



Use of behavioral screening tools in new settings: methods, usefulness and experiences from the DR Congo

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Outline

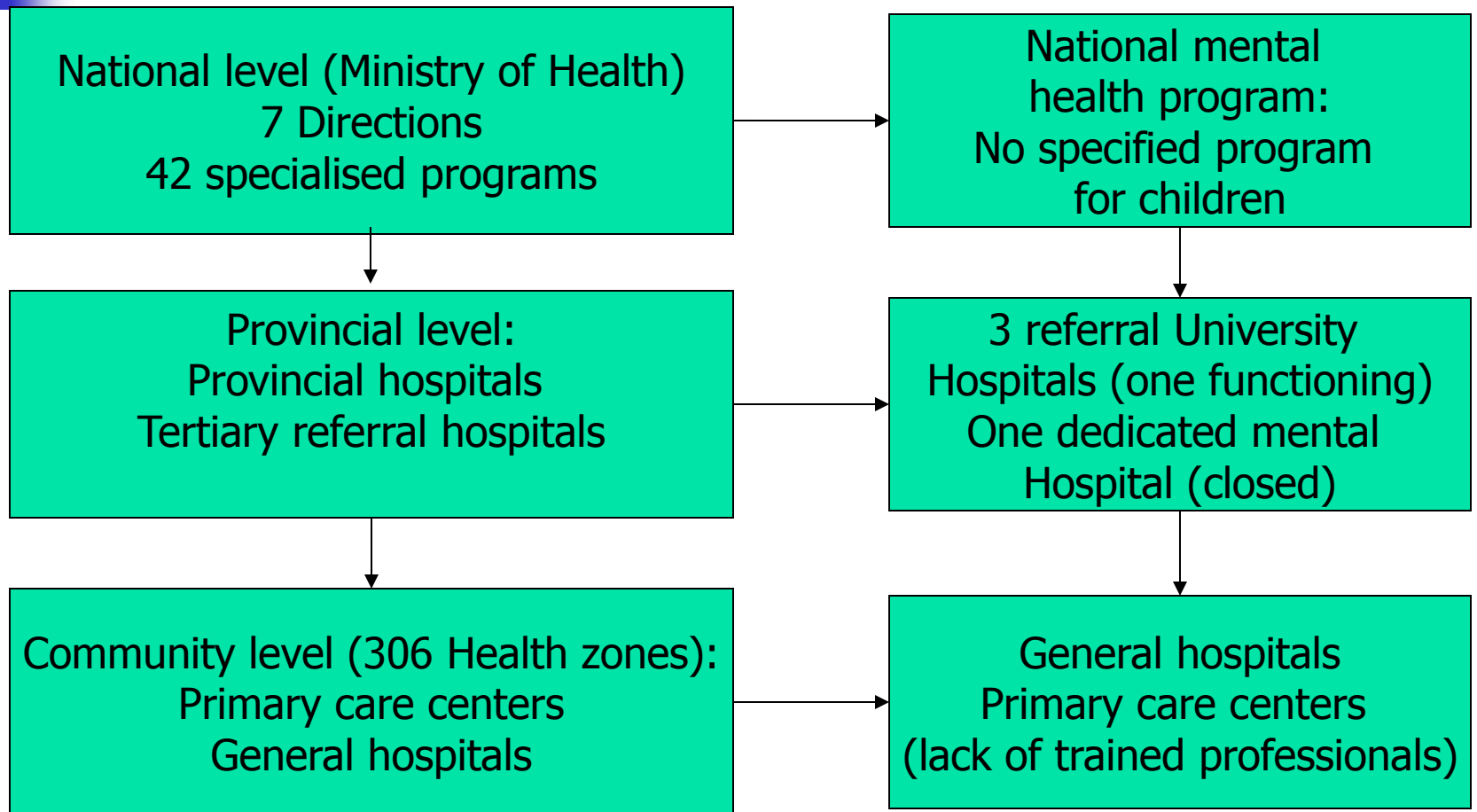
- Brief background
- Methods
- Tools
- Usefulness
- Experiences learned
- Conclusion

Background

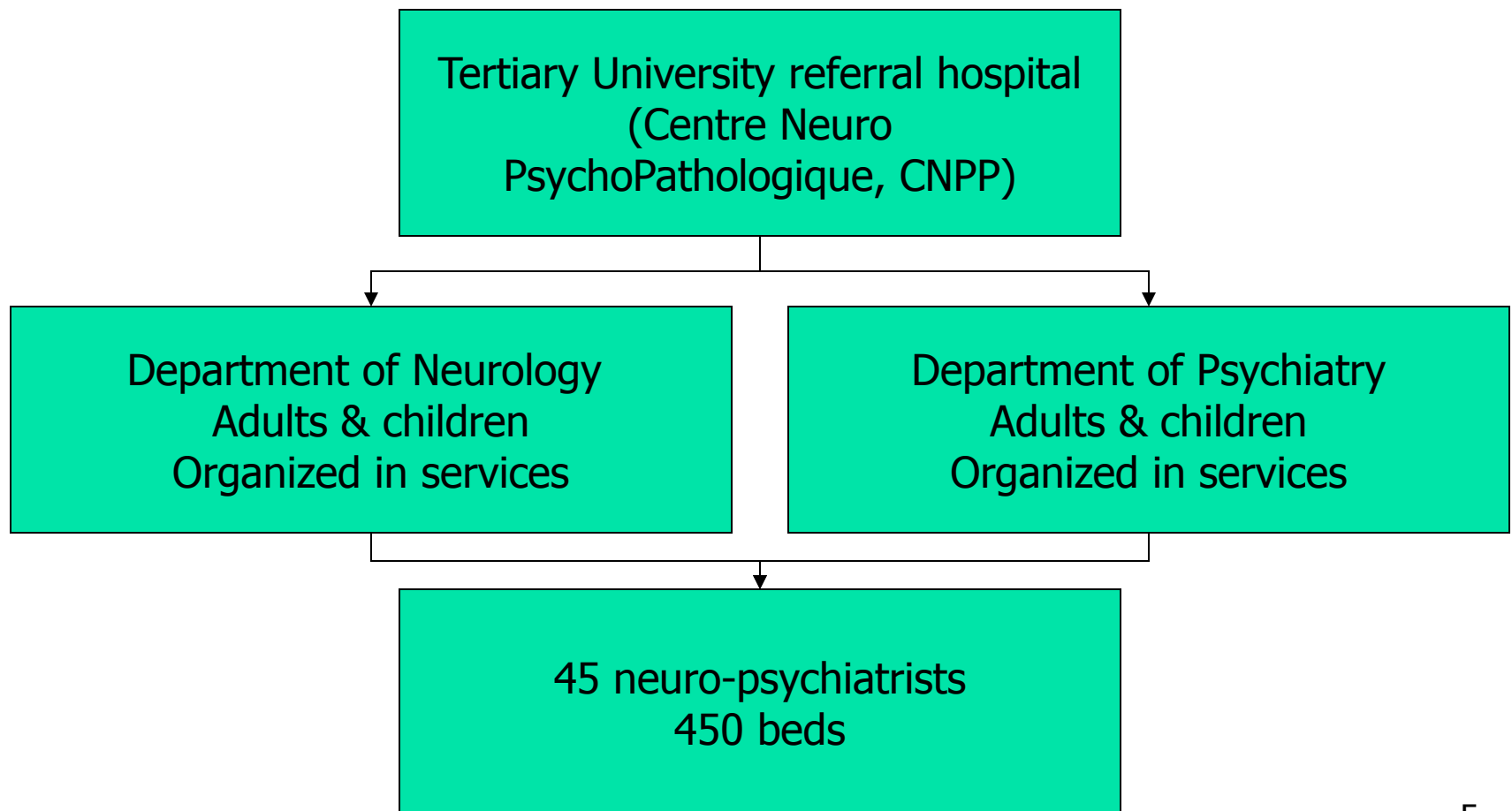


- DR Congo has an estimated population of **73 million** (2012)
- Kinshasa, the capital: 8 million
- In DR Congo: **One specialized and referral University Center** for both neurology and psychiatry

MHS organization in DR Congo?



MHS organization in DR Congo?





Background / Objectives

- Lack of knowledge on child mental health.
- No epidemiological and clinical studies
- Determine the prevalence of neuropsychiatric symptoms among school children aged 7-9 yrs. old in Kinshasa, DR Congo
- To assess the usefulness of the Strengths and Difficulties Questionnaire (SDQ) as a screening tool in an African urban setting



Methods

- Cross-sectional screening
 - Screening tool (SDQ): French version
 - Administered to the teachers
- Case-control approach
 - Interview with parents (DBD: DSM-IV based)
 - Clinical and psychometric (blinded)
 - Neuropsychiatric evaluation (neurology-psychiatry)
 - Selected psychometric tests



Tools

- Behavioral screening tool: SDQ
- Clinical: DBD DSM-IV based diagnostic tool
- Selected non-verbal tests to measure:
 - Intellectual function (Raven)
 - Executive functions
 - Attention and memory functions
 - Motor skills (speed and coordination)

Visual attention

B

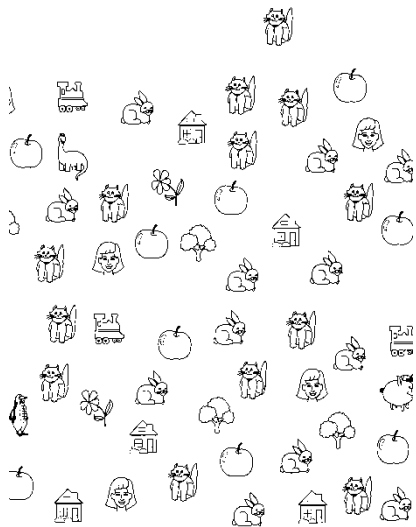
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EXEMPEL

2	1	4	6	3	5	2	1	3	4	2	1	3	1	2	3	1	4	2	6	3	1	2	5	1
3	1	5	4	2	7	4	6	9	2	5	8	4	7	6	1	8	7	5	4	8	6	9	4	3
1	8	2	9	7	6	2	5	4	7	3	6	8	5	9	4	1	6	8	9	3	7	5	1	4
9	1	5	8	7	6	9	7	8	2	4	8	3	5	6	7	1	9	4	3	6	2	7	9	3

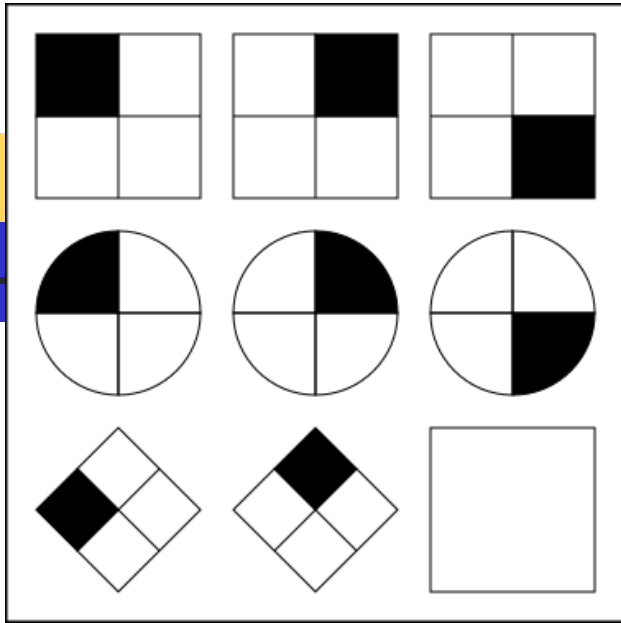
Coding B test

Cats and faces test

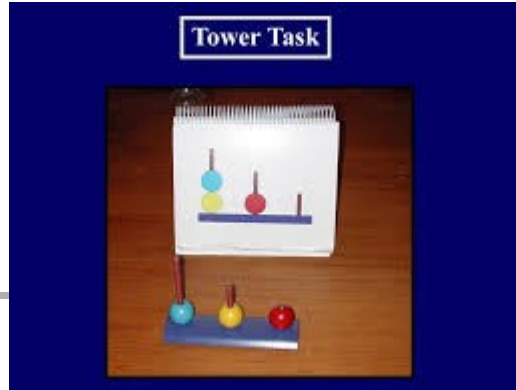


Groove pegboard

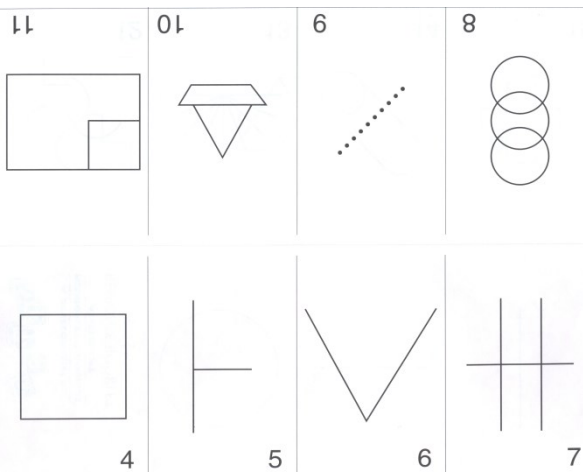




Raven test



Tower test



Design copying test



Usefulness

- SDQ useful screening tool
- Generated cut-off scores in DR Congo
- Similar factors structure (SDQ and psychometric tests)



Usefulness

- The selected instruments / tools measured the same functions as known from European and North American studies
- Baseline for a larger study and others
- Interpretation based on the local findings

Principal components factor analysis of the 25 items of the Strengths and Difficulties Questionnaire (SDQ) for the 1187 school children, seven to nine years of age, according to teachers. Only factor loadings above 0.40 are reported

SDQ items	Factors:				
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Emotional					
3 Somatic complaints			0.42		
8 Worries			0.72		
13 Unhappy			0.63		
16 Clingy		0.44	0.48		
24 Fears			0.67		
Conduct					
5 Temper					0.56
7 <i>Obedient</i>	-0.49				
12 Fights				0.61	0.49
18 Lies				0.58	
22 Steals				0.68	
Hyperactivity					
2 Restless					0.68
10 Fidgety					0.70
15 Distractible		0.63			
21 <i>Reflective</i>		0.81			
25 <i>Persistent</i>		0.79			
Peer					
6 Solitary			0.59		
11 <i>Good friend</i>	-0.66				
14 <i>Popular</i>	-0.69				
19 Picked on, bullied				0.49	
23 Best with adults					
Prosocial					
1 Considerate	0.47	-0.56			
4 Shares	0.75				
9 Caring	0.75				
17 Kind to kids	0.73				
20 Helps out	0.72				

Scores of italicised items were inverted before being entered in the analysis.



Subscale cut-offs

Cronbach's SDQ scales	C*cut-off Coefficient (α)	B ^a * cut-off		overall	
		Boys	Girls	overall	overall
Total Difficulties Score	0.81	21	18	19	16
Emotional	0.71	6	5	6	6
Conduct	0.64	5	4	5	4
Hyperactivity	0.66	7	7	7	7
Peer	0.35	5	5	5	5
Prosocial	0.80	3	3	3	4

*T-test p-value <0.05; ^a www.sdqinfo.com/bb1.html C*Congolese B*British

Principal components factor analysis of the neuropsychological variables for children aged seven to nine years old with hyperactivity-inattention symptoms 1 (cases=142) in comparison to children without symptoms (controls=141) in Kinshasa.

Measures	Factor 1 Executive functions	Factor 2 Memory	Factor 3 Attention
Finger Tapping	0.58		
G-Pegboard RS ²	0.79		
G-Pegboard LS ³	0.84		
Knox mean		0.61	
Digit Total Score		0.68	
Coding B Total Score		0.78	
Design Copying	-0.56	0.47	
Cats and Faces			0.65
Statue Total Score			0.70
Raven scores	-0.41		
Tower Total Score	-0.43		

¹Scores above the 90th percentile cut-offs (abnormal scores) on the hyperactivity inattention scale of the Strengths and Difficulties Questionnaire (www.sdqinfo.com)

²Groove Pegboard right hand seconds

³Groove Pegboard left hand seconds



Learned lessons / Experiences

- Tools are useful instruments but need to be interpreted with cautions
- Tools may work similarly in new settings but there is still a need for validation studies
- Factors analysis are useful for interpretation
- Piloting tools is a very important step to understand the benefits, challenges, limitations of the tools and its administration in new settings.



Conclusion

- Behavioral tools are useful as screening instrument in new settings
- Selection of psychometric tests in collaboration with psychologists is crucial
- Understand the local setting
- Caution before interpreting findings of a new tool in a culturally different setting



Thank you



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