

MINI-KID: Reliability and Validity in Children & Adolescents

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Abstract

Background: Structured diagnostic interviews improve reliability in the assessment of psychiatric disorders in children and adolescents, but are often long and difficult to administer. The Mini International Neuropsychiatric Interview (MINI-KID) was developed to provide a short but reliable and valid structured diagnostic interview for psychopharmacology trials and epidemiology studies in this population. **Objectives:** To examine the reliability and validity of the MINI-KID as a diagnostic instrument in child and adolescent outpatients and controls. **Method:** 226 subjects, aged 6-17, were administered the MINI-KID and the Schedule for Affective Disorders and Schizophrenia for School Aged Children-Present and Lifetime Version (K-SADS-PL) in a counterbalanced order by blinded raters on the same day. The interrater and retest reliability of the MINI-KID and its concordance with the parent rated MINI-KID (MINI-KID-P) were also tested. Diagnostic agreement was assessed using AUC, kappa, sensitivity, specificity, positive predictive value, negative predictive value and efficiency at the level of syndromal diagnoses and individual disorders. **Results:** MINI-KID - K-SADS-PL concordance was high (AUC = .81-.96, kappa = .55-.87) for syndromal diagnoses of any mood disorder, any anxiety disorder, any substance use disorder, any behavioral disorder, any eating disorder and any psychotic disorder. Sensitivity was substantial (.64-1.0) for 15/20 individual disorders. Specificity was excellent (.81-1.0) for 18/20 disorders and substantial (>.73) for the remaining two disorders. Most of the classification differences between the MINI-KID and the K-SADS-PL were in the direction of the MINI-KID identifying more disorders than the K-SADS-PL. The MINI-KID identified a median of 3 disorders per subject compared to 2 on the K-SADS-PL. Overall, the MINI-KID was three times shorter to administer compared to the K-SADS-PL (33 minutes vs. 104 minutes). Interrater and retest concordance was high (AUC = .75-1.0, kappa = .64 -1.0) for all individual MINI-KID disorders except dysthymia. The concordance of the MINI-KID-P with the standard MINI-KID was better for externalizing disorders than for internalizing disorders. **Conclusion:** The MINI-KID is a reliable and valid measure of child and adolescent psychopathology that can be administered in a third of time as the K-SADS-PL. The MINI-KID has the advantage of identifying disorders that may be missed on the longer interview.

Introduction

- Although standardized diagnostic interviews have reduced the risk of inadequate assessment in children & adolescents,^{1,2,3} many of the existing interviews designed for this population are costly, time consuming, difficult to navigate and score, and require extensive training.¹
- There is a need for a brief but valid and reliable instrument to detect psychiatric disorders children & adolescents
- The Mini International Neuropsychiatric Interview for Children and Adolescents (MINI-KID) was designed to provide a short but valid and reliable diagnostic instrument for current DSM-IV & ICD-10 psychiatric disorders and suicidality in this population.⁴

Objectives

- This study investigates the reliability of the MINI-KID and its validity compared to the Kiddie-Schedule for Affective Disorders and Schizophrenia (K-SADS-PL) in an outpatient sample children & adolescents.

Methods

- Males & female outpatients and community controls, aged 6-17, were eligible. Subjects with a significant cognitive deficit or unstable medical condition were not included.
- The MINI-KID and the K-SADS-PL were administered in a counterbalanced order on the same day by clinician interviewers, each blind to the results of the other interview.
- To test the reliability of the MINI-KID, the interview was re-administered 1-5 days after the initial interview by a 3rd rater, blinded to the results of the previous interviews
- Diagnostic agreement was assessed using the AUC, the kappa coefficient, sensitivity, specificity, positive and negative predictive values and efficiency.

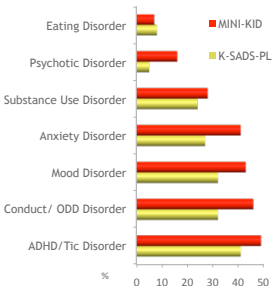
Results

- 226 children & adolescents participated
- Sensitivity and specificity were high (0.61-0.80) to very high (0.81+) for all diagnostic syndromes (mood disorder, anxiety disorder, attention deficit disorder, conduct, alcohol/substance abuse or dependence, eating disorder and psychotic disorder).
- Most of the classification differences were in the direction of the MINI-KID identifying more cases. The MINI-KID identified a mean of 3.6 [SD: 2.8] disorders compared to 2.0 [SD: 1.9] disorders for the K-SADS-PL.
- The mean duration of the MINI-KID was 3 times shorter than the K-SADS-PL (33.5 [SD: 14.5] minutes versus 103.4 [SD: 41.3] minutes).
- The test-retest reliability of the MINI-KID was uniformly high to very high for all psychiatric disorders.

Subjects

Demographics	
Age in years, mean (SD)	12.8 (SD: 3.5)
≤ 12 years, N (%)	83(37%)
12-17 years, N (%)	143 (63%)
Outpatients, N (%)	190 (84%)
Community Controls, N (%)	36 (16%)
Males, N (%)	132 (58%)
Females, N (%)	94 (42%)

Prevalence of Syndromal Diagnoses



References

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- 4 Sheehan DV, Lecrubier Y, Harnett Sheehan K, et al. The Mini-International Neuropsychiatric Interview (MINI): The development and validation of a structured diagnostic psychiatric interview for DSM-IV and ICD-10. *J Clin Psychiatry* 1998; 59 (suppl 20):21-32.

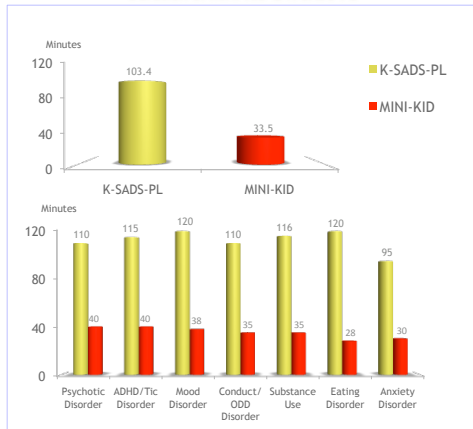
Concordance MINI-KID & K-SADS-PL

	AUC	Kappa	Sensitivity	Specificity
Any mood disorder	0.81	0.56	0.85	0.76
Major depressive episode	0.70	0.33	0.54	0.87
Dysthymia	0.67	0.16	0.43	0.91
Mania/Hypomania	0.84	0.50	0.96	0.73
Any anxiety disorder	0.84	0.59	0.90	0.77
Panic disorder	0.80	0.56	0.64	0.97
Agoraphobia	0.94	0.24	1.00	0.88
Separation anxiety	0.79	0.34	0.67	0.92
Social phobia	0.83	0.18	0.75	0.90
Simple phobia	0.73	0.35	0.54	0.93
OCD	0.86	0.47	0.81	0.90
PTSD	0.88	0.77	0.78	0.99
GAD	0.69	0.33	0.45	0.92
Any substance disorder	0.96	0.87	0.98	0.94
Alcohol dependence/abuse	0.95	0.84	0.94	0.96
Drug dependence/abuse	0.95	0.83	0.98	0.93
Any ADHD or Tic disorder	0.84	0.65	0.88	0.79
Any behavioral disorder	0.82	0.57	0.90	0.74
Conduct disorder	0.87	0.55	0.92	0.81
Oppositional defiant disorder	0.68	0.34	0.45	0.89
Any psychotic disorder	0.94	0.41	1.00	0.88
Psychotic disorder lifetime	0.85	0.44	0.75	0.94
Mood Psychotic features life	0.86	0.37	0.80	0.92
Any eating disorder	0.88	0.73	0.71	0.99

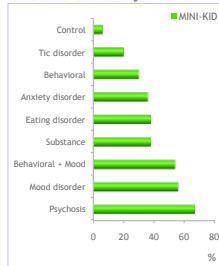
Interrater & Retest Reliability

	Interrater (N=87)		Retest: (N=83)	
	AUC	Kappa	AUC	Kappa
Major depressive episode	1.00	1.00	0.84	0.75
Dysthymia	0.99	0.79	0.69	0.41
Suicidality lifetime	0.99	0.96	0.88	0.81
Hypomania	0.83	0.79	0.87	0.74
Mania	0.94	0.93	0.88	0.81
Panic disorder	0.99	0.88	0.69	0.42
Agoraphobia	1.00	1.00	0.86	0.72
Separation anxiety	0.94	0.93	0.83	0.70
Social phobia	1.00	1.00	0.75	0.64
Specific phobia	1.00	1.00	0.98	0.65
OCD	0.95	0.94	0.84	0.75
PTSD	1.00	1.00	0.89	0.71
GAD	1.00	1.00	0.82	0.64
Alcohol dependence	1.00	1.00	0.96	0.89
Alcohol abuse	1.00	1.00	0.79	0.65
Drug dependence	1.00	1.00	0.98	0.94
Drug abuse	1.00	1.00	0.88	0.83
ADHD	0.94	0.90	0.91	1.00
Conduct disorder	1.00	1.00	0.92	0.85
Opp. defiant disorder	1.00	1.00	0.98	0.71
Psychotic disorder current	0.93	0.91	0.75	0.66
Mood psychotic features	1.00	1.00	0.99	0.74
Any eating disorder	1.00	1.00	1.00	1.00

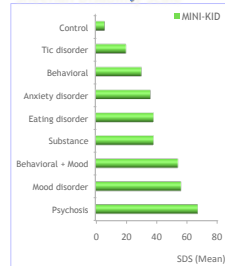
Duration of MINI-KID & K-SADS-PL



Lifetime Suicidality



Sheehan Disability Scale



Conclusions

- The MINI-KID is a reliable and valid instrument for detecting co-occurring psychiatric disorders in children & adolescents.
- The MINI-KID takes one third of the time to administer as the K-SADS-PL.
- The MINI-KID has the advantage of identifying disorders that may be missed on the longer K-SADS.