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Under identification of speech and language impairment in children attending a special school for children with emotional and behavioural disorders

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Abstract

The link between language impairment (LI) and behaviour difficulties in children and adolescents is well established. There are reported incidence rates for LI of up to 50 per cent in children attending psychiatric clinics, rising to 70 per cent for children with Attention Deficit Hyperactivity Disorder (ADHD). However, the depth and breadth of research knowledge is not reflected in clinical practice either in Health nor Education. As many as one third of children referred for psychiatric intervention will have unsuspected LI, with consequent under referral to speech and language therapy services. This will have an obvious and adverse effect on the child’s ability to access available services.

The study reported here examined the level of staff awareness of LI in a special school for children with emotional and behaviour difficulties (EBD). Results showed that the prevalence of LI in the school was 74 per cent, while less than half of these children had been identified by teachers or health professionals.

If this school is typical of others, levels of identification of LI in children with behaviour difficulties, including ADHD appear to remain low. Raising awareness of LI by education and training is suggested as the most appropriate way to address this issue as would benefit the whole population of the school, not just children with particular psychiatric diagnoses.

Introduction

The association between language impairment (LI) and emotional and behavioural difficulties (EBD) in children and adolescents has long been recognised. Early research into this comorbidity suggested that approximately 50 per cent of children with LI also demonstrated symptoms of a psychiatric disorder compared with 10 per cent for the normal population (Baker & Cantwell, 1982; Cantwell & Baker, 1991). More recent research has continued to show elevated rates of behavioural disturbance, both among participants attending Speech and Language Therapy clinics (Cantwell & Baker, 1991; Semrud-Clikeman et al., 2000) and in those identified as language impaired from epidemiological samples (Beitchman et al., 1986; Tomblin et al., 2000). LI has also been shown as a predictor of later psychiatric problems, with follow up studies of children identified as language impaired at age 5 showing increased prevalence of behaviour disorders in adolescence (Beitchman, et al., 2001; Benasich, Curtiss & Tallal, 1993; review by Stevenson, 1996) and psychiatric disorder in adulthood (Clegg et al., 2005).

An increased prevalence of language impairment has been noted within the population of children diagnosed as having psychiatric disorders. Studies of children attending mental...
health outpatient clinics (Cohen et al., 1993; Kostopoulos & Boodoosingh, 1987) and specialist educational units, (Burgess & Bransby, 1990; Cross, 1997) have reported high rates of language difficulties. Estimates suggest that between 45 per cent (Tirosh & Cohen, 1998) and 94 per cent (Burgess & Bransby, 1990) of children with behavioural disturbance also have difficulties in at least some areas of language. When compared with a prevalence of approximately 10 per cent in the general population, it becomes apparent that this level of language impairment cannot be coincidental (Cantwell & Baker, 1991). Despite studies that have considered populations presenting with both primary language disorder and primary psychiatric diagnosis, the direction of association is not proven.

Qualitative examination of the communication deficits associated with EBD demonstrates that there are particular areas of speech and language impairment that are more likely to co-occur with psychiatric disturbance. It has consistently been found that language (semantic, syntactic) rather than speech (phonology, articulation) difficulties are more closely associated with EBD. For example, Beitchman in his 1 in 3 survey of five year olds (Beitchman et al., 1986) reported that rates of EBD in children with articulation impairments and no LI were similar to the rates found for normal controls. Cohen, Barwick et al. (1998) suggest that children with LI exhibit greater deficits in social cognitive processing, and particularly emotion decoding and social problem solving, than children with normally developing language. It is not surprising therefore that higher rates of EBD are reported in children with low levels of linguistic functioning, whether it is mainly receptive or expressive or both expressive and receptive (Beitchman et al., 2000; Caulfield et al., 1989; Cohen, 1996; Cohen et al., 1993).

ADHD has been consistently identified as the most common psychiatric diagnosis found in children with LI, both in epidemiological samples (Beitchman et al., 1989; Beitchman et al., 1986), and clinical studies (Cohen et al., 2000). Children with ADHD are also considered to be at a high risk for language impairments, with some studies placing the prevalence of LI among this population as high as 75 per cent (Tannock & Schachar, 1996).

The triad of impairments (inattention, impulsivity and hyperactivity) that characterises ADHD is believed to stem from a deficit in behavioural inhibition, resulting from impairment of executive functions located in the frontal lobes (Barkley, 1997). Some researchers (Tannock & Schachar, 1996; Temple, 1997) have therefore suggested that children with ADHD may exhibit specific linguistic deficits resulting from this central impairment. Cohen and colleagues (2000) in their 2 2 study (ADHD, LI), consisting of four sets of participants: ADHD only, ADHD+LI, Other Psychiatric Disorder (OPD) only and OPD+ LI concluded that there is no evidence to show that ADHD is associated with deficits in any specific area of language, whether structural or pragmatic. There is a lack of consistent evidence surrounding the differential language abilities of children with ADHD and more generalised EBD.

Many psychiatric assessments and treatments presuppose that a child has an age appropriate ability to understand and use language. Failure to recognise a language impairment can result in a false evaluation of a child’s psychiatric function, as they may be unable to communicate their thoughts and feelings effectively. Inappropriate responding, poor turn taking skills and other characteristics of the communication of children with LI may
mistakenly be perceived as symptoms of a psychiatric disorder. Redmond and Rice (1998) examined two commonly used scales: the Child Behaviour Checklist and the Teacher’s Report Form (Achenbach, 1991; Achenbach & Edelbrock, 1986) and found that they both contained items which were specifically related to language. The items in question describe difficulties commonly observed in children with LI, specifically; has difficulty following directions, refuses to talk and speech problems. When these items were removed, no significant differences in behaviour, with the exception of attention, were found between a group of children with specific language impairment (SLI) and a normal control group. It is therefore also possible that the under identification of LI is in parallel to the over diagnosis of psychiatric disorder in children and adolescents.

Despite the increasing interest in this area, and the clear relevance of language functioning in behaviour problems, many children with EBD and concomitant LI are not identified by education or mental health professionals. Cohen et al. (1993) reported a rate of 34 per cent of unsuspected LI in her study of children attending a mental health unit and this trend has been supported elsewhere in the literature (Burgess & Bransby, 1990; Cohen, 1996; Cohen, Menna et al., 1998; Kostopoulos & Boodoosingh, 1987). This is not a finding specific to this special population. This low level of identification of LI in children is reflected in the general school population, where teachers have little or no training in normal language development and are poor at identifying children with language disorder or delay once they enter school (Hauerwas & Stone, 2000; Williams, 2006).

As a consequence of low levels of identification of potential LI, there is a low level of referral to specialist speech and language services for appropriate assessment and support. This in turn can contribute to long-term academic and social failure (Clegg et al., 2005; Snowling, Adams, Bishop & Stothard, 2001). A speech and language assessment and increased awareness of receptive or expressive language difficulties can bring some relief to children and the adults involved in their care. A diagnosis of language impairment may lead to a reduction in negative reactions by parents and teachers to behaviour disturbances (Cohen, 1996) or even in the behaviours themselves (Funk & Ruppert, 1984). Relatively simple strategies, such as using short sentences, appropriate vocabulary and increased use of visual cues can be implemented with little specialist support, to help communication between the child and those around them.

It is clear, therefore, that early identification and awareness of language difficulties is essential, particularly in the classroom where these children are most likely to experience failure. It has been reported (Redmond & Rice, 1998) that teachers are the adults in a child’s environment most likely to identify them as having behaviour problems. Despite this, few studies have examined teachers’ levels of awareness of language difficulties among children with EBD.

This study has two aims:

1. To investigate the incidence of LI in a population of school children experiencing a range of emotional and behavioural difficulties;

2. To examine the correlation between the findings of the assessments and the school teachers’ perceptions of the language abilities of the participants.
Two hypotheses are proposed:

1. There will be a high incidence of LI within a school for children with EBD and ADHD compared to a mainstream school;

2. There will be a discrepancy between the number of children with LI and the number identified by their teachers.

**Method**

**Participants**

The sample comprised 21 pupils attending a special school for children with emotional and/or behaviour difficulties (EBD). The participants were all male and their age at first assessment ranged from 8 years and 3 months to 13 years and 5 months with a mean age of 11 years and 4 months (standard deviation 1 year 6 months). The participants were selected on the basis of parental permission and the pupil’s willingness to participate in the study. Full written and informed consent was obtained from parents before the commencement of the study. There were no exclusion criteria. At the time of this study there were two girls in the school (out of a total of 48 pupils); parental consent was not returned for either girl. In the school in question, all pupils had Statements of Special Educational Need, two thirds were entitled to free school meals and a quarter was, or had been, in Local Authority care. All pupils had English as their first language (www.ofsted.gov.uk). Prior to the study the school had regular weekly SLT input to work with individual children who had been referred to the local SLT Service.

**Measures**

There were three components to the investigation: parental questionnaire, teacher questionnaire and formal assessment of each participant’s language and non-verbal intelligence skills.

*Parental questionnaire.* Parents were asked:

- if their child had ever received a referral to speech and language therapy services;
- if so, what form intervention took, and how long it lasted;
- whether their child had attended a local child psychiatric outpatient clinic;
- whether they had a diagnosis of ADHD;
- details of any medication currently being taken.

*Teacher Questionnaire.* Class teachers were asked:

- to provide information on each child’s literacy abilities;
- to describe the child’s behaviour both within and outside the classroom;
- were they aware if the child had a psychiatric diagnosis, e.g. ADHD;
- if they thought the child had speech or language problems;
- if so, what form these took.

*Formal Assessment.* All assessments were carried out by the same examiner, a speech and language therapy student, under supervision of a specialist speech and language therapist.
The examiner was blind to the results of the two questionnaires until all testing had been completed.

- Raven’s Coloured Progressive Matrices (CPM) (Raven, 1962), a measure of nonverbal cognitive skills. The child has to choose the missing piece of a design from a choice of six possibilities.
- The Test of Word Knowledge (TOWK) (Wiig & Secord, 1992), expressive and receptive single word vocabulary subtests. Expressive single word vocabulary is assessed by asking the child to provide a single word answer to a question with a picture cue. Receptive single word vocabulary is assessed by asking the child to point to one from a choice of four pictures in response to spoken single word stimulus.
- The Clinical Evaluation of Language Fundamentals – 3 UK norms (CELF-3UK) (Semel, Wiig & Secord, 2000). The following receptive (R) and expressive (E) subtests were used:
  - Concepts and Directions (R), the child identifies pictured geometric shapes in response to oral directions of increasing length and complexity;
  - Word Classes (R), the child must select the two words that go together best of three (or two of four) verbally presented words;
  - Semantic Relations (R) the child listens to a set of facts, and make 2 choices from 4 visually presented options, 2 of which are correct;
  - Formulated sentences (E), the child describes a stimulus picture in one sentence using an orally presented word (or transition phrase) that is appropriate to the context of the picture;
  - Recalling sentences (E), the child repeats sentences of increasing length and complexity as presented verbally by the examiner;
  - Word Associations (E), Participants are asked to list as many members of one category, for example, animals, as possible in one minute. Many of the participants had severe literacy difficulties reported by their teachers. Consequently, in accordance with the examiner’s manual, the Word Associations subtest was substituted for the Sentence Assembly subtest.

Definition of Language Impairment (LI) There is much debate surrounding the definition of language impairment as used in research. Many researchers (e.g. Cole, Dale & Mills, 1990; Law, Boyle, Harris, Harkness & Nye, 1998) have attempted to examine the issues involved and objectively define LI, but as yet there is no widely accepted standard definition.

In this study, we were aiming to identify children with previously undiagnosed LI in a population of children for whom mainstream education was not appropriate due to their difficulties in adapting to a classroom environment. In addition to their behaviour problems, many of the children may have some form of undefined learning difficulty. Using a pragmatic combination of Chronological Age Referencing (CAR) and Cognitive Referencing (CR) methodology (Cole et al., 1990) LI was diagnosed in cases where one or more of a participant’s language subtest scores (TOWK or CELF-3UK) fell at least 10 percentiles below their score on the test of non-verbal intelligence (Raven’s CPM) than 1.5 standard deviations below the mean for the assessment.

Distinction between ADHD and other EBD
Within the school there is good liaison with health services and a high level of teacher awareness of the different types of behaviour disorders. A robust and well established process for the differential diagnosis of ADHD and other types of behaviour disorder exists in concert with local Child and Adolescent Mental Health Services (CAMHS). Children with symptoms of ADHD are identified quickly and referred through this agreed process. Diagnosis of ADHD is made by a child psychiatrist or specialist paediatrician, following DSM IV (APA, 1994). Participants without this diagnosis were defined as having emotional or behavioural difficulties (EBD), including conduct disorder, emotional disorders such as anxiety, hyperkinetic disorders and attachment disorders (DfES 2001). All the participants with ADHD were medicated with methylphenidate (Ritalin) at the time of testing, and none of the participants was taking any other medication. All participants were routinely under the care of a specialist paediatrician.

**Results**

Twenty-one participants were included in the study. Formal assessment, teacher and parent questionnaires were completed for 19 participants. Two participants were excluded from the final analysis because it proved impossible to obtain formal assessment data, due to their repeated inability to co-operate with the assessments despite consenting to attend the assessment session. Eight participants were diagnosed as having ADHD, the remaining 11 fell into the EBD category. The results of the parent and teacher questionnaires, together with age and diagnostic information for the 19 participants are shown in Table 1.

**Prevalence of LI**

Of the 19 children assessed, 14 (74 per cent) met the criteria for language impairment on the basis of a discrepancy between their verbal and non-verbal test scores as described in the method section. This is over 60 per cent higher than would be expected from prevalence figures concerning the general population attending mainstream schools. The prevalence of LI is equivalent in the ADHD and EBD groups. Six of the 8 participants with ADHD had LI (75 per cent) and 8 of the 11 EBD participants (73 per cent).

The remaining five participants all obtained Raven’s matrices (non-verbal intelligence) scores at the fifth percentile or lower. These participants were designated, for the purpose of this study, as having global delay, although no definitive diagnosis could be made due to the narrow range of assessment used.

**Identification of LI by teachers**

There was a low level of identification of language impairment by teachers. Eight (57 per cent) of the 14 participants diagnosed as language impaired were identified by their class teacher as having difficulties with language. None of these eight was receiving extra help with language in school, either from a teacher or speech and language therapist.

Descriptions of their difficulties varied in depth and accuracy, ranging from ‘poor vocabulary’ and ‘difficulty with some speech sounds’ to ‘difficulty understanding instructions’, ‘does not ‘get’ jokes’. The agreement between teachers’ perceptions of language difficulties and the findings of formal assessment varied. One teacher’s reports of the language difficulties experienced by participants in her class correlated exactly with the assessment results. In
other cases however, teachers did not identify language difficulties in any of the children subsequently diagnosed as language impaired. Two of the participants diagnosed as having a more global delay by the assessment were identified as having speech or language difficulties by their teacher: one reported dysfluency, and the other reported ‘generally immature language’.

<table>
<thead>
<tr>
<th>Age (y:m)</th>
<th>EBD/ADHD</th>
<th>LI</th>
<th>Previous SLT involvement?</th>
<th>Teacher identified LI?</th>
</tr>
</thead>
<tbody>
<tr>
<td>10;4</td>
<td>ADHD</td>
<td>Yes</td>
<td>None</td>
<td>No</td>
</tr>
<tr>
<td>10;7</td>
<td>ADHD</td>
<td>Yes</td>
<td>Assessed</td>
<td>No</td>
</tr>
<tr>
<td>12;10</td>
<td>ADHD</td>
<td>No</td>
<td>None</td>
<td>No</td>
</tr>
<tr>
<td>12;0</td>
<td>ADHD</td>
<td>No</td>
<td>None</td>
<td>Yes-dysfluency</td>
</tr>
<tr>
<td>12;1</td>
<td>ADHD</td>
<td>Yes</td>
<td>Assessed</td>
<td>No</td>
</tr>
<tr>
<td>12;3</td>
<td>ADHD</td>
<td>Yes</td>
<td>None</td>
<td>Yes – articulation, comprehension, vocabulary</td>
</tr>
<tr>
<td>8;3</td>
<td>ADHD</td>
<td>Yes</td>
<td>At 18 months</td>
<td>Yes-vocabulary, comprehensio</td>
</tr>
<tr>
<td>9;1</td>
<td>ADHD</td>
<td>Yes</td>
<td>None</td>
<td>Yes-comprehension, sentence expression</td>
</tr>
<tr>
<td>9;2</td>
<td>EBD</td>
<td>Yes</td>
<td>Referred At: 6;0. Did not attend</td>
<td>Yes – expression</td>
</tr>
<tr>
<td>9;6</td>
<td>EBD</td>
<td>Yes</td>
<td>None</td>
<td>Yes-comprehension, pragmatics</td>
</tr>
<tr>
<td>9;10</td>
<td>EBD</td>
<td>No</td>
<td>On going</td>
<td>Yes</td>
</tr>
<tr>
<td>10;9</td>
<td>EBD</td>
<td>Yes</td>
<td>None</td>
<td>Yes-phonology, voice</td>
</tr>
<tr>
<td>12;1</td>
<td>EBD</td>
<td>Yes</td>
<td>None</td>
<td>No</td>
</tr>
<tr>
<td>12;6</td>
<td>EBD</td>
<td>No</td>
<td>On waiting list</td>
<td>No</td>
</tr>
<tr>
<td>12;1</td>
<td>EBD</td>
<td>Yes</td>
<td>On waiting list</td>
<td>Yes – poor vocabulary</td>
</tr>
<tr>
<td>13;5</td>
<td>EBD</td>
<td>Yes</td>
<td>None</td>
<td>No</td>
</tr>
<tr>
<td>12;10</td>
<td>EBD</td>
<td>Yes</td>
<td>On going</td>
<td>No</td>
</tr>
<tr>
<td>13;1</td>
<td>EBD</td>
<td>No</td>
<td>None</td>
<td>No</td>
</tr>
<tr>
<td>12;0</td>
<td>EBD</td>
<td>Yes</td>
<td>Assessed</td>
<td>Yes-vocabulary, grammar</td>
</tr>
</tbody>
</table>

Table 1: Age, diagnostic and questionnaire information for each participant

Seven (50 per cent) of the 14 participants diagnosed as language impaired had been referred to speech and language therapy (SLT) services at some point in the past. Two of these participants had previously received articulation therapy and two were currently receiving or waiting for therapy in school. A further three participants had not been offered therapy due to difficulties with access for example, exclusion or other absence from school. Two of the participants not diagnosed as LI in this study were either receiving or waiting for therapy. One of these participants was being seen for a mild articulation difficulty (articulation was not assessed in this study) and the other for problems relating to global developmental delay.

**Discussion**

Nineteen children with either EBD or ADHD attending a special school for children with emotional and behavioural difficulties were assessed to determine the incidence of language impairment. The teachers’ awareness of the language difficulties experienced by the children was assessed by questionnaire. The results revealed a high incidence of LI within
the school, contrasting with a low level of teacher identification. The findings of the study confirmed the hypothesis that there would be a high incidence of language impairment within the school. The language assessment revealed that a high percentage (74 per cent) of the children with ADHD or EBD could be described as clinically language impaired. This compares with an estimated level of 10 per cent in the normal population (Cantwell & Baker, 1991) and supports previous findings (Burgess & Bransby, 1990; Cantwell & Baker, 1991; Cohen et al., 1993) that demonstrate the co-morbidity of language impairment and emotional/behavioural disorders.

Children with ADHD or EBD were equally likely to have a diagnosis of LI. Previous studies have compared children with ADHD to children with no behaviour difficulties (e.g. Oram et al., 1999) and concluded that ADHD places children at greater risk for LI. For this population at least, a diagnosis of ADHD as opposed to other emotional and behavioural difficulty does not place the child at greater risk for LI.

Teacher Questionnaires revealed that, despite a high incidence of LI within the school, the teachers identified only just over half of the participants as having difficulties with language. This supports the initial hypothesis that there would be a discrepancy between the results of formal language assessment and teachers’ concerns about speech and language abilities. Eight out of the fourteen children diagnosed as LI were reported as having difficulties with speech or language by their class teachers, an identification rate of just over 50 per cent. This translates to 42 per cent of the school presenting with an unsuspected language impairment, a figure slightly greater than Cohen et al.’s (1993) estimate that a third of children with psychiatric difficulties will have unsuspected language impairment. This discrepancy is probably due to methodological or sample size differences between the two studies. Cohen et al.’s study used a wider range of assessments, and also employed different criteria to define language impairment that may have resulted in a different population of children being identified. This study identified children who were clinically eligible to receive input from the speech and language therapist who provided a regular service to the school.

Examination of the teachers’ responses demonstrated that only two of the five teachers questioned reported any of the children with LI as having difficulties with language. The other teachers did not report any of the children in their class as having language difficulties. This is despite the presence in the school of a visiting speech and language therapist for up to half a day every week during term time, to work with the small number of children referred by third parties, including teachers. Those children exhibiting both expressive and receptive language difficulties were more likely to be identified by teachers than those whose difficulties were mainly receptive. There were two participants identified by teachers as having speech or language difficulties who were not given a diagnosis of language impairment by the assessment. One participant was reported as having ‘generally immature language’, this participant has moderate learning difficulties, and his language was found to be at an equivalent level to his cognitive abilities. The other participant was described as having fluency problems, which were not observed during the assessment session.

The variability of agreement between teachers in identifying children with LI may be a function of the amount of training and exposure/experience in language development possessed by different teachers. The majority of teachers, even at preschool level (Letts &
Hall, 2003; Sadler, 2005), receive no training in normal or delayed language development. They are therefore ill equipped to detect language that is varying from the norm. This is demonstrated by the tendency by teachers in this study to identify mainly speech or vocabulary difficulties in the children. Teachers tend to identify LI by comparing children to their peers (Letts & Hall, 2003). In a group of children where the majority have LI, articulation difficulties and small vocabulary size may be the features of speech and language impairment that are easiest to detect by comparison. Unless teachers are able to distinguish symptoms of comprehension or more subtle expressive language deficits (such as low usage of subordinate clauses and other complex sentence structures), a large proportion of children with language impairment will remain undetected.

Teachers in the present study may have failed to recognise that a participant was experiencing difficulties in using or comprehending language for a number of reasons. Many of the participants demonstrated receptive deficits that are difficult to identify, particularly when they occur with oppositional behaviour. Older children with language impairment can be very skilled at adapting to and hiding their difficulties. The participants also demonstrated expressive vocabulary skills that were generally within the average range, despite poorer comprehension and poorer sentence level expressive skills. This may result in a child demonstrating seemingly adequate functional linguistic skills when, in reality, they are struggling to process language and express their thoughts.

Many of the behaviours exhibited by children with LI can be easily misinterpreted as unacceptable behaviour. Difficulties in comprehension may be misinterpreted as noncompliance, distractibility and lack of attention or self control. Children with LI may find it difficult to use language to moderate their own behaviour or manipulate their environment leading to feelings of powerlessness and frustration. They are unable to form social relationships as effectively as their peers and the resulting levels of peer rejection contribute to a negative social spiral that reduces the ability of a child with LI to cope within the classroom and in social situations, making him or her more susceptible to behavioural difficulties (Cohen et al., 1993; Ripley, Barrett & Fleming, 2001).

It has been shown that regular and close working with a speech and language therapist, along with as little as three hours of specialist training, can increase a teacher’s ability to detect speech and language disorder in school age children (Hauerwas & Stone, 2000; Letts & Hall, 2003; Williams, 2006). Speech and language therapists have an obvious role in providing training in normal and abnormal language development for teachers of children with behaviour difficulties. This is over and above the need for all initial primary and secondary teacher training to include language development in children and adolescents, so that teachers have developmental norms to compare against, rather than just the child’s peers. The number of children with LI who do not come to notice because they do not exhibit unacceptable behaviour remains unknown.

In three cases, teachers were not aware that children had been seen by SLT services, and four of the children identified as having language difficulties by their teachers had not received a referral to SLT. This raises a number of issues, the most pertinent being the level of liaison between health and education services. Kramer (2001) reported that SLT services within specialist mental health educational and residential units are often minimal, resulting
in poor understanding of the different professionals’ roles. Speech and language therapists have a responsibility to inform other professionals of their role in the assessment and effective intervention with this client group (Stringer, 2006). In addition, SLTs should ensure that class teachers are aware of their involvement with a child and engage in collaborative problem solving with teachers to ensure the child’s communication needs throughout the school day are being addressed.

Among those participants not seen by SLT were three who had attended a child psychiatric unit and been given a diagnosis of ADHD, all had been previously excluded from school. Given the wealth of support in the literature for the co-morbidity between ADHD and LI, it is of concern that these children had not been referred to SLT by the professionals involved in the process of identifying and describing their special educational needs. Previous studies have reported similar examples of under detection of children with diagnoses of ADHD (e.g. Cohen et al., 1993), suggesting that under identification of these children is widespread. This demonstrates the lack of awareness of the role of language in mental health that is still common within the health service (Kramer, 2001). The importance of linguistic abilities in the development and remediation of behaviour problems (Cohen, 2001; Tannock & Schachar, 1996) calls into question the efficacy of treating behaviour disorders without input from speech and language therapy.

The number of participants in this study (19) is small and the context of Special EBD School is increasingly unusual as inclusion policies are applied. Caution should be exercised when generalising these findings into other contexts and populations.

Conclusion

In line with predictions based on existing evidence, this study found a high incidence of language impairment in the children attending a special school for children with emotional and behaviour disorders. Both children with ADHD and those with EBD were equally likely to have LI. A little over half of these individuals had been identified by their teachers. It is suggested that teacher training in normal and abnormal language development would enable teachers to more accurately identify this population.

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