intervention (EIBI) programmes have been shown to be effective in many autistic children. In their literature review Goin-Kochel, Myers, Hendricks, Carr, & Wiley (2007) point to various studies indicating improved linguistic, cognitive and adaptive functioning of some children on the autistic spectrum having undergone EIBI. Results from their own study on the effects of EIBI on a sample of preschool children revealed that some children had small and some substantial improvements over time. Thus while EIBI has great potential for improvement in some autistic children, it does not always render such substantive changes in others.

Picture exchange communication system (PECS)

PECS is an intervention targeted at those children with autism who have little or no verbal communication skills. It provides an alternative means of communication more amenable to the child with autism, as it allows the child to communicate via the use of picture cards (Autism Speaks, 2009c). According to Sicile-Kira (2003) not only does this encourage the child to communicate, it also facilitates interaction with others. Thus children are able to communicate their needs, desires or feelings through the use of pictures, providing a visual rather than a verbal means of communication. The parent or caregiver creates cards with certain images and works with the child to help them learn that by handing over a certain card (for example, with a picture of food) they will receive the desired object (Autism Speaks, 2009c). As times goes by, the number of cards and thus the number of words in the child's vocabulary increases. It is believed that providing an alternative means of communication reduces the child's anxiety and frustration and thus lessens the likelihood of undesirable behaviour (Autism Speaks, 2009c). Colours, numbers and reading can all be taught by means of PECS (Sicile-Kira, 2003). PECS is relatively easy, cost effective and not excessively time consuming to implement. Both parents and professionals have reported positive results concerning the use of PECS (Research Autism, 2008) and many children who began communicating using PECS later developed verbal language (Sicile-Kira, 2003).

Social stories

Since many children with autism have mindblindness, as presented above in the theory of mind (Baron-Cohen, 2000), they find it difficult to understand the way other people think and that the plans and reference points of others may be different to their own. In this method of intervention, the child with autism works with the care-giver or professional to create a story based upon a social situation. From the story direction is given as to the desired social responses and behaviour required in the situation (Sicile-Kira, 2003). In so doing it provides a means for the child to learn socially appropriate behaviour. A study on the effectiveness of social stories revealed a 15-30% increase in participation of children with PDD-NOS when the child was placed in novel situations (Ivey, Heflin & Alberto, n.d.).

Speech therapy

The association Autism Speaks (2009c) explains that autistic children have varying communication abilities and while some may be able to effectively pronounce words, most struggle with effectively using language – such as knowing what to say, when to say it and how to say it. Speech therapy focuses on the development of both joint attention and social initiation. While joint attention entails eye contact and gestures such as pointing, social initiation entails questioning or other use of language to initiate social interaction. In cases where verbal communication is not realistic, the focus may be on communication through gestures or other symbols such as picture cards (Autism speaks, 2009c).

Physiologically based treatments

Since the mind and the body are so closely connected, having a healthy body ensures more effective learning processes in the mind. Physiologically based treatments include biomedical and dietary interventions as well as therapies addressing sensory issues (Sicile-Kira, 2003).

Special diet

Nutritional and dietary interventions have also found success as part of the treatment of autism. In particular, the Gluten Free Casein Free (GFCF) diet has become a popular means for parents to intervene in their autistic child's dietary habits. Gluten – found in barley, oats, rye and wheat – and casein – found in dairy products – are proteins believed to be absorbed differently by those with autism and other autistic spectrum disorders. These proteins, it is hypothesized, rather than being advantageous for the body, act as opiate-like chemicals in the brain (Autism speaks, 2009c). In other words, the deficient breakdown of these food types affects the neurotransmission in the central nervous system (Sicile-Kira, 2003). Evidence for the effectiveness of a GFCF diet is at present inconclusive and weak (Research Autism, 2008). While studies to demonstrate the effectiveness of such a dietary intervention are still ongoing, individual cases seem to point to the advantages of its use. However consultation with a dietitian is required in cases where the GFCT diet is to be introduced in the child's life as supplements and alternative sources for these protein nutrients need to be implemented (Autism speaks, 2009c).

A downside to dietary interventions is that they may not be easy to implement. Children are often fussy eaters and the GFCF diet places strict restrictions concerning what may or may not be eaten. The cost involved in additional nutrient and vitamin supplements is also expected to be high. Jenny McCarthy, a mother of an autistic child and author of books *Louder than Words* and *Mother Warriors* believes strongly in this method of intervention. During her appearance on the Oprah Winfrey show she strongly promoted such an intervention claiming the healing of her autistic son as evidence for its effectiveness.

Sensory Integration Therapy (SIT)

SIT is one of the therapies practiced by occupational therapists. This therapy is practiced around the belief that children with autism exhibit certain behaviours in their attempt to either avoid certain stimuli or seek certain sensations (Sicile-Kira, 2003). Sensory integration refers to the process in which the brain interprets external stimuli such as touch, smell, sight, sound and movement. Children with autism are often seen as having a deficit in sensory integration resulting in them being either over sensitive or under sensitive to these stimuli. SIT thus seeks to assist the nervous system in processing this sensory information in a more typical way. Through the use of neurosensory and neuromotor exercises, the brains functioning in this area is repaired (Autism speaks, 2009c).

Some children with autism are highly sensitive to sound and thus certain sounds are experienced as very painful to them (Sicile-Kira, 2003). *Auditory integration therapy* (AIT) may be of help to such children. One such method can be seen through the use of the EASe (Electronic Auditory Simulation effect) CD. The development of this CD was to assist in desensitization to common noise. In the case of autism, while this is by no means a cure for this disorder, it may assist the child in becoming more amenable to other methods of intervention. The majority of the CD plays soft music with random spurts of high frequency sounds. These spurts of high frequency sounds are short enough not to elicit negative reactions in the child, but have the effect of assisting the brain to familiarize itself to everyday common noises (Vision Audio Inc., n.d).

Chelation therapy

Epidemiological evidence has been found linking vaccines containing thimersal to various neurodevelopmental disorders (Geier & Geier, 2003). Thimersal is a mercury-containing preservative existing in some of the routine vaccines given to children at 18 months of age. Although this preservative was removed from these immunizations in 2002, they are still seen to contain other toxins and thimerosal still exists in the flu injection (Even better now, n.d.). Children are also exposed to various environmental toxins everyday. Children on the autistic spectrum experience a build up of these toxins as their bodies have a deficiency in metabolizing them. Chelation therapies thus provide a means by which these toxins can be removed from the body. Some experts hold the belief that other therapies and interventions methods are more successful once these toxic chemicals have been successfully removed and the child is biochemically balanced (Even better now, n.d.).

The downside to Chelation therapy is that if it is administered for the wrong reasons, it can have devastating effects. The cost of such treatments is also high and side effects are common, in particular when used on young children (Even better now, n.d.). Safer and more cost effective means of detoxifying the body have been developed and have been found to have extremely positive results when used with autistic children and other neurologically challenged children. One is a chelating dietary supplement called *Kids Chelat* and the other *Kids Clear Detoxifying Clay Baths* (Evenbetternow, n.d.). These products while having different means of administration, work in similar ways to detoxify the body. There have been numerous reports by parents of children experiencing improvements in communication, comprehension, speech, school grades, everyday activities such as potty training and eating with utensils, mood swings, temperament and interaction with others (Evenbetternow, n.d.).

Psychopharmacologic treatments

Although it has been suggested that the initial means of intervention for autistic children should be behavioural approaches (Siegel, 1996), traditional medications can be used to treat certain behaviours including for example anxiety, hyperactivity, depression and obsessive-compulsive or repetitive behaviours (Sicile-Kira, 2003). The use of antidepressant drugs in people with autism may serve to reduce certain repetitive behaviours. The drug *Melatonin* may

also prove useful in treating the sleep disturbances experienced by some individuals on the autistic spectrum. However more evidence is needed in both these areas of treatment (Research Autism, 2008). Certain antipsychotic drugs such as *Olanzapine* may be effective in the treatment of a number of symptoms of autism including aggression, hyperactivity and self-injurious behaviour. However use of such drugs is cautioned and is not the first choice of treatment largely due to their many side effects including vast gains in weight, increased appetite and drowsiness (Research Autism, 2008). *Risperidone* is another antipsychotic drug which may be used to treat problems such as irritability, hyperactivity and the repetitive behaviours experienced by those with autism. However once again, the use of such a drug has the potential for a number of side effects (Research Autism, 2008).

It appears that certain prescribed drugs may prove effective in treating particular signs or behavioural patterns of those presenting with autism or other autistic spectrum disorders. However, while this may be the case I do not believe drugs alone can stand as an effective means of intervention simply because, as already stated, autism is a disorder, not a disease (Even better now, n.d.). While drugs may be used to reduce certain secondary symptoms and may allow the child to become more amenable to other interventions, it cannot go alone. As Bryson, Rogers & Fombonne (2003) suggest, although medication may assist in a reduction of autistic "symptoms" they should not be seen as either a cure or a substitute for other means of intervention. If drugs are used, it is my belief that hand in hand with their use needs to go other interventions focusing on improving the core impairments of autism, namely communication, social integration and social imagination.

Combined treatments

TEACCH

TEACCH (Training and Education of Autistic and Related Communication Handicapped Children) is a special education based programme that may be of benefit to an autistic child. TEACCH is an approach based upon skill attainment and requires a collaborative relationship between the parent and the professional dealing with the autistic child (Sicile-Kira, 2003). With such a programme, the autistic child works in a very much structured environment and is assisted

in moving through a series of activities (Autism speaks, 2009c). However while such a programme may be beneficial to those who follow it, it may be argued that the extent to which the programme achieves positive outcomes rests primarily upon the experience and skills of those involved in its implementation (Research Autism, 2008). Another criticism by Sicile-Kira (2003) is that while learning may be made easier for the autistic child through the creation of a structured environment, this may remove some of the stressors which create the conditions for natural learning to occur in the first place. The organization *Autism South Africa* does currently offer training workshops for TEACCH.

PRT – Pivotal Response Treatment

Pivotal response treatment (PRT) makes use of a developmental approach and borrows procedures from applied behavioural analysis (Koegel, Openden, Fredeen & Koegel, 2006). PRT is based primarily upon the hypothesis that autism is a far less severe disorder than originally thought and that the most severe aspects of the disorder are the side effects resulting from a process of abnormal development. By aiming early intervention at these core areas of development, these side effects are reduced as the child is placed in a more normal course of development (Koegel et al., 2006). This is an ongoing and consistent intervention implemented across all areas of the child's life. For this reason, PRT stresses the importance of involvement by all those who interact with the autistic child including parents, siblings, teachers and peers (Koegel et al., 2006). PRT aims to create opportunities for learning that occur within the child's natural environment. Targeting pivotal areas leads to changes in other areas of the child's life. For example, with the targeting of motivation as a pivotal area, deficits in joint attention are addressed which subsequently assists the child with improved social communication (Koegel et al., 2006). In other words focusing on helping the child become motivated to respond to a communicative other, they learn how to focus simultaneously on an object and a person and thus they learn how to communicate with the other in a social setting. PRT acknowledges that in the design of an effective intervention, because such a focus is placed upon the role of the parents and family, that the sociocultural environment as well as the daily routines and value system of the family must be considered (Koegal et al., 2006).

The SCRETS model, also a combined intervention, is similar to PRT in many respects but different in that it has a reliance on visual supports – such as photographs or pictures – to help assist the child with communication and regulation of emotions (Prizant, Wehterby, Rubin, Rydell & Luarent, 2006 in Autism Speaks, 2009c). The SCERTS model is a comprehensive and team-based model that focuses on *Social Communication* and *Emotional Regulation* in children with autistic spectrum disorders as well as realizing the importance of *Transactional Supports* for these individuals and their families (Prizant et al., 2006 in Autism Speaks, 2009c). It is both a child-centered and family-centered approach focusing on prioritizing developmental goals both for children with autistic spectrum disorders as well as for their families. It considers the role of others interacting with the child as well as the role of the environment in impacting the long term development of the child (Rubin & Laurent, 2004). Prizant et al. (2003) explain how intervention programmes for autism either fail to integrate practices from various different methods or integrate them in a fragmented way by combining practices that may not fit well together. Thus there is a need for a comprehensive model, such as SCERTS, that is based on empirical research, is flexible, is capable of being individualized and is able to center on the family (Prizant et al. 2003).

Other interventions

Individual psychotherapy – play therapy

Originally psychoanalysis was the main treatment offered to those with autism, as rather than being seen as a developmental disorder as it is at present, autism was seen as a mental illness (Sicile-Kira, 2003). With the once firmly held belief that autism was caused by bad parenting and unresponsive mothers, psychotherapy was aimed at helping the child through these issues of conflict (Jacobsen, 2004). According to Sicile-Kira (2003) while today psychotherapy is not considered effective in the treatment of autism itself, it has been argued that such a treatment may be specifically valuable in the treatment of those with the higher functioning autistic spectrum disorder Asperger's. Although those with Asperger's disorder have a good command of language and are able to communicate, they still experience difficulty in understanding or even recognizing the perspective of others (Jacobsen, 2004). Individual psychotherapy, or play therapy, with these children creates the space in which both the therapist and the child learns how the other thinks.

This is able to assist the child to cope more successfully in everyday life and in living in a world that thinks differently to them (Jacobsen, 2004). However non-directive play therapy may also be a successful means of intervention for other autistic children, even when the autism is quite severe. A case study of a severely autistic 6 year old boy showed that through the use of non-directive play therapy, he was able to improve in both pretend play and the expression of autonomy. This child was also able to enter a therapeutic relationship and transfer changes made in therapy to other contexts such as the home (Josefi & Ryan, 2004).

In the context of South Africa

Many of the treatments on offer for autism can be costly and often require the child to visit a number of health professionals including occupational and speech therapists, psychologists, psychiatrists and doctors. It is simply not always practical to expect so much from those in the context of South Africa where the majority of families simply cannot afford such long term treatment. The impact the autistic child has on the family is also immense. Living with and raising an autistic child requires much dedication and hard work from care givers, parents and siblings. It is often heard that families break up as the result of being unable to cope with an autistic child. There have been claims that 80-90% of parents of children with autism end their marriage with divorce. However no empirical data to confirm this was found. In fact, a study by Bayat (2007) provided evidence for substantial resilience in families with an autistic child, where the family was strengthened as the result of such disability. Despite this, I agree with Rudy (2008) that these families are under added stress which has the potential for breaking up marriages.

It is for these reasons I believe strongly that treatment for a child with autism should involve others in the child's life. Since the earlier the intervention, the better the prognosis (Sicile-Kira, 2003; Campbell et al., 1998), it is often the case that intervention begins in the home with parents acting as the primary means of implementation (Campbell et al., 1998). Parents need to be pointed to resources available to them such as support groups and other fundraising initiatives offered by agencies such as *Autism South Africa* and *Action in Autism*. Through

support groups parents and caregivers come to learn of the experiences of others, realize they are not alone and receive helpful suggestions along the way.

Conclusion

While it may be largely accepted that autism and other autistic spectrum disorders are genetic in nature (Bohm & Stewart, 2009) with environmental factors playing a role (Frith, 1989; Falco, 2009), the second debate concerning the best way in which autism should be treated is far more controversial. This however does not mean that one should feel hopeless or overwhelmed at the thought of seeing an autistic child in therapy. You, as a psychologist, will not be carrying the burden of responsibility alone. Both parents and siblings are very important stakeholders in the child's treatment. Not only will you be working alongside the child's family but also alongside other professionals. Apart from the necessity of involving the family in your work with an autistic child, I believe dealing with the concerns of the parents is also important. It may at times be necessary to assist the parents with their own emotional struggles and sense of bewilderment or hopelessness they may sometimes feel. Sicile-Kira (2003) suggests families with an autistic child need to realize their lives may not be as they envisioned, but that they need to focus on building the life they do have. Since the primary difficulty experienced by autistic children concerns their ways of communicating and socializing in a world they find so different to their own, it would seem a focus in our psychological line of work would be to provide a space in which this understanding can occur. While some children may be too severely autistic to benefit from such an intervention, others will be more amenable. In providing such a space, not only will you come closer to understanding the world of the autistic child, but they will come closer to understanding your world and thus the worlds of those around them. Since the bridge dividing these two worlds is narrow, high and precarious (Miller, 2006) it requires extra time and patience to cross. This task, while seemingly challenging and fraught with its own difficulties, I believe can be equally rewarding. I end with a quote that points so poignantly to the individual uniqueness of each child, and in this case, each child with autism, and how despite being different they too deserve the chance to be themselves. "As each star differs in brightness, so do the children of man yet each serves his purpose and each is entitled to an opportunity to achieve his full potential" (Morray, 1979 in Miller, 2006, p.13).

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Appendix A: Checklist for Autism in Toddlers

The Checklist for Autism in Toddlers is a screening tool to be used by GP's during the 18 month developmental checkup.

Section A - Ask Parent:

Yes or No?

____ 1) Does your child enjoy being swung, bounced on your knee, etc?

____ 2) Does your child take an interest in other children?

____ 3) Does your child like climbing on things, such as up stairs?

____ 4) Does your child enjoy playing peek-a-boo/hide-and-seek?

____ *5) Does your child ever pretend, for example, to make a cup of tea using a toy cup and teapot, or pretend other things?

____ 6) Does your child ever use his/her index finger to point, to ask for something?

____ *7) Does your child ever use his/her index finger to point, to indicate interest in something?

____ 8) Can your child play properly with small toys (e.g. cars or bricks) without just mouthing, fiddling, or dropping them?

____ 9) Does your child ever bring objects over to you, to show you something?

Section B - GP's observation

Yes or No?

____ i) During the appointment, has the child made eye contact with you?

____ *ii) Get child's attention, then point across the room at an interesting object and say "Oh look! There's a (name a toy)!" Watch child's face. Does the child look across to see what you are pointing at?

NOTE - to record yes on this item, ensure the child has not simply looked at your hand, but has actually looked at the object you are pointing at.

____ *iii) Get the child's attention, then give child a miniature toy cup and teapot and say "Can you make a cup of tea?" Does the child pretend to pour out the tea, drink it etc?

NOTE - if you can elicit an example of pretending in some other game, score a yes on this item

____ *iv) Say to the child "Where's the light?" or "Show me the light". Does the child point with his/her index finger at the light?

NOTE - Repeat this with "Where's the teddy?" or some other unreachable object, if child does not understand the word "light". To record yes on this item, the child must have looked up at your face around the time of pointing.

____ v) Can the child build a tower of bricks? (If so, how many?) (Number of bricks...)

* Indicates critical question most indicative of autistic characteristics