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ANXIETY DISORDERS IN CHILDREN WITH LEARNING DISABILITIES (LD) AND AUTISM (ASD)



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Abstract

Children and young people with learning disabilities (LD) and autism are more prone to experience mental health problems compared to people with LD but without autism. Children and young people with LD and autism may experience symptoms of anxiety at a greater level than the general population; however, this is not supported with research evidence in relation to the prevalence of anxiety in people with ID and autism. The increasing number of individuals with Learning Disabilities (LD) and psychiatric disorders presents a key challenge to their assessment and treatment in mental health services. Children and young people with LD are more likely to experience mental health than the general population (FPLD, 2002; Emerson, 2003; Allington - Smith, 2006). Epidemiological studies suggest that autism is more frequent in people with LD, nearly 40% of people with LD also have autism (Bouras et al., 1999; Kraijer, 1997) on the other hand, nearly 70% of people with autism also have LD (La Mafa, 2004) The strong association between autism and LD (Bradley et al, 2004) also associates an increased risk of mental health problems (Morgan et al., 2003). Method: This article provides an overview of the clinical implications of anxiety disorders within the context of learning disability and autism. It is suggested that children and young people with LD and autism spectrum disorder may experience symptoms of anxiety at a greater level than the general population; however, this requires more conclusive evidence in relation to the prevalence of anxiety disorders in people with LD and autism. There is a close relationship between autism spectrum disorder and learning disability. The presence of anxiety in individuals with LD and autism has rarely been studied and is the focus of this study.

Keywords: Anxiety disorders, learning disabilities, autism, prevalence, Mental health disorders

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1. Introduction

It is likely that the point prevalence of mental health problems in people with learning disability lies between 30 and 50% (Smiley, 2005). Anxiety disorders are among the most common mental, emotional, and behaviour problems that occur during childhood and adolescence, as many as 1 in 10 young people may have anxiety disorder (Child development institute, 2005) Moreover, anxiety disorders have been reported as one of the most common forms of psychological distress for people with LD (Deb et al., 2001; Emerson, 2003). As well as people with autism, Gillott (2004) suggests that adults with autism are almost three-times more anxious than their nonautistic peers. They are often described as highly anxious (Waller & Furniss, 2004). In addition, the co- morbidity of autism and LD result in a great risk for psychiatric disorders. Obviously, the relationship between the two syndromes appears to be close and specific (Ghaziuddin et al., 1992). Autism is more frequent in people with LD, and the prevalence rate range from 20% to 48% (Fombonne, 2003; Gillberg et al., 1986; Morgan et al., 2003). Similarly, epidemiological studies suggest that nearly 70% of people with autism also have learning disabilities (for DSM- IV criteria) (La Mafa, 2004)

2. Method

The aim of this study was to identify the prevalence of anxiety disorders in children and young people with LD and autism. This article provides an overview of the clinical implications of anxiety disorders within the context of learning disability and autism.

3. Learning Disabilities and Autism

In fact, research in people with co-morbid learning disabilities and autism suggest a high rate of psychiatric disorders. A possible explanation is that this group have higher abilities that are proportionately more disabled by their autistic features and they are therefore more likely to develop psychiatric illnesses (Morgan et al., 2003) Again, Waller and Furniss (2004) illustrate that there is a great correlation between autism and anxiety disorders. Autism and learning disability are co-associated (Gillberg & Coleman 2000; Nordin & Gillberg 1996). On the one hand, autism is more common among individuals with LD, and increasingly so with lower level of IQ. Equally importantly, on the other hand, autism implicates on all learning, especially among more severely affected individuals. The two conditions are so closely linked that there has been some debate regarding whether they can be viewed as distinct syndromes. (O'brien & Pearson 2004) The literature reports prevalence rates ranging from 3% through 50%. This variation seems to be related to the concepts of autism under study, the instruments used, and the studied populations (De Bildt et al., 2005). As well as La Malfa, et al. (2004)

assert that there is a strict relationship between autism and L.D: 40 % of people with L.D also present autism; on the other hand, nearly 70% of people with autism also have LD. while the prevalence of autism in the general population is 0.1-0.15% according to the DSM-IV. Autism is more frequent in people with severe LD.

4. Anxiety Disorder in Learning Disabilities and Autism

Anxiety disorder has repeatedly been found to be associated with learning disabilities and also autism. Furthermore, it is suggested that the co-morbidity of autism and learning disabilities result in a greater risk for psychiatric disorders (Bradley et al., 2004; Hill & Furniss, 2006). There is very little research about comorbid learning disabilities and autism. Hill and Furniss (2006) suggest that adults with autism and severe learning disabilities have higher levels of anxiety disorder than other groups without autism. This finding concurs with Bradley et al. (2004) who also found that adolescents with autism and severe learning disabilities are more vulnerable to anxiety disorder.

The co-morbidity specifically of autism may also make the children and young people with learning disabilities and autism more susceptible to anxiety disorder. There is a lack of published research to date that has looked specifically at the prevalence of anxiety disorder in children and young people with mild to moderate learning disabilities and autism. The aim of this study was to identify the prevalence of anxiety disorder amongst children and young people with learning disabilities and autism.

Recent studies indicate high anxiety disorders in the population of autism and LD. For instance Hill and Furniss (2006) suggest that persons with severe LD and autism show higher anxiety on DASH-II subscale scores than people with comparable levels of LD without autism. This agrees with the study of Bradley et al., (2004) study, which compared psychiatric and behaviour disorders in two groups of people with LD, one with a diagnosis of autism, the other without using DASH-II also as a screening instrument. The findings point to group with autism is associated with higher rates of mental health disorders, specific in anxiety disorders.

Individuals with autism spectrum disorders (ASD) have high level of anxiety disorders (Holt et al., 2004). A study by Kim et al., (2000) indicate that high-functioning autism children are at greater risk for anxiety than the general population but the correlates and risk factors for these co-morbid problems remain unclear.

In terms of how young people with mild LD understand anxiety, Wilson et al., (2005) illustrate that people with LD did not discuss their understanding of mental health issues in abstract terms but tended to use descriptive terms often linked to unpleasant emotional and physical sensation. They used words like 'temper', frightened', fed up' and 'things wrong to

me', and described the physiological symptoms of anxiety and depression, such as sweaty palms and hyperventilation. Sometimes they used phrases that seemed to have been picked up from others, like 'mood swings' and 'in a huff'.

5. Diagnosis and Classifications

Anxiety can be classified according to its clinical features. In standardised diagnostic systems DSM-IV and ICD-10, anxiety disorders include generalised anxiety disorder, panic disorder, specific phobias, social phobia, obsessive– compulsive disorder (COD), and acute and post-traumatic stress disorders (PTSD). The identification of anxiety in people with learning disability and autism is particularly difficult and they are frequently missed by carers and clinicians, primarily owing to communication problems. In severe and profound learning disability only behavioural symptoms can be assessed, and as a result many anxiety disorders are misdiagnosed as problem behaviours (Smiley, 2005). Bailey and Andrews (2003) concluded that many studies fail to make a definite diagnosis and report only the prevalence of anxiety symptoms, which range from 6% (Balliger et al., 1991) to 31% (Reiss, 1990). With more severe ID only behavioural symptoms can be assessed reliably and this often makes it difficult for all the criteria of an anxiety disorder to be met (Matson et al., 1997).

6. Prevalence

Studies examining the prevalence of psychiatric disorder among people with LD are higher than it is in the general population (Allington-Smith, 2006; Borthwick-Duffy, 1994). Children and young people with LD have been found to be up to four times more susceptible to mental health problems than their non-disabled peers (Wilson, 2004). For children with LD, research evidence available suggests high levels of anxiety disorders in children vary from 8.7% (Dekker & Koot 2003) to 21.98.7% (Emerson, 2003). The prevalence rate of anxiety disorders varies significantly for the different subtypes of anxiety disorder, so that some subtype are less common in people with LD and others are more common or as common as those in the general populating (Reiss, 1993). It is reported that sometimes anxiety can be out of all proportion to the cause or may be specific to something in particular (Phobia) other developmental disorders, especially autism, may also make the young people more susceptible to anxiety (FPLD, 2002).

On the other hand, people with autism are often described as highly anxious. Gillott (2004) suggests that adults with autism were almost three-times more anxious than their nonautistic peers, using Spence Anxiety Scale – this difference was found not only in the total score but in the subscale of obsessive-compulsive disorder, panic/agoraphobia, social phobia

and generalised anxiety disorder, this project indicates significant levels of anxiety in adults with autism. Again, a study by Bellini (2004) suggests that adolescents with autism experienced anxiety at greater level than the general population.

7. Anxiety Symptoms in People with Learning Disabilities

Billini (2004) and Gillott et al., (2001) illustrate that the manifestation of anxiety in children and adolescents with autism disorder display higher levels of social anxiety than normal people. This may be because many individuals with autism exhibit fear and worry regarding social situations. The relationship between social skill deficits and social anxiety is likely reciprocal in nature. That is, poor social skills could lead to social anxiety, and conversely, social anxiety could contribute to poor social skills (Billini, 2004). Obsessive-compulsive disorder (OCD) and separation anxiety are also considered as a form of an anxiety disorder that is frequently found among people with LD. Bejerot (2007) suggests that OCD is frequent in autism. Repetitive routines and rituals are common in autism (Kobayashi & Murata, 1998) and may of these behaviours are identical to these seen in OCD (McDougle et al., 1995). Similarly, Melfsen (2006) investigates the extent of social anxiety in different mental disorders, showed that people who have LD also showed a higher rate social anxiety and obsessive-compulsive disorder.

It is useful to break anxiety down into its symptom categories (GAS-ID scale, 2004): firstly, the Specific fears are the emotional component of the anxiety disorders. For example, Fear of dogs; spider; darkness; lifts and escalators; being up (high places); see the doctor or dentist; meeting new people; busy or open places. With regard to the physiological symptoms of anxiety in children with LD and ASD are: feeling breathless; very hot or sweaty, heart beats faster, shake legs and hands, stomach feels funny like butterflies, and need to go to the toilet more than usual. In terms of cognitive symptoms Worries (cognitive symptoms), lots of thoughts that go round in their head; worry about parents; and worry about what they are doing in the future (Figure 1). Of course, those anxiety symptoms strongly influence significant impact on their overall adaptation behaviour that might be appeared as escape that makes future avoidance likely.

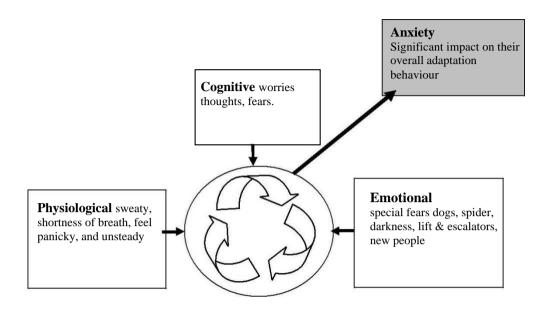


Figure 1. Anxiety symptoms

8. Risk Factors Owing Learning Disabilities and Autism

Individuals with LD and autism are prone to anxiety disorders much more than normal population (Bradley et al., 2004). This may be attributable to factors such as, lifetime of adversity, inadequate social support, and poor coping skills (Cooray & Bakala, 2005). Also, lack of social and cognitive resources to cope with the adulthood is thought to contribute to this vulnerability to social and emotional problems (Wilson, 2004). These factors contribute to increased vulnerability to stressful life events, which may trigger anxiety disorders. Smiley (2005) suggests that overprotection and poor linguistic skills, leading to greater difficulties in discussing or dismissing fears and resulting in over-generalisation, are responsible for this anxiety disorders. Sometimes anxiety can be out of all proportion to the cause or may be specific to something particular (a phobia). Other developmental disorders, especially autistic spectrum disorders, may also make the young person more susceptible to anxiety. For example, over stimulating environments or frequent changes are particularly stressful for a person with an autistic spectrum disorder (FPLD, 2002).

In addition, other suggested aetiological factors for anxiety disorders in people with LD include the effects of deinstitutionalisation and certain behavioural phenotypes, for example: fragile-X syndrome is associated with social anxiety disorders; Rubinstein-Taybi and Prader-Willi syndromes with obsessive-compulsive disorder (Levitas & Reid, 1998); phenylketonuria

and Williams syndromes with generalised anxiety (Einfeld et al., 2001; Smiley, 2005). When people experience anxiety it affects the person's mood and thinking, creates a range of physical symptoms in their body, and often causes the person to alter what they do (Williamson, 2003)

9. Interventions

Despite the literature review of previous studies demonstrate a range of effective interventions is available for anxiety disorders in people with LD; there is a scarcity of literature relating to the intervention approaches used in children and young people with LD and autism separately. In this context, it is vital to reflect on the interventions being used successfully among children with LD and autism including behavioural, cognitive approaches, and medication. For example:

9.1. Behaviour approaches

This aims to change any behaviour that is harmful or not helpful. Relaxation as a behavioural intervention appear to be effective in reducing anxiety and improving cognitive performance amongst people with mild, moderate and severe LD. For example, Relaxation behavioural training has been found to be effective in the treatment of generalized anxiety in people with LD Lindsay et al., (1988) explored anxiety treatments for adults who have moderate and severe LD by undertaking a study based on the simplification of a technique called progressive relaxation, the study demonstrated that behavioural relaxation training is an effective anxiety treatment.

9.2. Cognitive behavioural approaches

Based on a recent review of the literature, Kirkland (2005), Brown and Marshall, (2006) concluded that Cognitive Behaviour Therapy (CBT) is now a widely accepted and increasingly being used with people with LD effective form of psychotherapy for many mental health problems and the evidence base is growing on the effectiveness with the learning disability population. Such techniques have been used successfully in the treatment of anxiety in people with LD. A number of studies have demonstrated the potential feasibility of cognitive behaviour therapies amongst people with LD in reducing anxiety. For example: Lindsay et al. (1997) reported two successful case studies employing Beck's cognitive therapy. Again Lindsay (1999) worked with 15 individuals with clinically significant level of anxiety. Treatment resulted in a statistically significant reduction in self-report measures of anxiety. Joyce and Hardy (2003) also examined the effeteness of cognitive behaviour therapy and people with LD. Recent studies, Dagnan and Jahoda (2006) developed Cognitive-behavioural

intervention for people with LD and anxiety disorders, they suggest that cognitive behaviour therapy would be useful to apply to other anxiety presentations and to identify areas for further clinical and research development. Similarly, Cognitive behaviour therapy developed with autistic children. For instance, Sofronoff et al. (2005) demonstrated significant decreases in anxiety symptoms using CBT for children with autism. Another recent study by Chalfant et al. (2006) indicated significant reductions in anxiety symptoms for the use of cognitive behaviour therapy with autistic children. However, the core principles of cognitive therapy may require modification to meet the abilities of the individual and to take account of their cognitive impairment and support needs (Brown & Marshall, 2006; Cooray & Bakala, 2005)

10. Medication

The use of drug treatments in the management of child and adolescent anxiety disorders remains contentious; with many clinicians arguing that these disorders are most appropriately treated with psychosocial interventions (Coghill, 2003). Although the use of medication for anxiety disorders may be useful in the initial and long -term management of anxiety states, the continued and prolonged use of medication alone may be inappropriate, as it does not allow an individual to develop and deploy effective coping behaviours in situations that warrant these (Raghavan, 1998). The first drugs to be studied in the treatment of childhood anxiety were benzodiazepines and tricyclic antidepressants.

11. Conclusion

In conclusion, the aim of this study was to identify the prevalence of anxiety disorder in children and young people with learning disabilities and autism. Results indicate that children and young people with learning disabilities and autism have high prevalence rates of anxiety disorder. As a result, children and young people with learning disabilities and autism should routinely undergo screening for anxiety disorder, and there is a need to provide early interventions. One of the important questions that arise from this study is the risk factors for the high prevalence of anxiety in children and adolescents with autism. There is a need for further research examining the co-morbidity of anxiety disorder and autism, appropriate interventions and support for this population and their families. This also calls for a closer examination of the types of anxiety management strategies and their effectiveness.

Anxiety disorders do exist in children and young people with LD and autism. They experience higher rates of anxiety disorders rather than their non-disabled peers. Although the majority of the studies document prevalence rates of anxiety disorders in people with LD and autism, very little work have been done about what are the interventions are helping children

and young people to manage their anxiety. The FPLD research report, Making us Count (FPLD, 2005) stress the need for developing appropriate interventions to help prevent and overcome mental health problems in this group. As sequences positive mental health should be promoted among young people with LD and autism.

Treatment of anxiety in people with LD. A number of studies have demonstrated the potential feasibility of cognitive behaviour therapies amongst people with LD in reducing anxiety. For example: Lindsay et al. (1997) reported two successful case studies employing Beck's cognitive therapy. Again Lindsay (1999) worked with 15 individuals with clinically significant level of anxiety. Treatment resulted in a statistically significant reduction inselfreport measures of anxiety. Joyce and Hardy (2003) also examined the effeteness of cognitive behaviour therapy and people with LD. Recent studies, Dagnan and Jahoda (2006) developed Cognitive-behavioural intervention for people with LD and anxiety disorders, they suggest that cognitive behaviour therapy would be useful to apply to other anxiety presentations and to identify areas for further clinical and research development. Similarly, Cognitive behaviour therapy developed with autistic children. For instance, Sofronoff et al. (2005) demonstrated significant decreases in anxiety symptoms using CBT for children with autism. Another recent study by Chalfant et al., (2006) indicated significant reductions in anxiety symptoms for the use of cognitive behaviour therapy with autistic children. However, the core principles of cognitive therapy may require modification to meet the abilities of the individual and to take account of their cognitive impairment and support needs (Brown & Marshall, 2006; Cooray & Bakala, 2005).

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References

- Allington-Smith, P. (2006). Mental health of children with learning disabilities. *Adv. Psychiatry Treat, 12*(2), 130-138. https://doi.org/10.1192/apt.12.2.130
- American Psychiatric Association (APA) (1994). Diagnostic and statistical manual of mental Disorders (DSM- IV). Washington, DC: APA.
- Bailey, N. M., & Andrews, T. M. (2003). Diagnostic Criteria f or Psychiatric Disorders f or Use with Adults with Learning Disabilities/Mental Retardation (DC-LD) and the diagnosis of anxiety disorders: a review. *Journal of Intellectual Disability Research*, 47(1), 50-61. https://doi.org/10.1046/j.1365-2788.47.s1.25.x
- Bejerot, S. (2007). An autistic dimension: A proposed subtype of obsessive-compulsive disorder. *Autism*, 11(2), 101-110. https://doi.org/10.1177/1362361307075699
- Bellini, S. (2004). Social skill deficits and anxiety in high functioning adolescents with autism spectrum disorders. *Focus on Autism and Other Developmental Disabilities*, 19(2), 78-86. https://doi.org/10.1177/10883576040190020201

- Borthwick-Duffy, S. A. (1994). Epidemiology and prevalence of psychopathology in people with mental retardation. *Journal of Consulting and Clinical Pathology*, 62, 17-27. https://doi.org/10.1037/0022-006X.62.1.17
- Bouras, N., Holt, G., Day, K., & Dosen, A. (1999). Mental Health in Mental Retardation: The ABC for Mental Health, Primary Care and Other Professionals, WPA Section of Mental Retardation, London.
- Bradley, E., Summers, A., Wood, H. L., & Bryson, S. E. (2004). Comparing rates of psychiatric and behaviour disorders in adolescents and young adults with severe intellectual disability with and without autism. *Journal of autism and developmental disorders*, 34(2), 151-161. https://doi.org/10.1023/B:JADD.0000022606.97580.19
- Brown, M., & Marshall, K. (2006). Cognitive behaviour therapy and people with learning disabilities: implications for developing nursing practice. *Journal of Psychiatric & Mental Health Nursing*, 13(2), 234-241. https://doi.org/10.1111/j.1365-2850.2006.00947.x
- Chalfant, A. M., Rapee, R., & Carroll, L. (2006). Treating Anxiety Disorders in Children with High Functioning Autism Spectrum Disorders: A Controlled Trial, Journal of autism and developmental disability (15) Child development institute (2005): all about childhood disorders, learning disabilities. https://doi.org/10.1007/s10803-006-0318-4
- Coghill, D. (2003). Current issues in child and adolescent psychopharmacology. Part 2: Anxiety and obsessive-compulsive disorders, autism, Tourette's and schizophrenia. *Adv Psychiatr Treat*, 9(4), 289-299. https://doi.org/10.1192/apt.9.4.289
- Cooray, S. E., & Bakala, A. (2005). Anxiety disorders in people with learning disabilities. *Adv Psychiatr Treat*, *11*(5), 355-361. https://doi.org/10.1192/apt.11.5.355
- Dagnan, D., & Jahoda, A. (2006). Cognitive-Behavioural Intervention for People with Intellectual Disability and Anxiety Disorders. *Journal of Applied Research in Intellectual Disabilities*, 19(1), 91-97. https://doi.org/10.1111/j.1468-3148.2005.00283.x
- Deb, S., Thomas, M., & Bright, C. (2001). Mental disorder in adults with intellectual disability 2: The rate of behaviour disorders among a community -based population aged between 16 and 64 years. *Journal of Intellectual Disability Research*, 45(6), 506-514. https://doi.org/10.1046/j.1365-2788.2001.00373.x
- De Bildt, A., Sytema, S., Kraijer, D., & Minderaa, R. (2005). Prevalence of pervasive developmental disorders in children and adolescents with mental retardation. *Journal* of Child Psychology and Psychiatry, 46(3), 275-286. https://doi.org/10.1111/j.1469-7610.2004.00346.x
- Dekker, M. C., & Koot, H. M. (2003). DSM-IV disorders in children with borderline to moderate intellectual disability. *Child & Adolescent Psychiatry*, 42, 915-22. https://doi.org/10.1097/01.CHI.0000046892.27264.1A
- Einfeld, S. L., Tonge, B. J., & Rees, V. W. (2001). Longitudinal Course of Behavioral and Emotional Problems in Williams Syndrome. *American Journal on Mental Retardation*, *106*(1), 73-81. https://doi.org/10.1352/0895-8017(2001)106<0073:LCOBAE>2.0.CO;2
- Emerson, E. (2003). Prevalence of psychiatric disorders in children and adolescents with and without intellectual disability. *Journal of Intellectual Disability Research*, 47(1), 51-58. https://doi.org/10.1046/j.1365-2788.2003.00464.x
- Fombonne, E. (2003). The prevalence of autism. *JAMA*, 289, 87-89. https://doi.org/10.1001/jama.289.1.87

- FPLD (Foundation for people with LD) (2002). Count us in: the report of the committee of inquiry into meeting the mental health needs of young people with learning disabilities. London: Mental health foundation.
- FPLD Foundation for people with LD (2005). Making us count: identifying and improving mental health support for young people with learning disabilities. London: Mental Health foundation.
- GAS-ID (2004). Glasgow anxiety scale for people with an intellectual disability University of Glasgow.
- Ghaziuddin, M., Tsai, L. Y., Eilers, L., & Ghaziuddin, N. (1992). Brief report: autism and herpes simplex encephalitis. *Journal of Autism and Developmental Disorders* 22, 107– 113. https://doi.org/10.1007/BF01046406
- Gillberg C. (1986). Brief report: onset at age 14 of a typical autistic syndrome. A case report of a girl with herpes simplex encephalitis. *Journal of Autism and Developmental Disorders*, 16, 368–75.
- Gillberg, C., & Coleman, M. (2000). The biology of autistic syndromes. London: Mac.
- Gillott, A. (2004). Anxiety and stress in adults with autism. *Journal of intellectual disability research*, 48, 230-339.
- Gillott, A., & Standerm, P. (2004). Anxiety and stress in adults with autism. *Journal of Intellectual Disabilities Research*, 48, 321-339.
- Gillott, A., Furniss, F., & Walter, A. (2001). Anxiety in high functioning children with autism. *Autism*, 5(3), 277- 286. https://doi.org/10.1177/1362361301005003005
- Hill, J., & Furniss, F. (2006). Patterns of emotional and behavioural disturbance associated with autistic traits in young people with severe intellectual disabilities and challenging behaviours. *Research in Developmental Disabilities*, 27(5), 517-528. https://doi.org/10.1016/j.ridd.2005.07.001
- Holt, G., Gratsa, A., Bouras, N., Joyce, T., Spliller, M., & Hardy, S. (2004). Guide to mental health for families and carers of people with intellectual disabilities. London, UK: Jessica Kingsley.
- Joyce, T., & Hardys, P. (2003). Cognitive behaviour therapy and people with learning difficulties. *Living well*, 3(4).
- Kim, J. A., Szatmari, P., Bryson, S. E., Streiner, D. L., & Wilson, F. J. (2000). The Prevalence of Anxiety and Mood Problems among Children with Autism and Asperger Syndrome. *Autism*, 4(2), 117-132. https://doi.org/10.1177/1362361300004002002
- Kirkland, J. (2005). Cognitive-behaviour formulation for three men with learning disabilities who experience psychosis: how do we make it make sense? *British Journal of Learning Disabilities*, 33(4), 160-165. https://doi.org/10.1111/j.1468-3156.2005.00320.x
- Kobayashi, R., & Murata, T. (1998). Behavioral characteristics of 187 young adults with autism. *Psychiatry and Clinical Neurosciences*, 52, 383–90. https://doi.org/10.1046/j.1440-1819.1998.00415.x
- Kraijer D. W. (1997). Autism and Autistic-Like Conditions in Mental Retardation. Swets & Zeitlinger, Lisse.
- La Malfa, G., Lassi, S., Bertelli, M., Salvini, R., & Placidi, G. F. (2004). Autism and intellectual disability: a study of prevalence on a sample of the Italian population. *Journal of Intellectual Disability Research*, 48(3), 262-267. https://doi.org/10.1111/j.1365-2788.2003.00567.x
- Levitas, A. S., & Reid, C. S. (1998). Rubinstein–Taybi syndrome and psychiatric disorders. *Journal of Intellectual Disability Research*, 42, 284–292. https://doi.org/10.1046/j.1365-2788.1998.00136.x

Lindsay, W. (1999). Cognitive therapy. The psychologist, 12, 238-241.

- Lindsay, W., Neilson, C., & Lawrenson, H. (1997). Cognitive-behaviour Therapy for Anxiety in people with Learning Disabilities. In B. Stenfert Kroese, D. Dagnan, & K. Loumides (Eds.), *Cognitive-behaviour Therapy for people with Learning Disabilities* (pp. 124– 140). London: Routledge.
- Lindsay, W. R., & Morrison, F. M. (1996). The effects of behavioural relaxation on cognitive performance in adults with severe intellectual disabilities. *Journal of intellectual disability research*, 40, 285-90. https://doi.org/10.1111/j.1365-2788.1996.tb00632.x
- Lindsay, W. R., Michie, A. M., Baty, F. J., & MacKenzie, K. (1988). Dog phobia in people with mental handicaps: anxiety management training and exposure treatments. *Mental Handicap Research*, 1, 39-48. https://doi.org/10.1111/j.1468-3148.1988.tb00004.x
- Matson, J. L., Smiroldo, B. B., Hamilton, M., & Baglio, C. S. (1997). Do anxiety disorders exist in persons with severe and profound mental retardation? *Research in Developmental Disabilities*, 18(1), 39-44. https://doi.org/10.1016/S0891-4222(96)00036-4
- McDougle, C. J., Kresch, L. E., Goodman, W. K., Naylor, S. T., Volkmar, F. R., Cohen, D. J., & Price, L. H. (1995). A case-controlled study of repetitive thoughts and behavior in adults with autistic disorder and obsessive- compulsive disorder. *American Journal of Psychiatry*, 152(5), 772–777. https://doi.org/10.1176/ajp.152.5.772
- Melfsen, S. (2006). The extent of social anxiety in combination with mental disorders. *European Child & Adolescent Psychiatry*, 15(2), 111-117. https://doi.org/10.1007/s00787-006-0510-2
- Morgan, C. N., Roy, M., & Chance, P. (2003). Psychiatric comorbidity and medication use in autism: a community survey. *Psychiatr Bull*, 27(10), 378-381. https://doi.org/10.1017/S0955603600003160
- Nordin, V., & Gillberg, C. (1996). Autism spectrum disorders in children with physical or mental disability or both. I: clinical and epidemiological aspects. *Developmental Medicine and child Neurology*, 38, 297-313. https://doi.org/10.1111/j.1469-8749.1996.tb12096.x
- O'Brien, G., & Pearson, J. (2004). Autism and Learning Disability. *Autism*, 8(2), 125-140. https://doi.org/10.1177/1362361304042718
- Raghavan, R. (1998). Anxiety disorder in People with learning disabilities: a review of literature. Journal of learning Disabilities for Nursing. *Health and social Care*, 2(1), 3-9. https://doi.org/10.1177/146900479800200102
- Read, S. (1997). Psychiatry in learning disability. London: W. B. Saunders.
- Reiss, S. (1993). Assessment of psychopathology in persons with mental retardation.
- Reiss, S. (1990). Prevalence of dual diagnosis in community-based day programs in the Chicago metropolitan area. *American Journal of mental retardation, 94*, 578-585
- Smiley, E. (2005). Epidemiology of mental health problems in adults with learning disability: an update. *Adv Psychiatr Treat*, *11*(3), 214-222. https://doi.org/10.1192/apt.11.3.214
- Sofronoff, K., Attwood, T., & Hinton, S. (2005). A randomised controlled trial of a CBT intervention for anxiety in children with Asperger syndrome. *Journal of Child Psychology and Psychiatry*, 46(11), 1152-1160. https://doi.org/10.1111/j.1469-7610.2005.00411.x
- Waller, N., & Furniss, F. (2004). Relationship between anxiety and autistic behaviour in persons with severe learning disabilities. *Journal of Intellectual Disabilities Research*, 48(4, 5), 320.

- Williamson, C. (2003). *Overcoming anxiety: a five years approach*. London, Hodder Headline Group.
- William, R., Lindsay, R., & Hastings, P. (2004). Cognitive assessment, cognitive models and cognitive therapy for people with intellectual disabilities: lessons from a special population. *Clinical Psychology & Psychotherapy*, 11(4), 219-221. https://doi.org/10.1002/cpp.408
- Wilson, A. (2004). Young people with anxiety and depression: a Phenomenological study. *Journal of Intellectual Disability Research*, 48(4), 291-320.
- Wilson, A., Jahoda, A., Stalker, K., & Carirney, A. (2005). What's happening? How young people with learning disabilities and their family carers understand anxiety and depression. The foundation for people with LD. 37-61
- World Health Organization (WHO). (1992). The ICD-10 Classification of Mental and Behavioural Disorders. Clinical Description and Diagnostic Guidelines. WHO, Geneva.