Diagnosis of ADHD in Intellectual Disability: DSM V versus Clinical Impression

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Abstract

Background:

Diagnosing ADHD in people with ID remains challenging. ADHD diagnosis is based on the criteria of the DSM V classification system; however, the presence of ID and other disorders such as autism and communication difficulties can make it difficult to apply the DSM V criteria of ADHD in people with ID who lack verbal communication skills. Diagnoses are often made using clinical judgment and/or application of diagnostic criteria. There are no studies looking at the diagnostic accuracy of clinical judgment vs use of DSM V criteria in people with ID and ADHD.

Method:

The aims of the study were to compare the accuracy of the diagnosis of ADHD in people with ID according to the DSM V criteria versus clinical judgement, and to determine which criteria are more reliable. A questionnaire was developed using five fictional case scenarios of people with ID. Questionnaires were presented to practising psychiatrists chosen as a convenience sample in the UK over a period of 12 months. Case scenarios were developed and agreed to be positive or negative for ADHD by the study authors prior to rating by clinicians. The clinicians were asked to read the scenarios and to make a judgement on the cases with regard to the symptoms of ADHD. They were then presented with the 18 DSM V criteria of ADHD and asked to select the criteria they considered were present in each scenario. Sensitivity, specificity, likelihood ratios and predictive values for both the DSM V criteria and clinical opinions were calculated for correctly identifying the exemplar cases.

Results:

The data showed strong sensitivity (0.82 95% CI 0.74-0.89) and perfect specificity (1.00 95% CI 0.95-1.00) for the raters' clinical opinion evident from there not being a single false positive

diagnosis using this. In contrast, the DSM V criteria, as assessed by the raters, did not reliably provide ADHD diagnoses, with a sensitivity of only 0.23 (95% CI 0.15-0.31). This difference in sensitivity between the two was statistically significant at p<0.001. Specificity was strong with the DSM V criteria but at 0.99 (95% CI 0.93-1.00) that differed significantly from raters' clinical opinion (p=1).

Conclusion:

The study results suggest that clinical opinion should be the 'gold standard' in diagnosing ADHD in adults with intellectual disability in the absence of a validated diagnostic tool in this group. Further studies are needed to understand how symptoms of ADHD can be presented differently in people with ID. DSM V criteria for ADHD may need to be adapted according to the severity of ID and other neurodevelopmental disorder which can change the clinical presentation.

Key words: ADHD, intellectual disability, classification

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Introduction

Attention deficit hyperactivity disorder (ADHD) is a neurodevelopmental disorder with a prevalence of 4-5% in the general population (Polanczyk, de Lima, Horta, Biederman, & Rohde, 2007). In people with intellectual disabilities (ID), ADHD has a significantly higher prevalence estimated at between 3 and 10 times the rate in the normal child and adolescent population (Emerson, 2003; Neece, Baker, Crnic, & Blacher, 2013). The true prevalence of ADHD in people with ID is not currently known. Reilly and Holland reported that prevalence rates of ADHD symptoms in people with ID vary significantly depending on the instruments and diagnostic practices employed (Reilly & Holland, 2011). There is no gold standard reference test for diagnosis of ADHD in this population (citation removed for blind review).

Diagnosis

Diagnosing ADHD in people with ID remains challenging, with sparse research in this area (citation removed for blind review). Diagnosis is based on the criteria of the DSM V classification system that requires the presence of inattention, and/or hyperactivity, and impulsivity prior to the age of 12 years (American Psychiatric Association, 2013). In adults, 5 or more symptoms of inattention and/or hyperactivity for more than 6 months causing a functional impairment in more than one setting are required (American Psychiatric Association, 2013). Diagnosis of ADHD is considered controversial by some authors (Saul, 2014), but studies have shown that ADHD is a valid diagnosis in people with and without ID (Jensen, 2000).

Making a diagnosis can be compounded by diagnostic overshadowing (Reiss, Levitan, & Szyszko, 1982) where hyperactive, impulsive, and symptoms of inattention are attributed to the ID rather than to ADHD. Moreover, clinicians may lack confidence in making the diagnosis because of difficulties in establishing whether activity and attention levels are consistent or not

with the developmental stage of the person (Xenitidis, Paliokosta, Rose, Maltezos, & Bramham, 2010).

The presence of other disorders such as autism and communication difficulties can make it difficult to apply the DSM V criteria of ADHD in people with ID who lack verbal communication skills (citation removed for blind review) and therefore their applicability in people with ID with limited verbal communication skills is questionable.

Assessment tools

There is a lack of diagnostic tools to specifically assess ADHD symptomatology in children and adolescents with ID. The difference between ADHD and behaviour consistent with ID is often based on clinical judgement (citation removed for blind review). This raises the question whether clinical judgment is the gold standard compared to other diagnostic methods. Clinical judgement has been shown to be superior to structured assessments using diagnostic criteria. A study in dementia in ID has shown that clinical judgment was superior to DSM V in diagnosing dementia in people with Down Syndrome (Sheehan et al., 2015). The DIVA-5-ID questionnaire helps in diagnosing ADHD in ID but has not been validated in clinical studies in people with ID (Kooij et al., 2019).

The paucity of structured or validated tools to assist the diagnosis of ADHD in adults with ID could mean that adults with ID and ADHD often remain undiagnosed and untreated. Under-diagnosis is problematic because ADHD in adults with ID may have a more severe presentation and an uneven and less favourable pattern of improvement across the lifespan in comparison with adults without ID (Xenitidis et al., 2010). Rose and colleagues demonstrated that individuals with co-morbid ADHD and intellectual disability may be vulnerable to a 'double deficit' from both disorders in certain aspects of cognitive functioning (Rose, Bramham, Young, Paliokostas, & Xenitidis, 2009).

Aims

In this study, the aims are to compare the accuracy of the diagnosis of ADHD in people with ID according the DSM V criteria versus clinical judgment and if so, to determine which criteria are more reliable.

Materials and Methods

A questionnaire was developed using five fictional case scenarios of people with ID. The case scenarios were developed by clinical experts in the diagnosis of ADHD in patients with ID. Of the 5 cases, three had a diagnosis of ADHD that were intended to be clear, uncomplicated descriptions of the disorder. The other two cases described people who clearly did not have ADHD. All cases included the relevant information that would be expected in a standard psychiatric assessment of ADHD. The questionnaire, with cases correctly identified, is available in the appendix.

Participants

Questionnaires were presented to practising psychiatrists chosen as a convenience sample in the UK over a period of 12 months.

Index tests

The clinicians were asked to read the scenarios and to make a judgement on the cases with regard to the symptoms of ADHD. They were then presented with the 18 DSM V criteria of ADHD and asked to select the criteria they considered were present in each scenario. The criteria they selected were later summed by the study team into the relevant categories to determine a diagnosis of ADHD as per DSM V.

Reference standard

Case scenarios were developed and agreed to be positive or negative for ADHD by the study authors prior to rating by clinicians. This assignment by the study authors was taken as the

reference standard. Clinicians were not aware of the correct diagnosis prior to submitting their questionnaire.

Supplementary information

Anonymised information about the clinicians was also collected that included specialisation in ID, and the number of years of clinical experience and level of training. This study has been reported according to the STARD 2015 guidelines for diagnostic accuracy studies (Cohen et al., 2016).

Statistical Analysis

Sensitivity, specificity, likelihood ratios and predictive values for both the DSM V criteria and clinical opinions were calculated for correctly identifying the exemplar cases. These are given with their 95% confidence intervals (CIs). McNemar's test was used to assess if any observed differences between the tests were statistically significant with the alpha threshold set at <0.05. Fleiss's Kappa was used to assess the inter-rater reliability of the two index tests with thresholds of agreement set at the levels reported by Landis and Koch (Landis & Koch, 1977).

Analysis was conducted using R for Windows 3.5.2 (R Foundation, Vienna, Austria) with the irr (0.84.1) and epiR (0.9-99) packages.

Ethical Approval

This study was registered with the Research and Development Department of the local NHS Trust which determined that no ethical approval was necessary.

Results

Thirty-seven clinicians completed the questionnaire of whom 36 were psychiatrists holding a professional qualification e.g. MRCPsych. 32 (86%) of the clinicians were specialists in the Psychiatry of Intellectual Disability. All the clinicians who were not specialists in ID reported

seeing people with ID regularly (minimum one patient with ID every week). One clinician worked mainly with children, 34 worked with adults, one with both adults and children, and one did not answer.

The diagnoses made by the participants using their clinical judgement and the DSM V criteria are shown in tables 1 and 2 respectively. The performance characteristics for each test are shown in table 3. There were no indeterminates or missing data.

The data showed strong sensitivity (0.82 95% CI 0.74-0.89) and perfect specificity (1.00 95% CI 0.95-1.00) for the raters' clinical opinion evident from there not being a single false positive diagnosis using this. In contrast, the DSM V criteria, as assessed by the raters, did not reliably provide ADHD diagnoses, with a sensitivity of only 0.23 (95% CI 0.15-0.31). This difference in sensitivity between the two was statistically significant at $p<0.001$. Specificity was strong with the DSM V criteria but at 0.99 (95% CI 0.93-1.00) that differed significantly from raters' clinical opinion ($p=1$).

Inter-rater reliability

Fleiss's Kappa for clinical opinion was 0.919 ($p<0.001$) and 0.415 ($p<0.001$) for raters selecting the same DSM V criteria. These indicate 'almost perfect' and 'moderate' agreement respectively, as per the *a priori* criteria (Landis & Koch, 1977).

Analysis of individual DSM V criteria

Table 4 indicates the percentage of raters who selected each DSM V criterion in both the positive and negative cases. A2, A8, H1, and H5 were the most commonly selected DSM V criteria in positive cases and the only criteria selected by the majority (>50%) of raters in the positive cases.

Discussion

There has been increasing research into the diagnosis of ADHD along with advances in pharmacological and non pharmacological strategies to reduce functional impairment secondary to it. However, the diagnosis of ADHD in people with Intellectual disabilities has not received much attention in literature. The diagnosis of Attention Deficit Hyperactivity Disorder (ADHD) can be challenging for people with intellectual disability (ID). There can be diagnostic overshadowing where hyperactive, impulsive and inattentive symptoms are attributed to the ID rather than to the ADHD; moreover, clinicians may lack confidence to make a diagnosis of ADHD in patients with ID and may have difficulty to establish whether activity and attention levels are consistent or not with the developmental stage of the individual (Xenitidis et al., 2010).

The underdiagnosis of ADHD in patients with ID is problematic, particularly as it has been shown that ADHD in adults with ID may have a more severe presentation and an uneven and less favourable pattern of improvement across the lifespan in comparison with adults without ID (Xenitidis et al., 2010). Moreover, it has been shown that adolescents with ID continue to be at elevated risk for ADHD (risk ratio: 3.38:1) compared to their typically developing peers (Neece et al., 2013). The true prevalence of ADHD in people with ID is not currently known; a review reported that prevalence rates of ADHD symptoms in individuals with intellectual disability vary significantly depending on instruments and diagnostic practices employed (Reilly & Holland, 2011). The findings of a review by Antshel and colleagues showed that ADHD is a valid psychiatric condition in children with ID, but the positive predictive power and negative predictive power of ADHD symptoms in this population remain an open question without knowing the base rates of ADHD (Antshel, Phillips, Gordon, Barkley, & Faraone, 2006).

There is currently no clear guidance as to how ADHD should be assessed in an individual with ID, meaning that at present the assessment is the same as the general population. Moreover, the presence of other disorders such as autism and communication difficulties can make it

difficult to apply the DSM V criteria of ADHD inattention and hyperactivity/impulsivity in people with ID (citation removed for blind review). For example, certain criteria are applicable for people with verbal communication, therefore their applicability in people with ID who have limited verbal communication skills can be questioned.

There is a lack of scales to specifically assess ADHD symptomatology in children and adolescents with ID. Recently, Freeman and colleagues developed the Scale of Attention in Intellectual Disability (SAID) which is a teacher-completed measure (Freeman, Gray, Taffe, & Cornish, 2015). A study applied this scale to 176 children with autism spectrum disorder (ASD), Down Syndrome (DS), or idiopathic ID (Freeman, Gray, Taffe, & Cornish, 2016). The results showed that that children with ASD had a significantly greater breadth of hyperactive/impulsive behaviours than those with DS or idiopathic ID, meaning that there can be differences in ADHD symptoms across diagnostic groups.

Similarly, there are no validated tools to screen and/or diagnose ADHD in adults with ID. This means that the distinction between ADHD and behaviour consistent with ID often has to be made by an experienced clinician's judgement (citation removed for blind review). This raises the question whether clinical judgment is the gold standard compared to other diagnostic methods. Sanders et al. (2015) in the systematic review of studies comparing diagnostic clinical prediction rules with clinical judgment showed that clinical judgment is often superior to others (Sanders, Doust, & Glasziou, 2015). Similar findings have been reported in studies looking at the accuracy of clinical judgment vs use of standard diagnostic tools such as DSM or ICD in diagnosing dementia in people with Downs syndrome (Sheehan et al., 2015).

The lack of structured or validated tools to assist the diagnosis of ADHD in adults with ID could mean that adults with ID and ADHD often remain undiagnosed and untreated. The DIVA-5- ID was recently produced to help with the diagnosis of ADHD in people with ID. However, there

is a need to ensure that the applicability of ADHD diagnostic criteria in people with cognitive impairments is robust and involves the use of validated and reliable assessment tools.

What the study tells us

The study compared the validity and reliability of clinicians' opinion with the DSM V criteria in diagnosing ADHD in adults with intellectual disabilities. The sensitivity of clinical opinion was 0.82, in other words, the use of clinical opinion can diagnose 82 out of 100 people with the diagnosis of ADHD. This reduced to 23 out of 100 (0.23) people with ADHD using the DSM V diagnostic criteria. Both clinical opinion and DSM V criteria had high specificity, that is, if someone with ID does not have ADHD, the accuracy of combined clinical opinion and DSM V criteria in correctly detecting ADHD was almost 100%. The high specificity could be due to multiple factors for example, clinicians' ability to detect correctly the absence of ADHD. It could also be explained by clinicians' lack of awareness or skills in diagnosing ADHD. Clinical opinion had high inter-rater reliability compared with the inter-rater reliability using DSM V. The results demonstrate that using clinical opinion when diagnosing ADHD in ID demonstrated high sensitivity and inter-rater reliability.

Positive and negative predictive values can be helpful to further identify the strength of two diagnostic methods. Positive predictive value, the proportion of people who are positive for a test when they actually have that condition, was high for both clinical opinion and application of DSM V criteria. This suggests that diagnosis of ADHD based on clinical opinion or DSM V criteria, is likely to be accurate in the person with ID. The negative predictive value for clinical opinion was 0.76 suggesting that if the clinical opinion is that the person does not have ADHD, only 76% of cases do not have ADHD. It was lower at 46% when DSM V Criteria were applied. This raises the question about how confidence in clinical opinion and DSM V criteria can be raised when ruling out the diagnosis of ADHD.

Applying DSM V criteria in people with ID has been debated (citation removed for blind review). This study revealed that 4 out of 18 DSM V diagnostic criteria were used more often by clinicians when diagnosis of ADHD was given. These were 'inability to sustain attention' (A2), 'distractibility' (A8), 'inability to sit in one place for longer' (H2) and 'often on the go' (H5). It is likely that they relied on these symptoms because of the difficulty on relying on higher intellectual functioning such as communication in people with ID. The DSM V criteria that were used least were 'loosing things' (A7), `forgetful in daily activities' (A9), 'talking excessively' (H6), 'often blurt out answers' (H7) and 'interrupt or intrude on others' (H9). These criteria rely on a person possessing a higher level of functioning and that may explain why they were used less often. This highlights the issue in diagnosing ADHD in people with ID using standard DSM V criteria. Unless the standard criteria are adapted for the group of people with ID with a range of intellectual functioning and adaptive behaviours, under diagnosis of ADHD in ID will continue to be a challenge.

Strengths and Limitations

This study methodology used realistic case scenarios to simulate the diagnosis of ADHD in people with ID. Data was collected prospectively and with no missing data or indeterminates. Clinicians were blinded to the reference standard when rating each case scenario and conversely, authors assigned the correct diagnosis for each case *a priori,* before the start of the study and hence without knowledge of index test values. There was a relatively large number of raters in this study that gave a precise estimate for inter-rater reliability.

It could be argued that the reference test used, the correct diagnosis assigned by the authors, is subjective and not a true gold standard for the diagnosis but there is no validated and accepted gold standard for ADHD in people with ID. All psychiatric diagnostic tools have a degree of subjectivity in their interpretation as they are conducted by interview and/or survey of people and informants.

This study had a small number of cases resulting in imprecise estimates of performance characteristics. Diagnosis of ADHD involves clinical interview with the person with ID and possibly observations when diagnosis is not clear. Raters did not meet the person with ID. Therefore, the diagnosis of ADHD was purely based on case scenarios given to them which is only part of the diagnostic assessment. Therefore it can be argued that this method does not fully replicate the clinical judgment and application of DSM V criteria.

Implications for practice

The study speculates on applying DSM V criteria in clinical practice in diagnosing ADHD in people with ID. It suggests that clinical opinion should be the 'gold standard' in diagnosing ADHD in adults with intellectual disability in the absence of a validated diagnostic tool in this group. DSM V criteria for ADHD may need to be adapted in people with ID. Currently, there is no clear guidance on assessing ADHD in people with ID relying on criteria applied in the general population that might not be sensitive in intellectual disabilities. It is important to explore ADHD symptoms in people with ID and how they can present differently compared to their peers without ID. Further research is needed to understand the symptoms of ADHD in people with ID in order to improve the diagnostic process.

	ADHD	No ADHD	Totals
Positive Clinical Opinion	91	0	91
Negative Clinical Opinion	20	74	94

Table 1 - Clinical opinion in diagnosing ADHD

		ADHD	No ADHD	Totals
DSM V Criteria	Positive	25	1	26
	Negative	86	73	159

Table 2 - DSM V Criteria in diagnosing ADHD

	Clinical Opinion	DSM V Criteria	p-value
Sensitivity (95% CI)	0.82 (0.74-0.89)	0.23 (0.15-0.31)	<0.001
Specificity (95% CI)	1.00 (0.95-1.00)	0.99 (0.93-1.00)	1
Positive Predictive Value (95% CI)	1.00 (0.96-1.00)	0.96 (0.80-1.00)	-
Negative Predictive Value (95% CI)	0.79 (0.69-0.86)	0.46 (0.38-0.54)	-
Positive Likelihood Ratio (95% CI)	Inf	16.67 (2.31-120.35)	-
Negative Likelihood Ratio (95% CI)	0.18 (0.12-0.27)	0.79 (0.71-0.87)	-

Table 3- Performance characteristics of Clinical Opinion and DSM V Criteria in diagnosing ADHD

DSM V Criterion	Percentage selected in positive cases	Percentage selected in negative cases
A1	19.8	0.0
A2	**85.6**	8.1
A3	28.8	2.7
A4	35.1	4.1
A5	22.5	1.4
A6	18.9	2.7
A7	1.8	0.0
A8	**62.2**	5.4
A9	2.7	0.0
H1	48.6	1.4
H2	**77.5**	17.6
H3	12.6	2.7
H4	21.6	1.4
H5	**69.4**	5.4
H6	5.4	0.0
H7	4.5	1.4
H8	30.6	16.2
H9	9.0	2.7

Table 4- Performance of individual DSM V criteria

References

American Psychiatric Association. (2013). *Diagnostic and Statistical Manual of Mental*

Disorders. (American Psychiatric Association, Ed.) (5th ed.). Washington, DC.

Antshel, K. M., Phillips, M. H., Gordon, M., Barkley, R., & Faraone, S. V. (2006). Is ADHD a valid disorder in children with intellectual delays? *Clinical Psychology Review*, *26*(5), 555–572. doi:10.1016/j.cpr.2006.03.002

Cohen, J. F., Korevaar, D. A., Altman, D. G., Bruns, D. E., Gatsonis, C. A., Hooft, L., … Bossuyt, P. M. M. (2016). STARD 2015 guidelines for reporting diagnostic accuracy studies: explanation and elaboration. *BMJ Open*, *6*(11), e012799. doi:10.1136/bmjopen-2016-012799

Emerson, E. (2003). Prevalence of psychiatric disorders in children and adolescents with and without intellectual disability. *Journal of Intellectual Disability Research*, *47*(Pt 1), 51–58. doi:10.1046/j.1365-2788.2003.00464.x

Freeman, N. C., Gray, K. M., Taffe, J. R., & Cornish, K. M. (2015). Development of a new attention rating scale for children with intellectual disability: the scale of attention in intellectual disability (SAID). *American Journal on Intellectual and Developmental Disabilities*, *120*(2), 91–109. doi:10.1352/1944-7558-120.2.91

Freeman, N. C., Gray, K. M., Taffe, J. R., & Cornish, K. M. (2016). A cross-syndrome evaluation of a new attention rating scale: The Scale of Attention in Intellectual Disability. *Research in Developmental Disabilities*, *57*, 18–28. doi:10.1016/j.ridd.2016.06.005

Jensen, P. S. (2000). Current concepts and controversies in the diagnosis and treatment of attention deficit hyperactivity disorder. *Current Psychiatry Reports*, *2*(2), 102–109.

Kooij, J. J. S., Bijlenga, D., Salerno, L., Jaeschke, R., Bitter, I., Balázs, J., … Asherson, P. (2019). Updated European Consensus Statement on diagnosis and treatment of adult ADHD. *European Psychiatry*, *56*, 14–34. doi:10.1016/j.eurpsy.2018.11.001

Landis, J. R., & Koch, G. G. (1977). The measurement of observer agreement for categorical data. *Biometrics*, *33*(1), 159–174. doi:10.2307/2529310

Neece, C. L., Baker, B. L., Crnic, K., & Blacher, J. (2013). Examining the validity of ADHD as a diagnosis for adolescents with intellectual disabilities: clinical presentation. *Journal of*

Abnormal Child Psychology, *41*(4), 597–612. doi:10.1007/s10802-012-9698-4

Polanczyk, G., de Lima, M. S., Horta, B. L., Biederman, J., & Rohde, L. A. (2007). The worldwide prevalence of ADHD: a systematic review and metaregression analysis. *The American Journal of Psychiatry*, *164*(6), 942–948. doi:10.1176/ajp.2007.164.6.942

Reilly, C., & Holland, N. (2011). Symptoms of Attention Deficit Hyperactivity Disorder in Children and Adults with Intellectual Disability: A Review. *Journal of Applied Research in Intellectual Disabilities*, *24*(4), 291–309. doi:10.1111/j.1468-3148.2010.00607.x

Reiss, S., Levitan, G. W., & Szyszko, J. (1982). Emotional disturbance and mental retardation: diagnostic overshadowing. *American Journal of Mental Deficiency*, *86*(6), 567–574.

Rose, E., Bramham, J., Young, S., Paliokostas, E., & Xenitidis, K. (2009). Neuropsychological characteristics of adults with comorbid ADHD and borderline/mild intellectual disability. *Research in Developmental Disabilities*, *30*(3), 496–502. doi:10.1016/j.ridd.2008.07.009

Sanders, S., Doust, J., & Glasziou, P. (2015). A systematic review of studies comparing diagnostic clinical prediction rules with clinical judgment. *Plos One*, *10*(6), e0128233. doi:10.1371/journal.pone.0128233

Saul, R. (2014). *ADHD Does not Exist: The Truth About Attention Deficit and Hyperactivity Disorder*. HarperCollins.

Sheehan, R., Sinai, A., Bass, N., Blatchford, P., Bohnen, I., Bonell, S., … Strydom, A. (2015). Dementia diagnostic criteria in Down syndrome. *International Journal of Geriatric Psychiatry*, *30*(8), 857–863. doi:10.1002/gps.4228

Xenitidis, K., Paliokosta, E., Rose, E., Maltezos, S., & Bramham, J. (2010). ADHD symptom presentation and trajectory in adults with borderline and mild intellectual disability. *Journal of Intellectual Disability Research*, *54*(7), 668–677. doi:10.1111/j.1365-2788.2010.01270.x

Appendix

Research Study: Diagnosing ADHD in Intellectual Disability population

Background: The diagnosis of mental disorder is made either by overall clinical impression or use of diagnostic criteria such as DSM V. This study aims to look at both diagnostic processes when diagnosing ADHD in ID population.

Task: There are 5 case scenarios. Please read all scenarios and decide if you think the patient is likely to have ADHD or not.

There are 18 criteria listed after each scenario. Depending on the information available, please tick the criteria which are present in each case scenario.

Case 1- ADHD +ve

Sam is a 19 year old male with moderate to severe intellectual disabilities and Autism. He lives with his parents. He attends college on 5 days a week. He suffers from a moderate level of anxiety which affects his daily functioning.

Sam has strict daily routines. He can become more anxious and challenging when he has not got structured activities. He was described as 'being stubborn at times'. He sometimes refuses to engage in activities even though he knows that he should. This can lead to difficult

behaviours. His parents and carers help him with most activities of daily living. All activities are planned for him. They make sure that he attends his activities.

When he is at college, he cannot sit in one place for long. He gets up and walks around most of the time. College tutors say that he does not pay attention to work. If someone sits with him, he can focus a bit longer. Sam can be loud most of the time during the day. He is always walking around and doing various activities. His mother says that at home he cannot sit still in one place for long. He finds it very hard to sit at the dinner table. He will be the first one to finish the meal as quickly as he can and to walk away. He finds it hard to do long train journeys. When his carers book train journeys, they break the journey a few times so he can get out of the train and catch the next train because it is hard for him to stay on one train for long. He is describes as 'fidgeting' most of the time. Most of these difficulties have been present since childhood.

In my clinical opinion, with the information available, Sam is:

1. likely to have ADHD - YES
2. unlikely to have ADHD

Please tick the following criteria that apply to Sam

No.	Criteria	Present
1.	Often fails to give close attention to details or makes careless mistakes in school work or at work	
2.	Often has difficulty sustaining attention in tasks or play activities	
3.	Often does not appear to listen or mind seems elsewhere even in the absence of any obvious distraction	
4.	Often struggles to follow through on instructions and fails to finish work, chores, or duties	
5.	Often has difficulty with organizing tasks and activities	
6.	Often avoids, dislikes, or is reluctant to engage in tasks requiring a lot of thinking e.g. school work, completing forms, preparing reports	
7.	Often loses things	
8.	Often is easily distracted	
9.	Often forgetful in daily activities	
1	Often fidgets with hands or feet or squirms in chair	
2	Often finds it difficult to remain seated	
3	Often runs about or climbs in situations that are not appropriate	
4	Often unable to play or engage quietly in leisure activities	
5	Often 'on the go', acts as if 'driven by a motor'	
6	Often talks excessively	
7	Often blurts out answers before questions have been completed	
8	Often difficulty in waiting or taking turns	

9	Often interrupts or intrudes on others	

Case 2- ADHD -ve

David is a 43 year old man with moderate ID. He lives in a residential home. His behaviour can be challenging episodically. This includes pacing up and down, not sitting in one place for long and verbal aggression. He can become impulsive in his behaviour. He finds it hard to wait his turn. His mood appears irritable. This presentation can last for up to 1-2 weeks. During these periods of agitation, he struggles to go to sleep and is resists personal care. His behaviour then gradually reduces and remains calm without agitated behaviour for 2-3 weeks. During this period, he is compliant, relaxed, sleeps well, and engages with staff without behavioural difficulties. This pattern of behaviour most likely started about 20 years ago.

In my opinion, with the information available, David is:

1. likely to have ADHD
2. unlikely to have ADHD - YES

Please tick the following criteria that apply to David

No.	Criteria	Present
1.	Often fails to give close attention to details or makes careless mistakes in school work or at work	
2.	Often has difficulty sustaining attention in tasks or play activities	
3.	Often does not appear to listen or mind seems elsewhere even in the absence of any obvious distraction	
4.	Often struggles to follow through on instructions and fails to finish work, chores, or duties	
5.	Often has difficulty with organizing tasks and activities	
6.	Often avoids, dislikes, or is reluctant to engage in tasks requiring a lot of thinking e.g. school work, completing forms, preparing reports	
7.	Often loses things	
8.	Often is easily distracted	
9.	Often forgetful in daily activities	
1	Often fidgets with hands or feet or squirms in chair	
2	Often finds it difficult to remain seated	
3	Often runs about or climbs in situations that are not appropriate	
4	Often unable to play or engage quietly in leisure activities	

5	Often 'on the go', acts as if 'driven by a motor'	
6	Often talks excessively	
7	Often blurts out answers before questions have been completed	
8	Often difficulty in waiting or taking turns	
9	Often interrupts or intrudes on others	

Case 3- ADHD +ve

Carly is a 22 year old female with moderate intellectual disability. She lives in a residential home.

Carly has verbal and comprehensive language skills. She is described as 'more uptight' and 'more edgy' most of the time. She can target other residents by shouting at them or potential physical aggression. She has used medication such as Sertraline to manage anxiety.

Carly is hyperactive and fidgety most of the time since childhood. Staff described her as 'having got a lot of energy' and is 'always on the go'. She can be impulsive and finds it hard to wait for her turn. If some activity is suggested, she likes to do it straight away. She gets distracted easily. It is difficult to comment on her level of concentration because she finds it hard to sit and focus on one task unless a carer sits with her and gets her to focus when she gets distracted.

In my clinical opinion, with the information available, Carly is:

1. likely to have ADHD- YES
2. unlikely to have ADHD

Please tick the following criteria that apply to Carly

No.	Criteria	Present
1.	Often fails to give close attention to details or makes careless mistakes in school work or at work	
2.	Often has difficulty sustaining attention in tasks or play activities	
3.	Often does not appear to listen or mind seems elsewhere even in the absence of any obvious distraction	
4.	Often struggles to follow through on instructions and fails to finish work, chores, or duties	
5.	Often has difficulty with organizing tasks and activities	
6.	Often avoids, dislikes, or is reluctant to engage in tasks requiring a lot of thinking e.g. school work, completing forms, preparing reports	
7.	Often loses things	
8.	Often is easily distracted	
9.	Often forgetful in daily activities	
1	Often fidgets with hands or feet or squirms in chair	
2	Often finds it difficult to remain seated	
3	Often runs about or climbs in situations that are not appropriate	
4	Often unable to play or engage quietly in leisure activities	
5	Often 'on the go', acts as if 'driven by a motor'	
6	Often talks excessively	
7	Often blurts out answers before questions have been completed	
8	Often difficulty in waiting or taking turns	

9	Often interrupts or intrudes on others	

Case 4- ADHD -ve

Beryl is 52 year old woman with mild LD presenting and behavioural challenges. She can be very demanding in her behaviour. Her mood is irritable at times leading to abuse towards other residents and carers. However there are times she can be happy and pleasant towards her carers. There are days when she remains calm and settled without difficulties such as sitting and watching TV. Her behaviour becomes challenging especially when her carers attend to other residents in her care home. She can refuse to do her personal care and urinates in the living room even though she is continent of urine. These behavioural difficulties have appeared over the last 2 years. The triggers for the change in her behaviour are not clear.

In my clinical opinion, with the information available, Beryl is:

1. likely to have ADHD
2. unlikely to have ADHD- YES

Please tick the following criteria that apply to Beryl

No.	Criteria	Present
1.	Often fails to give close attention to details or makes careless mistakes in school work or at work	
2.	Often has difficulty sustaining attention in tasks or play activities	
3.	Often does not appear to listen or mind seems elsewhere even in the absence of any obvious distraction	
4.	Often struggles to follow through on instructions and fails to finish work, chores, or duties	
5.	Often has difficulty with organizing tasks and activities	
6.	Often avoids, dislikes, or is reluctant to engage in tasks requiring a lot of thinking e.g. school work, completing forms, preparing reports	
7.	Often loses things	
8.	Often is easily distracted	
9.	Often forgetful in daily activities	
1	Often fidgets with hands or feet or squirms in chair	
2	Often finds it difficult to remain seated	
3	Often runs about or climbs in situations that are not appropriate	
4	Often unable to play or engage quietly in leisure activities	
5	Often 'on the go', acts as if 'driven by a motor'	

6	Often talks excessively	
7	Often blurts out answers before questions have been completed	
8	Often difficulty in waiting or taking turns	
9	Often interrupts or intrudes on others	

Case 5- ADHD +ve

Maria is a 24 year old woman with moderate ID and severe Autism who has recently moved to a residential home. Staff report that it is difficult to manage her because of her challenging behaviour. She is managed with one-to-one observation because she does not stay in one place for more than a few minutes and poses risks to herself if she is left alone. She is always pacing and rarely sits in one place. When she starts to engage in activities she does not stay on the task for long and changes to a different task but most of the time will walk away from it. She has been like this since childhood. Her parents managed her behaviour when she was young but now that she has grown up, carers find it hard to manage her behaviour that can sometimes lead to challenging behaviour. There are particular triggers that increase her anxiety for example, Christmas and Easter, or when she is preparing to go home from her day service. When she is anxious, the behaviours become more challenging.

In my clinical opinion, with the information available, Maria is:

1. likely to have ADHD- YES
2. unlikely to have ADHD

Please tick the criteria that apply to Maria

No.	Criteria	Present
1.	Often fails to give close attention to details or makes careless mistakes in school work or at work	
2.	Often has difficulty sustaining attention in tasks or play activities	
3.	Often does not appear to listen or mind seems elsewhere even in the absence of any obvious distraction	
4.	Often struggles to follow through on instructions and fails to finish work, chores, or duties	
5.	Often has difficulty with organizing tasks and activities	
6.	Often avoids, dislikes, or is reluctant to engage in tasks requiring a lot of thinking e.g. school work, completing forms, preparing reports	
7.	Often loses things	
8.	Often is easily distracted	
9.	Often forgetful in daily activities	

1	Often fidgets with hands or feet or squirms in chair	
2	Often finds it difficult to remain seated	
3	Often runs about or climbs in situations that are not appropriate	
4	Often unable to play or engage quietly in leisure activities	
5	Often 'on the go', acts as if 'driven by a motor'	
6	Often talks excessively	
7	Often blurts out answers before questions have been completed	
8	Often difficulty in waiting or taking turns	
9	Often interrupts or intrudes on others	

About yourself:

1. Are you a Psychiatrist? (holding a professional qualification e.g. MRCPsych)

Yes	No

2. Are you a Specialist in the Psychiatry of Intellectual Disability? (CCT in Psychiatry of ID)

Yes	No

3. If you are not a specialist in ID, or still in training, do you regularly see people with intellectual disability? (as a minimum, one patient with ID per week)

Yes	No

4. How many years have you been working as a Psychiatrist?

   0 – 5 years; 6 – 10 years; 11 – 15 years; 16 – 20 years; 20+ years

5. With which group do you mainly work?

Children	Adults (over 18)	dults and children

B. Perera - November 2016