Diagnostic Stability of Psychiatric Disorders in Preschool Children

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ABSTRACT

Objective: To examine the stability of psychiatric disorders in preschoolers across time and to determine the factors associated with diagnostic stability.

Methods: This retrospective chart review was conducted on 256 children aged 3 to 5 years who received psychiatric evaluation at the Child and Adolescent Psychiatric Clinic and the Developmental and Behavioral Pediatric Clinic over a period of at least 2 years and had the last follow-up visit within the ages of 6 to 18 years.

Results: Only autism spectrum disorder (ASD) and attention-deficit/hyperactivity disorder (ADHD) showed statistical significance of good and fair diagnostic stability, respectively. Conditions unlisted in the Diagnostic and Statistical Manual of Mental Disorders, fifth edition (DSM-5) manual such as behavioral, child-rearing, emotional dysregulation, and writing problems, and also normal condition, had high transition rates to later ADHD. Living with parents, chief complaints, psychiatric comorbidity, medication use at the first visit, duration of follow-up and change of doctor over time were significantly associated with the stability of diagnoses.

Conclusions: Preschool ASD and ADHD seem more stable than other diagnoses and tend to co-occur with other conditions, suggesting that they are likely to continue and exhibit further problems. Clinicians should pay particular attention to early identification based on standardized diagnostic practices and consider the factors influencing dynamical changes in order to prevent future impairment.

Keywords: diagnostic stability, DSM-5, preschool, child and adolescent psychiatry

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INTRODUCTION

Preschool period is one of the most critical stages of development.[1] Families may seek help from child psychiatrists or pediatricians for common problems such as behavioral problems, separation difficulties, language delays, and social impairment such as autism spectrum disorder (ASD).[2] Studies suggested that the majority of mental illnesses in adulthood started early. Therefore, evaluating psychiatric difficulties during preschool period and their stability across time may help to understand the likely outcome and prediction of mental disorders in order to plan and intervene in advance.[3-5]

Numerous studies have evaluated the diagnostic stability of psychiatric disorders among adult population. Evidence showed the continuity of diagnoses range from almost 30% personality disorders to 70% psychotic disorders.6 In children and adolescents, findings have varied due to different methods and characteristics of the population. A study in Denmark suggested that about 40% of psychiatric diagnoses in adolescence remained the same as in childhood.[7] The other study in Canada found that psychiatric diagnoses based on the Diagnostic and Statistical Manual of Mental Disorders, fourth edition, text revision (DSM-IV-TR) were unstable when children became young adults.[8] Some earlier studies concluded that diagnoses like mood disorders and psychotic disorders seemed more stable than others.[4,8-13] On the other hand, some study indicated that mood disorders showed less stable than behavioral disorders.[14] Regarding the larger sample size in other research, attention-deficit/hyperactivity disorder (ADHD) and oppositional defiant disorder (ODD) in preschoolers were more likely to be the same at subsequent visits.[15,16]

Our review of studies looking at the associated factors found that familial risk, severity of symptoms at baseline diagnosis, comorbidities of disruptive disorders, and stressful life events were related to the stability of neurodevelopmental disorders in preschool children.[17-19] Additionally, one cross-sectional cohort study concluded that the longer duration of follow-up, the more diagnosis might have changed.8 However, gender, maternal education, and family income had no effect.[17,18]

To our knowledge, data about diagnostic stability in children and adolescents have shown differences across studies. In addition, there are few studies among preschool samples in Thailand. Thus, the aim of this study was to examine the stability of psychiatric disorders in Thai preschool children and to determine the factors associated with diagnostic stability.

METHODS

Study design and participants

This study protocol was approved by the Ethics Committee on Human Experimentation of the Faculty of Medicine, Ramathibodi Hospital, Mahidol University, Bangkok, Thailand (approval number: MURA2021/742). We performed a retrospective chart review via electronic medical records at Ramathibodi Hospital. Our sample included children aged 3-5 years who received first psychiatric assessment at either the Child and Adolescent Psychiatric Clinic or the Developmental and Behavioral Pediatric Clinic from January 2012 to December 2019. They had to be 6-18 years old at the date of last assessment. Based on a study that showed significant change of diagnostic stability at two or more year gap between assessments,[8] we chose a minimum of two-year follow-up period for enrollment, with acknowledgment that cases of shorter clinical courses might not be included. Individuals who had genetic, thyroid, or neurological diseases such as epilepsy, tuberous sclerosis, cerebral palsy and brain tumor were excluded from the study.

We collected patients' information including age, gender, living with parents, family history of psychiatric disorders, education, type of outpatient clinic, chief complaints, psychiatric diagnoses, comorbidities, medication use, duration of follow-up, and the change of doctor. Data were extracted between 6 September 2021 and 31 January 2022.

Diagnostic measures

Diagnostic assessments were based on the DSM-IV-TR or DSM-5[20] performed by either child and

adolescent psychiatrists and residents or developmental-behavioral pediatricians and fellows. DSM-IV-TR-based diagnoses made prior to May 2013 were converted to similar codes within the DSM-5. For subjects with more than one diagnosis, the first-listed diagnosis was used and the others were collected as comorbidities. Some conditions not listed in the DSM-5 were grouped into broader categories such as behavioral, child-rearing, emotional, and writing problems. Cases assessed to be normal were also included to determine whether the impressions changed later.

Outcome measures

The primary outcome was the diagnostic stability between the first and last outpatient visits over the period from preschooler (3-5 years old) to school age and adolescence (6-18 years old). Secondary outcomes were factors associated with diagnostic stability.

Statistical analyses

All statistical analyses were performed with SPSS, version 24. Demographic data and clinical characteristics were shown in descriptive statistics. We assessed data distribution to determine the appropriate statistical test. The stability for each diagnosis was estimated through three measures. First, positive concordance rate represented the proportion of individuals whose diagnoses were unchanged throughout the first and last visit. Second, negative concordance rate showed the proportion of individuals who were not diagnosed with a given disorder at the first and the last. Third, kappa coefficient demonstrated an estimate of agreement between diagnoses at both evaluations, ranging from -1 to +1, where negative kappa represents disagreement, and +1 represents perfect agreement between two data points.[21] Kappa values were interpreted as follows: values less than or equal to 0.40 indicate poor stability, 0.41-0.60 as fair stability, 0.61-0.80 as good stability, and 0.81-1.00 as excellent stability.[8] Chi-square test and Fisher's exact test were used to investigate the association between factors represented as categorical variables and diagnostic stability. Statistical significance was determined at the level of p-value less than 0.05.

RESULTS

Sample description

There were 819 preschoolers who visited the clinic. We excluded 40 subjects with incomplete medical records, 172 subjects who did not receive psychiatric assessment, 73 subjects with genetic, thyroid, or neurological diseases, and 278 subjects due to less than 2-year follow-up period. Finally, a total of 256 participants were included in this study.

Demographic data and clinical characteristics for all children are shown in Table 1 Most participants were male (84%), with median age of 4.0±1.0 at baseline. About 17.2% had family history of psychiatric disorders, predominantly ADHD. The most common chief complaints were hyperactivity (41%), followed by language delay (26.5%), combined inattention and hyperactivity (10.5%), aggressive behavior (9%) and developmental delay (5.1%). The median age at last follow-up was 9.0±4.0 years.

Table 2 shows the prevalence of diagnoses at both visits. At baseline, ADHD was the most prevalent diagnosis (40.2%), followed by ASD (19.9%) and normal condition (12.5%). At last follow-up as school age and adolescence, these remained the most prevalent, but the percentage of ADHD and ASD increased to 58.6 and 24.6, respectively. On the other hand, normal cases dropped to 4.3%. There was a threefold increase in the number of psychiatric comorbidities from first visit (16%) to last visit (48%). The outcome of medication use showed in the same way. Individuals with ASD and ADHD often had comorbid psychiatric disorders, and both conditions commonly occur together. Although SLD was not the main diagnosis at first visit, it frequently co-occurred with other psychiatric disorders, especially ADHD, at last visit.

Diagnostic stability

Table 3 presents the diagnostic stability using Kappa statistic. Only ASD and ADHD showed statistical significance. Most (92.2%) of ASD had stable diagnosis with the highest Kappa coefficient (0.78) suggesting good

TABLE 1 Demographic data and clinical characteristics (N = 256)

	Frequency (N)	Percentage (%)
Type of outpatient clinic		
Child and adolescent psychiatry	108	42.2
Developmental and behavioral pediatric	148	57.8
Gender		
Male	215	84.0
Female	41	16.0
Living with parents		
With both parents	219	85.6
With single parent	20	7.8
Not living with parents	17	6.6
Family history of psychiatric disorders		
Not documented	212	82.8
Global developmental delay	1	0.4
Language disorder	9	3.5
Autism spectrum disorder	1	0.4
Attention-deficit/ hyperactivity disorder	23	9.0
Depressive disorder	6	2.3
Bipolar disorder	2	0.8
Substance use disorder	1	0.4
Consanguinity	1	0.4
Education		
No	14	5.5
Nursery	31	12.1
Kindergarten	211	82.4
Chief complaint		
Developmental delay	13	5.1
Language delay	68	26.5
Dysarticulation	4	1.5
Inattention	4	1.6
Hyperactivity	105	41
Combined inattention and hyperactivity	27	10.5
Aggressive behavior	23	9.0
Abnormal movement	3	1.2
Depression or anxiety	5	2.0
Child abuse	3	1.2
Nail biting	1	0.4
Age groups at last follow-up		
School age (6-11 years)	208	81.2
Adolescence (12-18 years)	48	18.8
Duration of follow-up		
2-4 years	106	41.4
5-7 years	102	39.8
≥ 8 years	48	18.8
Change of doctor		
No	51	19.9
Yes	205	80.1
Change of diagnosis		
No	164	64.1
Yes	92	35.9

stability. ADHD also had high percentage (94.2%) of stable cases and showed fair stability with moderate Kappa coefficient (0.55). Diagnostic transitions from first to last visit are shown in Table 4. Nonspecific conditions such as behavioral, child-rearing, emotional, and writing problems, including normal condition, had high transition rates to later ADHD.

Factors associated with diagnostic stability

According to chi-square and Fisher's exact test in Table 5, the stability of diagnoses was significantly associated with living with parents ($\chi 2 = 6.900$, $p = 0.032$), chief complaints (Fisher's exact = 29.639, $p = 0.000$), psychiatric comorbidity ($\chi 2 = 5.721$, $p = 0.017$), medication use at first visit ($\chi 2 = 22.613$, $p = 0.000$),

TABLE 2 Prevalence of DSM-5 diagnoses at the first and the last visits (N = 256)

DSM-5 diagnoses	First visit		Last visit	
	N	%	N	%
Intellectual disability	0	0.0	7	2.7
Global developmental delay	16	6.3	0	0.0
Language disorder	27	10.5	10	3.9
Speech sound disorder	3	1.2	0	0.0
Autism spectrum disorder	51	19.9	63	24.6
Attention-deficit/hyperactivity disorder	103	40.2	150	58.6
Specific learning disorder	0	0.0	4	1.6
Tic disorders	2	0.8	1	0.4
Anxiety disorders	1	0.4	5	1.9
Oppositional defiant disorder	1	0.4	2	0.8
Child abuse	3	1.2	0	0.0
Behavioral problems	8	3.1	2	0.8
Child-rearing problems	5	1.9	0	0.0
Emotional dysregulation	3	1.2	1	0.4
Writing problems	1	0.4	0	0.0
Normal	32	12.5	11	4.3

duration of follow-up ($\chi 2 = 8.363$, $p = 0.015$), and change of doctor ($\chi 2 = 4.259$, $p = 0.039$). However, gender, family history of psychiatric disorders, level of education, type of outpatient clinic, medical comorbidity and age at last follow-up were nonsignificant.

DISCUSSION

Our findings showed good diagnostic stability in ASD and fair diagnostic stability in ADHD. Since both were the two most prevalent diagnoses in this study, the number of participants with such conditions provided sufficient power to detect statistical significance.

In the case of ASD, while previous research indicated 80% stability from preschooler to school age,[22] our result showed a greater percentage. As ASD is one of the most concerning developmental disabilities that require life-long support, physicians are likely to maintain the diagnosis. Moreover, neurodevelopmental disorders seem to be a consistent trait, with manifestations differing across age groups.

Regarding ADHD, the result was in line with prior studies revealing moderate stability.[14-16] Another study reported that about 89% of preschoolers continued to meet diagnostic criteria for ADHD over a 6-year period of follow-up.[23] It is possible that externalizing symptoms may be more obvious to caregivers to observe than internalizing symptoms.

Nonspecific problems and normal condition showed high transition rates to later ADHD. This may be explained by ADHD manifestations which are typically acknowledged at school-age in forms of classroom behavior and academic problems. Furthermore, doctors may be acquainted with criteria for ADHD, giving higher sensitivity for symptom detection and diagnosis. However, it also relates to hospital settings, training curriculum, and the awareness in each society.

The number of psychiatric comorbidities at last visit were relatively high compared to first visit. Similar to our results, other research showed that SLD was typically diagnosed in school age and often comorbid with ADHD.[24]

TABLE 3 Diagnostic stability of psychiatric disorders (N = 256)

Psychiatric diagnoses	Unstable diagnosis		Stable diagnosis		Diagnostic stability		
	Present at the first but absent at the last	Absent at the first but present at the last	Present at both	Absent at both	Present at both (%)	Kappa coefficient	*p* values
Intellectual disability	0	7	0	249	0.0	*	*
Global developmental delay	16	0	0	240	0.0	*	*
Language disorder	18	1	9	228	33.3	0.46	0.102
Speech sound disorder	3	0	0	253	0.0	*	*
Autism spectrum disorder	4	16	47	189	92.2	0.78**	0.048
Attention-deficit/hyperactivity disorder	6	53	97	100	94.2	0.55**	0.048
Specific learning disorder	0	4	0	252	0.0	*	*
Tic disorders	1	0	1	254	50.0	0.67	0.315
Anxiety disorders	0	4	1	251	100.0	0.33	0.247
Oppositional defiant disorder	1	2	0	253	0.0	-0.01	0.004
Child abuse	3	0	0	253	0.0	*	*
Behavioral problems	7	1	1	247	12.5	0.19	0.169
Child-rearing problems	5	0	0	251	0.0	*	*
Emotional dysregulation	3	1	0	252	0.0	-0.01	0.005
Writing problems	1	0	0	255	0.0	*	*
Normal	28	7	4	217	12.5	0.13	0.080

*No statistics are computed because at least one of the variables is constant.

**Kappa coefficient > 0.00, $p < 0.05$

TABLE 4 Transition from diagnosis at first to last visit (N = 256)

Diagnosis at the first visit		Diagnosis at the last visit: Intellectual disability	GDD	Language disorder	Speech sound disorder	ASD	ADHD	SLD	Tic disorders	Anxiety disorders	ODD	Other problems	Normal	Total
Intellectual disability	N	0	0	0	0	0	0	0	0	0	0	0	0	0
	%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
GDD	N	4	0	1	0	5	5	1	0	0	0	0	0	16
	%	25.0%	0.0%	6.3%	0.0%	31.2%	31.2%	6.3%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Language disorder	N	0	0	9	0	7	8	3	0	0	0	0	0	27
	%	0.0%	0.0%	33.3%	0.0%	25.9%	29.6%	11.1%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Speech sound disorder	N	0	0	0	0	0	2	0	0	1	0	0	0	3
	%	0.0%	0.0%	0.0%	0.0%	0.0%	66.7%	0.0%	0.0%	33.3%	0.0%	0.0%	0.0%	100.0%
ASD	N	0	0	0	0	47	2	0	0	0	0	1	1	51
	%	0.0%	0.0%	0.0%	0.0%	92.1%	3.9%	0.0%	0.0%	0.0%	0.0%	2.0%	2.0%	100.0%
ADHD	N	1	0	0	0	2	97	0	0	0	0	0	3	103
	%	1.0%	0.0%	0.0%	0.0%	1.9%	94.2%	0.0%	0.0%	0.0%	0.0%	0.0%	2.9%	100.0%
SLD	N	0	0	0	0	0	0	0	0	0	0	0	0	0
	%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Tic disorders	N	0	0	0	0	0	1	0	1	0	0	0	0	2
	%	0.0%	0.0%	0.0%	0.0%	0.0%	50.0%	0.0%	50.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Anxiety disorders	N	0	0	0	0	0	0	0	0	1	0	0	0	1
	%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	100.0%
ODD	N	0	0	0	0	0	1	0	0	0	0	0	0	1
	%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Other problems	N	1	0	0	0	1	10	0	0	1	2	2	3	20
	%	5.0%	0.0%	0.0%	0.0%	5.0%	50.0%	0.0%	0.0%	5.0%	10.0%	10.0%	15.0%	100.0%
Normal	N	1	0	0	0	1	24	0	0	2	0	0	4	32
	%	3.1%	0.0%	0.0%	0.0%	3.1%	75.0%	0.0%	0.0%	6.3%	0.0%	0.0%	12.5%	100.0%
Total	N	7	0	10	0	63	150	4	1	5	2	3	11	256
	%	2.7%	0.0%	3.9%	0.0%	24.6%	58.6%	1.6%	0.4%	1.9%	0.8%	1.2%	4.3%	100.0%

GDD = Global developmental delay, ASD = Autism spectrum disorder, ADHD = Attention-deficit/hyperactivity disorder, SLD = Specific learning disorder, ODD = Oppositional defiant disorder

Scale: 25.0% | 50.0% | 75.0% | 100.0%

TABLE 5 The associations between factors and diagnostic stability (N = 256)

Factors	Change of diagnosis				χ^2	Fisher's Exact	p values
	No		Yes				
	N	%	N	%			
Gender					0.943		0.331
Male	135	62.8	80	37.2			
Female	29	70.7	12	29.3			
Living with parents					6.900		0.032*
With both parents	146	66.7	73	33.3			
With single parent	12	60.0	8	40.0			
Not living with parents	6	35.3	11	64.7			
Family history of psychiatric disorders					0.079		0.779
No	135	63.7	77	36.3			
Yes	29	65.9	15	34.1			
Education					1.272		0.259
No	7	50.0	7	50.0			
Yes	157	64.9	85	35.1			
Type of outpatient clinic					0.098		0.754
Child and adolescent psychiatry	68	63.0	40	37.0			
Developmental and behavioral pediatric	96	64.9	52	35.1			
Chief complaint						29.639	<0.001*
Developmental delay	7	53.8	6	46.2			
Language delay	48	70.6	20	29.4			
Dysarticulation	2	50.0	2	50.0			
Inattention	2	50.0	2	50.0			
Hyperactivity	70	66.7	35	33.3			
Combined inattention and hyperactivity	24	88.9	3	11.1			
Aggressive behavior	8	34.8	15	65.2			
Abnormal movement	2	66.7	1	33.3			
Depression or anxiety	1	20.0	4	80.0			
Child abuse	0	0.0	3	100.0			
Nail biting	0	0.0	1	100.0			
Psychiatric comorbidities					5.721		0.017*
No	131	60.9	84	39.1			
Yes	33	80.5	8	19.5			
Medical comorbidities							
No	145	64.2	81	35.8	0.008		0.929
Yes	19	63.3	11	36.7			

TABLE 5 The associations between factors and diagnostic stability (N = 256) (continue)

Factors	Change of diagnosis				χ^2	Fisher's Exact	p values
	No		Yes				
	N	%	N	%			
Medication use					22.613		<0.001*
No	116	56.9	88	43.1			
Yes	48	92.3	4	7.7			
Age groups at last follow-up					0.007		0.934
School-age	133	63.9	75	36.1			
Adolescence	31	64.6	17	35.4			
Duration of follow-up					8.363		0.015*
2-4 years	59	55.7	47	44.3			
5-7 years	76	74.5	26	25.5			
≥ 8 years	29	60.4	19	39.6			
Change of doctor					4.259		0.039*
No	39	76.5	12	23.5			
Yes	125	61.0	80	39.0			

*p< 0.05

Regarding co-occurence of ADHD and ASD, previous studies explained shared genetic heritability and some clinical features such as behavioral and social issues.[25-27] Autistic children can seem hyperactive like ADHD on grounds of repetitive motor movements, whereas children with ADHD may have poor social skills like ASD. Thus, the physicians should be aware of both overlapping and different symptoms between these two as well as the impact on children and their families once diagnoses were made.

Our result suggested that living with parents associated with diagnostic stability. It may be due to the reliability of parents' report by close and continuous observation. Additionally, chief complaints, presence of psychiatric comorbidity and medication use at first visit may reflect the severity and specificity of symptoms which determined the diagnostic stability. This was similar to at least one previous study that revealed the factors such as comorbidity and severity of symptoms.[17,18] Another factor was the duration of follow-up. This was congruent with previous research suggesting that the stability of diagnoses was affected by time.8 Psychiatric disorders are known to change manifestation throughout developmental trajectories. Therefore, long-term monitoring is essential for observing the fluidity of disorders. Finally, diagnostic stability may also depend on change of the doctor over the follow-up period. Nonetheless, this study was done in a medical school, where transition of doctors is a given, once residents graduate.

In contrast with previous study,[19] family history of psychiatric disorders did not show significant association with diagnostic stability. This could be due to a large amount of unrecorded data of this variable on medical charts, so we could not know whether participants had certain family history of psychiatric disorders or not.

Strengths and limitations

This is the first study examining the stability of various psychiatric problems in Thai preschoolers over the period up to 10 years, which included not only the DSM-5 diagnoses but also nonspecific and normal conditions. This helped us to expand our understanding

about the patterns of diagnoses and factors related to diagnostic stability in our setting.

However, there were several limitations. First, we only assessed the outpatients within one of the university hospitals in Thailand, which might not be representative of general population. Second, the sample size was small, which affected the power and kappa calculation. Third, some key information might not be documented in medical records. Fourth, most diagnoses were based on clinicians' interviews rather than using standardized diagnostic instruments, thus potential biases might occur. Moreover, diagnosis made at first visit might be inconclusive or unreliable because clinicians usually require collateral information from schools and related tests, collected throughout multiple visits. Fifth, although we focused on first-listed diagnosis noted in the medical charts, we could not be full of confidence that a particular diagnosis is a true definite diagnosis. Sixth, the exact visit where diagnoses change occurred were not specified in our study. Timing of diagnoses changes might reflect different situations such as remission, revision of diagnosis, or even a new entity of disorder totally unrelated with earlier ones. Seventh, there might be other factors apart from this study such as type of informant, caregiver's level of education and socioeconomic status, which could influence the diagnostic stability. Finally, the result showed only association between some variables and the stability of diagnoses, not the temporal relationship or causality.

CONCLUSION

Preschool ASD and ADHD seem more stable than other diagnoses and tend to co-occur with other conditions, suggesting that they are likely to continue and exhibit further problems. Clinicians should pay particular attention to early identification based on standardized diagnostic practices and consider the factors influencing dynamical changes in order to prevent future impairment. Additional prospective longitudinal research in a large community sample of preschoolers should be considered.

Authors' contributions

PP planned the study, collected the data, performed the statistical analysis and wrote the manuscript. PL conceived the original idea, supervised the project and approved the final manuscript.

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REFERENCES

1. Sadock BJ, Sadock VA, Ruiz P. Kaplan & Sadock's synopsis of psychiatry: Behavioral sciences/clinical psychiatry. 11th ed. Philadelphia: Wolters Kluwer; 2015.
2. Martin A, Bloch MH, Volkmar FR. Lewis's child and adolescent psychiatry: A comprehensive textbook. 5th ed. Philadelphia: Wolters Kluwer; 2018.
3. Thapar A, Pine DS, Leckman JF, Scott S, Snowling MJ, Taylor E, editors. Rutter's child and adolescent psychiatry. 6th ed. Chichester: John Wiley and Sons; 2015.
4. Mattanah JJ, Becker DF, Levy KN, Edell WS, McGlashan TH. Diagnostic stability in adolescents followed up 2 years after hospitalization. Am J Psychiatry 1995;152:889-94.
5. Whitty P, Clarke M, McTigue O, Browne S, Kamali M, Larkin C, et al. Diagnostic stability four years after a first episode of psychosis. Psychiatr Serv 2005;56:1084-8.
6. Baca-Garcia E, Perez-Rodriguez MM, Basurte-Villamor I, Fernandez del Moral AL, Jimenez-Arriero MA, Gonzalez de Rivera JL, et al. Diagnostic stability of psychiatric disorders in clinical practice. Br J Psychiatry 2007;190:210-6.
7. Dyrborg J, Wang AR. Adolescent psychiatric patients with child psychiatric debut: a description of diagnostic stability and change. Nordic Journal of Psychiatry 1997;51:153-8.
8. Ghazan-shahi S, Roberts N, Parker K. Stability/change of DSM diagnoses among children and adolescents assessed at a university hospital: a cross-sectional cohort study. J Can Acad Child Adolesc Psychiatry 2009;18:287-92.
9. Blázquez A, Ortiz AE, Castro-Fornieles J, Morer A, Baeza I, Martínez E, et al. Five-year diagnostic stability among adolescents in an inpatient psychiatric unit. Compr Psychiatry 2019;89:33-9.

10. Pettit JW, Morgan S, Paukert AL. The stability of axis I diagnoses in youth across multiple psychiatric hospitalizations. Child Psychiatry Hum Dev 2005;36:53-71.
11. Remberk B, Bogumił B, Namysłowska I. Retrospective analysis of the course of psychotic episodes in adolescent inpatients. Psychiatr Pol 2012;46:511-21.
12. Fusar-Poli P, Cappucciati M, Rutigliano G, Heslin M, Stahl D, Brittenden Z, et al. Diagnostic stability of ICD/DSM first episode psychosis diagnoses: meta-analysis. Schizophr Bull 2016;42:1395-406.
13. Consoli A, Brunelle J, Bodeau N, Louët E, Deniau E, Perisse D, et al. Diagnostic transition towards schizophrenia in adolescents with severe bipolar disorder type I: an 8-year follow-up study. Schizophr Res 2014;159:284-91.
14. Copeland WE, Adair CE, Smetanin P, Stiff D, Briante C, Colman I, et al. Diagnostic transitions from childhood to adolescence to early adulthood. J Child Psychol Psychiatry 2013;54:791-9.
15. Bufferd SJ, Dougherty LR, Carlson GA, Rose S, Klein DN. Psychiatric disorders in preschoolers: continuity from ages 3 to 6. Am J Psychiatry 2012;169:1157-64.
16. Costello EJ, Mustillo S, Erkanli A, Keeler G, Angold A. Prevalence and development of psychiatric disorders in childhood and adolescence. Arch Gen Psychiatry 2003;60:837-44.
17. Tandon M, Si X, Luby J. Preschool onset attention-deficit/hyperactivity disorder: course and predictors of stability over 24 months. J Child Adolesc Psychopharmacol 2011;21:321-30.
18. Hinnebusch AJ. The diagnostic stability of developmental delay and developmental language disorder in infants and toddlers. Uconn Library [Internet]. 2014 [cited 2022 Dec 10]. Available from: https://opencommons.uconn.edu/gs_theses/541
19. Ozonoff S, Young G, Landa R, Brian J, Bryson S, Charman T, et al. Diagnostic stability in young children at risk for autism spectrum disorder: a baby siblings research consortium study. J Child Psychol Psychiatry 2015;56. doi: 10.1111/jcpp.12421.
20. American Psychiatric Association. Diagnostic and statistical manual of mental disorders. 5th ed. Washington: American Psychiatric Publishing; 2013.
21. McHugh ML. Interrater reliability: the kappa statistic. Biochem Med 2012;22:276-82.
22. Kadam A, Patni B, Pandit A, Patole S. Stability of the initial diagnosis of autism spectrum disorder by DSM-5 in children: a short-term follow-up study. J Trop Pediatr 2021;67:1-6. doi: 10.1093/tropej/fmaa104.
23. Riddle MA, Yershova K, Lazzaretto D, Paykina N, Yenokyan G, Greenhill L, et al. The preschool attention-deficit/hyperactivity disorder treatment study (PATS) 6-year follow-up. J Am Acad Child Adolesc Psychiatry 2013;52:264-78.
24. Büber A, Başay Ö, Şenol H. The prevalence and comorbidity rates of specific learning disorder among primary school children in Turkey. Nord J Psychiatry 2020;74:453-60.
25. Craig F, Lamanna AL, Margari F, Matera E, Simone M, Margari L. Overlap between autism spectrum disorders and attention deficit hyperactivity disorder: searching for distinctive/common clinical features. Autism Res 2015;8:328-37.
26. Antshel KM, Russo N. Autism spectrum disorders and ADHD: overlapping phenomenology, diagnostic issues, and treatment considerations. Curr Psychiatry Rep 2019;21:34. doi: 10.1007/s11920-019-1020-5.
27. Hours C, Recasens C, Baleyte JM. ASD and ADHD comorbidity: what are we talking about?. Front Psychiatry 2022;13:837424. doi: 10.3389/fpsyt.2022.837424.