

# **Family History of Dyspraxia and related conditions in children with a diagnosis of Dyspraxia**

## **Aim of study**

The aim of the study was to ascertain if children with a diagnosis of Dyspraxia had other members of their family with similar or related conditions (Dyslexia, DCD, Aspergers Syndrome and autism). In addition the authors were keen to understand where other family members did have a diagnosis, how this affected them as children, if any difficulties continued into adulthood and the strategies that have been found to be useful.

## **Introduction**

Dyspraxia may be defined as an impairment or immaturity of the organisation of movement (The Dyspraxia Foundation, 1990) or “a difficulty in planning and carrying out skilled non habitual motor acts in the correct sequence. The difficulty is considered to be due to formulating the action rather than the motor execution.” (Cermak,1991).

There have been some reports which have stated a family link in Dyspraxia (Lee & Fench, 1994; Kirkby, 1999; Lee, 2004) as well as family links in other conditions such as Dyslexia, Attention Deficit Disorder (A.D.D.), Attention Deficit Hyperactive Disorder (A.D.H.D.), Aspergers Syndrome and Autism (Gordon & McKinlay, 1980; Portwood, 2002; MacIntyre, 2000; Kirkby, 1999). However, there have been few reported links of a child with Dyspraxia having family members with other specific conditions.

Some work has been carried out on the impact of these conditions on children's and adult's lives. Difficulties with co-ordination and the impact this has on a child's social, home and school life has well been documented (Gordon & McKinlay 1980;Macintyre, 2000; Portwood 2000; Ripley, 2001; MacIntyre & McVitty, 2004; Lee, 2004; Dixon & Addy 2004). Likewise similar studies have shown the impact on children's lives with Dyslexia, Autism, A.D.D., A.D.H.D. and Aspergers Syndrome.(Curtis, 2002; Ostler, 1991). Several studies have also considered the difficulties that adults may face with their conditions (Colley, 2002; Barkley, 2004;Cousins and Smyth, 2003; Gillig et al, 2004; Howlin et al 2004; Orsmond et al, 2004). There have however, only been limited reports (Cousins and Smyth, 2003) to consider if the problems encountered in childhood become manageable in adulthood or whether they continue to have an impact on the adult's lives.

## **Methodology**

### **Subjects**

The families of children who were referred to the practice between January 2002 to April 2004 were sent a questionnaire in the post to complete. All the children in the study, had been diagnosed as having Dyspraxia by Educational Psychologists, Consultant Paediatricians or Consultant Paediatric Neurologists.

## Procedure

A total of 186 questionnaires were sent. A stamped addressed envelope was also sent with the questionnaire to encourage return. All the parents had given their consent for the information to be included in the study.

## Results

A total of 107 replies were returned. (74%).

Table 1 – Number of respondents who did have another member of the family with a related condition

Question	Yes	No
Does any other member, apart from the child, have a history of the listed conditions (Dyspraxia, dyslexia, ADHD/ADD, Asperger's syndrome/Autism)	50	57

Table 2 – List of other conditions stated (more than one condition could be given):

Dyspraxia/ Co-ordination difficulties	34
Dyslexia	29
ADHD/ADD	6
Asperger's syndrome/autism	0

Twelve (12) out of 50 replies stated that there was more than one diagnosis. This represented 24% of the group:

- 10 out of 12 reported a co-morbidity of dyspraxia and dyslexia
- 2 out of 12 reported a co-morbidity with dyspraxia and ADD/ADHD

21 replies were from males and 29 were from females

Table 3 - Relationship with the child being treated

Relationship	Number
Mother	20
Father	15
Grandfather	1
Grandmother	1
Sister	2
Brother	2
Other e.g. aunt, uncle	9

Table 4 – Answers given from those respondents who stated they had a related condition

Question	Yes	No	Unsure
Did you feel that this condition had any impact on your ability/willingness to complete school work?	40	10	
Did/do you feel that this condition had any impact on your ability/willingness to participate in sport?	24	24	1
Do you play sports regularly now?	24	26	
Did/do you feel this condition had an impact on your ability/willingness to socialise with peers?	22	28	
If you are now an adult, do you feel that any difficulties encountered have an impact on your life now?	23	27	
Do you use any strategies in your daily life to assist you?	25	25	

### Discussion

From the study it was reported that 46% had other family histories of dyspraxia or co-ordination difficulties, dyslexia or ADD/ADHD. Fifty percent (50%), of these stated that another family member had dyspraxia and 42% stated that they had dyslexia. Out of the total number answering this section, 10 out of the 50 reported a co-morbidity of dyslexia and dyspraxia/co-ordination difficulties which represented 20% of the group. Two (2) out of 50 had stated a co-morbidity of dyspraxia/co-ordination difficulties with ADHD which represented 4% of the group. This would agree with other studies such as Kaplin et al (1997) who found that 22% of their sample had dyslexia and developmental co-ordination disorder (DCD) and 10% had DCD and ADHD. Interestingly, only 4 of the replies stated it was a sibling who was also affected. All the other respondents were adults.

Eighty percent (80%) of replies stated that their condition had had an impact on their school life. Most of the respondents stated that this was on the poor ability to focus and concentrate, poor memory, poor handwriting, poor ability to read and spell, poor self-confidence and self-esteem and difficulty with completing tasks. Two also stated that they had wanted to give up as they were bottom of the class. Only one reply stated that there had been a problem with sports at school. Difficulties at school for a child with Dyspraxia/co-ordination difficulties has been well documented stating the most common difficulties are with handwriting, memory, carrying out activities of daily living (e.g. dressing and eating), poor self esteem and difficulties with P.E. (Portwood, 1996 & 2000; Ripley, 2001; Dixon and Addy, 2004; Lee, 2004; Chambers et al , 2005). Similarly, difficulties reported at school for a child with Dyslexia have been well documented and include poor spelling and reading ability, poor short term memory and poor confidence (Kirby, 1999). There have also been similar reports on the difficulties found for children with ADHD/ADD which include poor concentration and poor confidence. All these points were confirmed from our own findings.

Nearly half of the respondents reported that their difficulties had had an impact on their willingness or ability to participate in sports. Most had reported that their co-ordination skills were poor and therefore they found most sports difficult. However, they favoured sports such as running which did not require co-ordinations skills. Several also reported that they preferred sports that were not team orientated such as sailing, horse riding, golf, swimming and badminton. Two replies stated that they could not understand all the instructions given or the rules. Several replies stated that they feared failure and were not encouraged to play sports by their parents. These reports on difficulty with games and PE in school confirm the findings of other authors (Portwood, 2000, Ripley 2001; Lee, 2004). In fact Chamber et al (2005) in their pilot study found that 27% of parents reported that their children were not active in sport. However, it was interesting that some respondents stated that they been made to practise their co-ordination skills and exercise as children. As a result of this, they had not only been able to join in sports at school but had also enjoyed it and in some cases had been selected for teams. These respondents were also active in sport in adulthood.

When asked if they played sports regularly, over half of the respondents (54%) stated that they did not. Several commented that this was due to their bad experiences as a child although four stated that it was due to lack of time. Of those who did carry out regular sport the most popular sports were swimming, going to the gym, running, golf and tennis. The four siblings (who were all children) reported that they carried out sport. It was interesting to note that so many respondents did not carry out regular sport especially in the light of current press coverage on the importance of regular exercise. In addition, book guides to helping a person with co-ordination difficulties do highlight the importance of exercise and stress that it will not only help to improve body image, spatial understanding, and posture but also relieve stress, improve confidence and maintain good stamina (Kirby, 1999; Colley, 2002, Lee, 2004). However, it should also be noted that research evidence does indicate that co-ordination difficulties do continue to impact long after the teenage years (Cousins & Smyth, 2003) and this may be an important reason why so many reported that they do not carry out regular sport.

From the study, 46% of the adult respondents felt that their difficulties as a child had an impact on their ability to socialise. Many stated that they lacked confidence to speak to other people, felt awkward in front of others and were very shy. Three people commented that they were bullied as a child and this made them very wary of people. Another difficulty experienced by some respondents was poor speech. Comments included “ My speech is delayed so I tend to shy away from verbal communication”, “ When under pressure, I get words/sentences muddled and pronounce words incorrectly” and “ I can sound aggressive without meaning to be”. These difficulties with adults have been reported by Kirby (1999), Portwood (2000), Colley (2002) and Srsomond et al (2004). They have stated that people with dyspraxia and D.C.D. and associated difficulties do have difficulties with social skills and social self -esteem. Problems with perception means sufferers are often unaware of the impact of their own behaviour and the implications of what others are saying or doing. They may have difficulty with voice control so the whole area of communication and building and sustaining relationships with others become fraught. There is a tendency to jump from one subject to another and they have difficulty in groups interjecting at the right moment. There may also be difficulty understanding humour, sarcasm and facial expressions. Likewise there have also been many reports of difficulties with social skills in children (Kirby, 1999; Portwood, 2000; MacIntyre, 2001; Dixon & Addy, 2004)

Twenty three (48%) of the respondents also stated that that the difficulties that they experienced as a child still had an impact on their life. The main difficulties stated were with learning to drive, spelling, being made to play certain sports (such as tennis and badminton), filling in forms, short term memory, organisational skills, slow writing and poor confidence. These areas have been well documented by Portwood (2000), Colley (2002) and Cousins & Smyth (2003). Certainly Cousins and Smyth (2003) concluded from their examination of research papers that co-ordination difficulties continue to impact long after the teenage years. From their study, they found that the most persistent difficulties appeared to be with concentration and driving a car was highlighted as a task many were unable to master due to the complex skills required which would confirm our findings. Barkley (2004) also found that adults with ADHD had significantly increased risks for traffic citations (especially speeding) and car crashes.

Our respondents also stated that organisational skills were difficult for many of them. In particular time management, household chores and studying was stated to be hard. This, in fact, had stopped many from going onto further education.

Poor self-confidence and self-esteem was cited as a difficulty by many of our respondents. The importance of self-esteem has been well documented in many studies. The fact that children fail at tasks whether it be with co-ordination skills, reading, writing, spelling or joining in with other peers leads to poor confidence. They have a tendency to give up and stop trying (Lee, 1998). McNulty (2003) carried out a study of life stories of adults diagnosed with dyslexia. The study found that by school age all the participants had self esteem difficulties. Similar findings have been found with Dyspraxia/DCD, Asperger's Syndrome and A.D.H.D. (Colley,2002; Curtis, 2002; Kirby,199; Lee, 2004; McIntyre, 2000; Portwood, 2000).

On a positive note 22 (45%) respondents stated that they use strategies to help them in their daily lives. The computer was found the most useful item especially using spell check and the fact they did not need to worry about their illegible handwriting (although in some cases illegible handwriting was used to disguise bad spelling!). Many wrote job lists in order to remember tasks and relied on their partner or another family member to organise them. In fact, several of the fathers stated that they relied heavily on their wives to organise their lives for them. Other respondents reported that they avoid areas of work that they know they have weaknesses in (e.g. accounting). Some reported that they prepare themselves carefully before going into new situations and practised skills before they were needed (such as map reading and meeting new people).

## **Conclusion**

The study showed that 46% of the children who had come to the practice with a diagnosis of Dyspraxia, had other family members affected with similar or related conditions. The majority of these were adult family members such as their mothers, fathers, aunts, uncles and grandparents. These included Dyslexia, DCD, and Attention Deficit Disorder. Twenty percent of those had a co-morbidity of conditions which confirms other research findings.

The results from this study support other findings in relation to the difficulties experienced as a child and the fact that difficulties do continue into adulthood. In particular difficulty with socialising, learning to drive, short term memory, organisational skills, slow writing and poor confidence were highlighted as particular difficulties in adulthood. However, 45% of the respondents did use strategies to assist them in their daily living which many felt had allowed them to lead happy and successful lives. These points are encouraging. However, understanding the difficulties experienced by adults and knowing what strategies work are imperative for professionals if we are going to be successful in our long term outcomes for treating these conditions. It is only then that we can ensure that our patients are fully prepared to take on the challenges that life brings.

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