Validity and Reliability Study of the Thai Version of WHO Schedules for Clinical Assessment in Neuropsychiatry: Sections on Psychotic Disorders

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Objective: *To determine the validity and reliability of the Thai version of the WHO Psychotic Disorders Sections of the Schedules for Clinical Assessment in Neuropsychiatry (SCAN) Version 2.1*
Material and Method: *The SCAN interview version 2.1 Psychotic Symptoms Sections (Section 16: Perceptual disorders other than hallucinations, Section 17: Hallucinations, Section 18: Experiences of thought disorder and replacement of will, and Section 19: Delusions) were translated into Thai. The content validity of the translation was established by comparing a back-translation of the Thai version to the English original. Whenever inconsistencies were encountered, the Thai version was adapted to convey the meaning of the original. The revised Thai version was then field-tested in 4 regions (Suanprung Psychiatric Hospital, Jitavejkhonkaen Hospital, Srithanya Hospital and Suansaranrom Psychiatric Hospital, each place comprised 20 volunteers) for comprehensibility of the relatively technical language. Between October 2004 and July 2006, thirty persons were recruited for the reliability study (16 males; 14 females). Sixteen persons were schizophrenic patients (9 males; 7 females) and 14 (7 males; 7 females) were normal persons or nonpsychotic psychiatric patients. Education and occupations varied widely. The subjects were interviewed by a psychiatrist competent in using the Thai version of SCAN and these interviews were recorded on video for later re-rating.*
Results: *Based on the response from Thai subjects and consultations with competent psychiatrists, content validity was established. The time taken to interview a schizophrenic patient averaged 140.2 $\pm$ 36.0 minutes (range, 75-193) vs. 81.9 $\pm$ 25.9 minutes (range, 48-124) for a comparison subject. The respective mean $\pm$ SD of inter-rater reliability (kappa) of Section 16, 17, 18 and 19 was 0.66 $\pm$ 0.17, 0.71 $\pm$ 0.16, 0.70 $\pm$ 0.22 and 0.64 $\pm$ 0.23. Some items in some sections had 100 percent agreement between raters. The respective intra-rater reliability was 0.65 $\pm$ 0.11, 0.74 $\pm$ 0.17, 0.86 $\pm$ 0.17 and 0.80 $\pm$ 0.18. Some sections had items with 100 percent agreement from the same rater even when rated 2 weeks apart. More than half of the items in each section had kappa values, both inter-rater and intra-rater, at least in substantial level.*
Conclusion: *The Thai version of the Psychotic Disorders Sections of SCAN version 2.1 proved to be a valid and reliable tool for assessing psychotic symptoms among Thais.*

Keywords: *Delusion, Hallucination, Perceptive disorder, Thought disorder, Psychotic symptoms, Reliability, Validity, Schedules for clinical assessment in neuropsychiatry, SCAN, Semi-structured interview*

J Med Assoc Thai 2008; 91 (3): 408-16
Full text. e-Journal: *http://www.medassocthai.org/journal*

Unlike most disciplines of physical medicine, psychiatry has no external validating criteria and no laboratory test to confirm or discard diagnostic impressions; therefore, diagnosis is dependent on the knowledge, skill and experience of each psychiatrist. Due to the idiosyncratic and variable manner in which information is expressed by patients and/or understood by the psychiatrist, it is uncertain whether several psychiatrists or even the same psychiatrist rating/re-rating the same patient will interpret the same symptoms and/or signs consistently[1,2].

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Many interview formats have been developed to facilitate the interviewing of psychotic patients; for example, the Schedule for Affective Disorders and Schizophrenia (SADS)[3], Composite International Diagnostic Interview (CIDI), Structure Clinical Interview for DSM-IV-TR (SCID)[4] and The WHO Schedules For Clinical Assessment In Neuropsychiatry (SCAN)[5,6].

SCAN is a semi-structured diagnostic-interview protocol with validated inter-rater reliability to help psychiatrists interview, assess, measure and classify psychopathology and behaviour-associated, according to the ICD-10 diagnostic system[7], with the major psychiatric disorders among adults. The SCAN text has 3 components: the 10th edition of the Present State Examination (PSE10), the Item Group Checklist (IGC) and the Clinical History Schedule (CHS). PSE10 has two parts. Part I covers somatoform, dissociative, anxiety, depressive and bipolar disorders, and problems associated with eating, alcohol and other substance use. Part II covers psychotic and cognitive disorders and observed abnormalities of speech, affect and behavior[8]. SCAN is the gold standard for verifying interview-diagnoses done through clinical trials and other forms of psychiatric research.

SCAN has an I-shell program, CATEGO, which is a set of programs for processing the SCAN data and generating a diagnosis. SCAN is intended for use only by clinicians with an adequate knowledge of psychopathology and who have taken the WHO-designated SCAN training. SCAN has broad international acceptability and has been translated into 26 major languages and is used in such diverse and distinctive cultures such as the Peoples' Republic of China, Japan, Turkey and India[9].

Thailand has neither its own national nor a translated, international standard, psychiatric, diagnostic instrument. In order to reduce inter- and intra-psychiatrist variability, the authors determined to translate SCAN into Thai and planned its establishment as the gold standard for psychiatric diagnosing in Thailand.

This particular sub-study focuses on the validity and reliability of the Thai version of the Psychotic Symptoms Section of SCAN. Validity and reliability studies of some other sections were reported separately[10-13] and of some sections (cognitive decline, eating disorders etc.) are being reported. Psychotic disorders are highly prevalent. In Thailand in 2005, the incidence of patients with schizophrenia was 537.03/100,000[14] compared to the average global rate of 1%[15]. Current treatments for schizophrenia have had limited success and patients are usually chronic or experience relapses. Morbid outcomes include: suicide, economic dependence, homelessness and/or chronic disablement. Its pathogenesis is still only hypothesized[16,17].

As schizophrenic disorder is an important psychiatric disorder, the authors' aim was to test the validity and reliability of the Thai version of the Psychotic Symptoms of SCAN, which will have widespread diagnostic application and of furthering our knowledge of the disease and treatments in the Thai context.

Material and Method

The authors used a cross-sectional validity and reliability design. With permission from the WHO, the SCAN interview book version 2.1 was translated from English into Thai by SP. The content validity of the translation was verified by comparing the English original with a back-translation from Thai to English. The comprehensibility of the language was then tested by in-depth interview among a cross-section of Thais from four regions of the country (Chiang Mai: Suanprung Psychiatric Hospital, Khon Kaen: Jitavej-khonkaen Hospital, Bangkok: Srithanya Hospital and Suratthani: Suansaranrom Psychiatric Hospital). Each region comprised 20 native volunteers including psychiatric patients and their normal relatives. Reflections, comments and suggestions were assessed then summarized during a consensus meeting. The final Thai version was incorporated into the SCAN I-shell program and used for general testing.

Potential subjects had to be volunteers, Thai, 14 years of age or older, to be able to understand and speak Thai and to give informed consent. Each subject was given 200 Baht to cover overland travel expenses. The Khon Kaen University Ethics Committee reviewed and approved the present protocol and informed consent was obtained from the volunteers before involving them in the interviews.

Between October 2004 and July 2006, 30 volunteers at Srinagarind Hospital, Khon Kaen, Thailand were recruited for the SCAN psychotic section semi-structured interviews reliability study (16 males; 14 females). Validity and reliability studies of the other sections of SCAN had their own volunteers . Sixteen volunteers were schizophrenic patients (9 males; 7 females) and 14 (7 males; 7 females) were normal persons or nonpsychotic psychiatric patients. The schizophrenic patients were from Srinagarind Hospital In-/Out-patient Departments and were identified using ICD-10 or DSM-IV-TR criteria. The normal persons and nonpsychotic psychiatric patients were normal personnel of Srinagarind Hospital and in-/out-patients

respectively. The number of years of formal education and occupations varied widely.

Subjects were interviewed by a psychiatrist competent in using the Thai version of Psychotic Symptoms Sections of SCAN and these interviews were recorded on video for later re-rating. The videoing focused on the interviewee, not the interviewer. To test the intra-rater reliability, a psychiatrist (trained in SCAN) used the Thai version of the Psychotic Symptoms Sections of SCAN to re-rate the videotaped interviews two more times, two weeks apart. The inter-rater reliability study was accomplished by two psychiatrists re-rating the video material simultaneously or at different times and comparing the results.

The WHO-SCAN Psychotic Symptoms Sections were subdivided to: 1) Section 16: Perceptual Disorders Other Than Hallucinations (items 16.001-16.018); 2) Section 17: Hallucinations (items 17.001-17.035); 3) Section 18: Experiences of Thought Disorder and Replacement of Will (items 18.001- 18.022); and 4) Delusions (items 19.001-19.046).

The authors probed for the presence and severity of psychotic symptoms in the *present state* (PS). The authors asked whether each volunteer had had or was having the symptom in each item during the month before the date of examination. The PS may be part of a much longer *present episode* (PE), with onset years earlier. The authors used Rating Scale II (a special rating scale for psychotic sections in SCAN) and an item-specific rating scale when rating the Psychotic Symptoms Sections. All raters had to agree that none of the volunteers had any serious language difficulty (poor language ability due to limited intelligence, incoherent speech, developmental language disorder of autistic spectrum, etc) that would impose serious limitations on the respondent's understanding of questions and/or of the interviewer's interpretation of answers (*i.e.,* 100 percent agreement to answers to Section 15 questions: Language Problems at Examination).

A total of 18, 35, 22 and 46 questions probe the symptoms in Section 16, 17, 18 and 19, respectively. In order to reliably study as many questions as possible, even if the general probing question at the very beginning of each section got a negative answer, the authors asked every question in each section. Whenever answers were unambiguous (*i.e.* a numerical length of time or a simple "yes" or "no"), the rater's judgement was not required; consequently, the authors did not rate items that probed the duration of symptoms and age at onset. All together, then, the authors rated a respective 16, 32, 19 and 42 items from Section 16, 17, 18 and 19.

Statistical evaluation

The inter- and intra-rater reliability was based on agreement between raters by using descriptive statistics. Rating scale for psychotic sections were treated as categorical data (i.e. 0,1,2,3,5,8,9 indicating absence, transitory, definitely present on multiple occasions, continuously present, language difficulty makes replies difficult to interpret, not sure whether present or absent, inappropriate to rate because of incomplete examination respectively). Calculation used the kappa (κ) statistic (STATA 7.0). The defined level for the degree of agreement was: "poor" ($\kappa < 0$); "slight" ($\kappa = 0$-0.20); "fair" ($\kappa = 0.21$-0.40); "moderate" ($\kappa = 0.41$-0.60); "substantial" ($\kappa = 0.60$-0.80) and "almost perfect" agreement ($\kappa = 0.81$-1.0)[18-20].

Results

The validity study involved: 1) translation of the English version of SCAN to Thai and verifying the content validity by comparing the back translation version with the English original. Whenever inconsistencies were encountered, the Thai version was adapted to convey the meaning of the original. 2) Two psychiatrists (SP and TK) trained in the use of SCAN did some adaptation of the phraseology, wording, and sequencing of the sentences to make them less stilted in Thai, an artifact of the translation process. 3) field testing by TK interviewing native volunteers (20 natives from each of the four regions of Thailand), and elicited their understanding of the terms used in the Thai version of SCAN. All of the comments and suggestions for comparable meanings using local idioms were gathered and the most appropriate (*i.e.* conserving the original meaning) chosen. Examples of these tasks can be seen in the appendix.

Thirty subjects (16 males; 14 females) were recruited for the reliability study and none of them withdrew. Respondents averaged 32.7 ± 9.4 years of age (range, 18-54) and averaged 13.1 ± 3.4 years (range, 4-20) of formal education. Occupations included civil servants (8), merchants (4), employees (6), homemakers (1), economic dependents (5) and students (6). The interview for a psychotic patient required an average of 140.2 ± 36.0 minutes (range, 75-193) *versus* 81.9 ± 25.9 minutes (range, 48-124) for a normal subject or nonpsychotic psychiatric patient.

The means, medians, standard deviations, minima and maxima of the kappa values for each section

Table 1. Reliability of SCAN psychotic symptoms sections

Statistical value	Reliability							
	Inter-rater (kappa)				Intra-rater (kappa)			
	Section of SCAN				Section of SCAN			
	16	17	18	19	16	17	18	19
Number of items rated	16	32	19	42	16	32	19	42
Mean	0.66	0.71	0.70	0.64	0.65	0.74	0.86	0.80
Median	0.66	0.72	0.68	0.61	0.64	0.77	1.00	0.79
Standard deviation	0.17	0.16	0.22	0.23	0.11	0.17	0.17	0.18
Minimum	0.25	0.30	0.38	0.23	0.46	0.32	0.54	0.38
Maximum	1.00	1.00	1.00	1.00	0.79	1.00	1.00	1.00

of the Psychotic Symptoms Section are presented (Table 1). Classification of the reliability value as "1" agreement value as 100 percent agreement (raters gave the same rating every time and kappa could not be computed) and "2" kappa values as 'almost perfect', 'substantial', 'moderate', 'fair', 'slight', are presented (Table 2).

Regarding inter-rater reliability: section 16 had 1 item (6.25%) with 100% agreement and kappa values for 1 (6.25%), 3 (18.75%), 9 (56.25%) and 2 items (12.50%) were fair, moderate, substantial and almost perfect. Section 17 had 1 (3.12%), 8 (25.00%), 15 (46.88%) and 8 items (25.00%) for which kappa values were fair, moderate, substantial and almost perfect. Section 18 had 2 items (10.53%) with 100% agreement and kappa values for 1 (5.26%), 7 (36.84%), 2 ((10.53%) and 7 items (36.84%) were fair, moderate, substantial and almost perfect. Section 19 had 2 items with 100% agreement and kappa values for 5 (11.91%), 13 (30.95%), 12 (28.57%) and 10 items (23.81%) for which kappa values were fair, moderate, substantial and almost perfect.

Vis-□-vis intra-rater reliability: section 16 had 1 item (6.25%) with 100% agreement and kappa values for 4 (25.00%), 11 items (68.75%) were moderate and substantial . Section 17 had 2 (6.25%), 3 (9.37%), 16 (50.00%) and 11 items (34.38%) for which kappa values were fair, moderate, substantial and almost perfect. Section 18 had 2 items (10.53%) with 100% agreement and had 2 (10.53%), 5 (26.31%) and 10 items (52.63%) for which kappa values were moderate, substantial and almost perfect. Section 19 had 3 items (7.14%) with 100% agreement and kappa values for 1 (2.38%), 6 (14.29%), 13 (30.95%) and 19 items (45.24%) were fair, moderate, substantial and almost perfect .

The means of inter-and intra-rater kappas of every section were substantial. More than half of the items in each section had at least 'substantial' inter-rater and intra- rater kappas (Table 2).

Discussion

The authors found that respondents with as little as 4 years of elementary education were able to understand and respond to the SCAN interview; thereby confirming reports of SCAN's cross cultural utility[21,22] and providing qualitative validation of the translation/back-translation process. The high inter- and intra-rater reliability in each section was perhaps due to the: 1) high validity, 2) comprehensibility, 3) strict adherence to the rating criteria, or 4) good training in the use of the SCAN Glossary.

Interviewing psychotic patients took three and half times longer than the controls. All psychotic patients in the present study were active schizophrenics and most had a poor attention span with loosely associated and irrelevant thinking patterns.

Three subjects denied the existence of symptoms in the initial probing questions (*i.e.,* items 17.001 and 17.002 probed for hallucinations, items 18.001 and 18.002 probed for thought disorders and replacement of will) but when the authors went straight through and asked every question, the authors still got some positive answers. To wit, an initial negative probing response did not quarantine for negative answers to all the remaining questions. Therefore, an exhaustive examination is recommended for thoroughness.

Some subjects had very poor concentration so questions needed to be repeated; notwithstanding, answers usually were irrelevant, circumstantial or idiosyncratic. Some subjects had difficulty articulating their symptoms. Some subjects usually only answered questions with "yes" requiring further probing of almost all the items. Some subjects' speech was so

Table 2. Agreement and kappa value of each item in psychotic symptoms sections of SCAN

Reliability value	Reliability			
	Inter-rater reliability			
	Section (total items)			
	16 (16)	17 (32)	18 (19)	19 (42)
1. Agreement				
100% agreement	16.017 Total = 1 item (6.25%)	-	18.011, 18.021 Total = 2 items (10.53%)	19.009, 19.026 Total = 2 items (4.76%)
2. Kappa value				
2.1 Slightly (0.00-0.20)	-	-	-	-
2.2 Fair (0.21-0.40)	16.010 Total = 1 item (6.25%)	17.023 Total = 1 item (3.12%)	18.001 Total = 1 item (5.26%)	19.004, 19.005, 19.006, 19.015, 19.041 Total = 5 items (11.91%)
2.3 Moderate (0.41-0.60)	16.003, 16.006, 16.013 Total = 3 items (18.75%)	17.007, 17.016, 17.021, 17.022, 17.024, 17.027, 17.028, 17.030 Total = 8 items (25.00%)	18.006, 18.007, 18.008, 18.010, 18.012, 18.014, 18.015 Total = 7 items (36.84%)	19.003, 19.008, 19.012, 19.013, 19.016, 19.021, 19.022, 19.024, 19.025, 19.031, 19.032, 19.034, 19.045 Total = 13 items (30.95%)
2.4 Substantial (0.61-0.80)	16.001, 16.002, 16.004, 16.007, 16.008, 16.009, 16.011, 16.012, 16.016 Total = 9 items (56.25%)	17.002, 17.003, 17.004, 17.009, 17.010, 17.011, 17.012, 17.013, 17.014, 17.018, 17.025, 17.026, 17.029, 17.033, 17.034 Total = 15 items (46.88%)	18.002, 18.003 Total = 2 items (10.53%)	19.001, 19.007, 19.014, 19.017, 19.018, 19.020, 19.028, 19.029, 19.030, 19.035, 19.036, 19.040 Total = 12 items (28.57%)
2.5 Almost perfect (0.81-1.00)	16.005, 16.014 Total = 2 items (12.50%)	17.001, 17.005, 17.006, 17.008, 17.015, 17.017, 17.019, 17.020 Total = 8 items (25.00%)	18.004, 18.005, 18.009, 18.013, 18.016, 18.017, 18.020 Total = 7 items (36.84%)	19.002, 19.010, 19.011, 19.019, 19.023, 19.027, 19.037, 19.038, 19.039, 19.044 Total = 10 items (23.81%)

loosely associated that it interfered with understanding the answer. Loud thoughts and thought echoes occur rarely in Thai psychotic subjects.

Some areas needing fine-tuning included questions that were so long and that they interfered with reliability. For example, Item 16.001 was too long so that it had to be reduced into smaller questions and the patient's response heard before proceeding to the next part of the question.

Despite the foregoing difficulties, the Thai version Psychotic Symptoms Section of SCAN demonstrated a high inter- and intra-rater reliability.

Table 2. Agreement and kappa value of each item in psychotic symptoms sections of SCAN (cont.)

Reliability value	Reliability			
	Intra-rater reliability			
	Section (total items)			
	16 (16)	17 (32)	18 (19)	19 (42)
1. Agreement				
100% agreement	16.017 Total = 1 item (6.25%)	-	18.011, 18.021 Total = 2 items (10.53%)	19.009, 19.026, 19.045 Total = 3 items (7.14%)
2. Kappa value				
2.1 Slightly (0.00-0.20)	-	-	-	-
2.2 Fair (0.21-0.40)	-	17.016, 17.019 Total = 2 items (6.25%)	-	19.032 Total = 1 item (2.38%)
2.3 Moderate (0.41-0.60)	16.010, 16.013, 16.014, 16.016 Total = 4 items (25.00%)	17.004, 17.023, 17.030 Total = 3 items (9.37%)	18.008, 18.009 Total = 2 items (10.53%)	19.005, 19.006, 19.007, 19.015, 19.024, 19.040 Total = 6 items (14.29%)
2.4 Substantial (0.61-0.80)	16.001, 16.002, 16.003, 16.004, 16.005, 16.006, 16.007, 16.008, 16.009, 16.011, 16.012 Total = 11 items (68.75%)	17.001, 17.002, 17.006, 17.007, 17.008, 17.011, 17.012, 17.014, 17.015, 17.020, 17.022, 17.024, 17.025, 17.027, 17.033, 17.034 Total = 16 items (50.00%)	18.001, 18.014, 18.015, 18.017, 18.020 Total = 5 items (26.31%)	19.001, 19.019, 19.021, 19.025, 19.028, 19.029, 19.030, 19.031, 19.034, 19.035, 19.036, 19.039, 19.041 Total = 13 items (30.95%)
2.5 Almost perfect (0.81-1.00)	-	17.003, 17.005, 17.009, 17.010, 17.013, 17.017, 17.018, 17.021, 17.026, 17.028, 17.029 Total = 11 items (34.38%)	18.002, 18.003, 18.004, 18.005, 18.006, 18.007, 18.010, 18.012, 18.013, 18.016 Total = 10 items (52.63%)	19.002, 19.003, 19.004, 19.008, 19.010, 19.011, 19.012, 19.013, 19.014, 19.016, 19.017, 19.018, 19.020, 19.022, 19.023, 19.027, 19.037, 19.038, 19.044 Total = 19 items (45.24%)

Therefore, any well-trained rater should be able to obtain similar results and/or measurements or the resulting ratings should be representative of the subject's score. SCAN Thai can therefore be used with substantial confidence for both inter- and intra-rater ratings.

Malyszczak et al reported that the Cohen's kappa coefficient between SCAN and clinical diagnosis for schizophrenia was 0.62[23]. Thus, the authors expect different clinicians with adequate training in using the Thai version of Psychotic Disorders Section of SCAN can minimize the variabilities that occur in the

diagnostic process and maximize the replicability of diagnoses and the discrimination of patients[24].

In conclusion the Psychotic Symptoms Sections of the Thai version of SCAN were tested for their validity and reliability. Interviewing a schizophrenic patient is necessarily a lengthy process. The inter- and intra-rater assessments (kappas) were consistently strong and some items in some sections had 100% agreement for both inter- and intra-ratings. Still, there was some limitation in the present study. During the reliability study, the authors recruited only the patients with schizophrenic disorder. Further reliability study on other psychotic disorders (delusional disorder, schizo-affective disorder, acute and transient psychotic disorder) might be needed.

Acknowledgments

The authors wish to thank the Department of Psychiatry, the Faculty of Medicine, Khon Kaen University, and the WHO for support, and Mr. Bryan Roderick Hamman for his assistance with the English-language presentation of the manuscript.

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Appendix. Examples of the comprehensibility difficulties and correction during field testing of the questioning items of Psychotic Symptoms Sections of SCAN

คำถามข้อที่	รายละเอียดของคำถาม	คำแปลก่อนออกภาคสนาม	สิ่งที่อาสาสมัครขอแก้
16.006	Have you felt recently as though the world was unreal?	เมื่อเร็ว ๆ นี้คุณเคยรู้สึกเหมือนว่าโลกนี้ไม่จริงบ้างไหม	ขอเพิ่มคำในวงเล็บว่า เมื่อเร็ว ๆ นี้คุณเคยรู้สึกเหมือนว่าโลกนี้ไม่จริง (หลอน ๆ) บ้างไหม
17.008	Does a voice comment on your thoughts or your actions in the third person?	มีเสียงหนึ่งคอยวิพากษ์วิจารณ์ความคิดของคุณหรือคอยวิพากษ์วิจารณ์เกี่ยวกับการกระทำของคุณโดยคุณเองเป็นผู้รับฟังบ้างหรือไม่	มีเสียงหนึ่งออกความเห็นเกี่ยวกับความคิดของคุณหรือออกความเห็นเกี่ยวกับการกระทำของคุณโดยคุณเองเป็นผู้รับฟังบ้างหรือไม่
ข้อคัดกรองอาการ visual hallucination ก่อนจะถึงข้อ 17.015	Was it flashes or shadows?	มันเป็นแสงกระพริบหรือเป็นเงา	มันเป็นแสงปล๊าบหรือเป็นเงา
18.002	Can you think quite clearly?	คุณสามารถคิดได้อย่างแจ่มชัดไหม	คุณสามารถคิดได้อย่างกระจ่างไหม
19.022	Occult influences, hypnotism, telepathy, ESP, etc	อิทธิพลผีสางเวทมนตร์ การสะกดจิต การโทรจิต สัมผัสที่ 6 เป็นต้น	อิทธิพลผีสางเวทมนตร์ การสะกดจิต การโทรจิต ล่วงรู้อดีตและอนาคต เป็นต้น

การศึกษาความแม่นตรงและความเชื่อถือได้ของ WHO SCAN ฉบับภาษาไทยหมวดอาการโรคจิต

สุชาติ พหลภาคย์, สุวรรณา อรุณพงค์ไพศาล, ธวัชชัย กฤษณะประกรกิจ, จิราพร เขียวอยู่

วัตถุประสงค์: เพื่อศึกษาความแม่นตรงและความเชื่อถือได้ของ WHO Schedules for Clinical Assessment in Neuropsychiatry (SCAN) Version 2.1 ภาคภาษาไทยหมวดอาการโรคจิต

วัสดุและวิธีการ: แปลบทสัมภาษณ์เกี่ยวกับอาการโรคจิตของ SCAN version 2.1 เป็นภาษาไทย บทสัมภาษณ์ที่แปลประกอบด้วยบทที่16, 17, 18 และบทที่19 ซึ่งเป็นบทที่ถามอาการเกี่ยวกับ perceptual disorders other than hallucinations, hallucinations, experiences of thought disorder and replacement of will และ delusions ตามลำดับ จากนั้นได้แปลกลับเป็นภาษาอังกฤษ (back translation) และตรวจสอบว่ามีความหมายแม่นตรงกับความหมายเดิมหรือไม่ ถ้าไม่ตรงก็จะแก้ไขภาคภาษาไทยจนคำแปลเป็นภาษาอังกฤษมีความหมายตรงกับภาคภาษาอังกฤษต้นฉบับเดิม จากนั้นนำ SCAN ภาคภาษาไทยที่ได้ไปสัมภาษณ์อาสาสมัครในภาคสนามทั้ง 4 ภาค ได้แก่โรงพยาบาลสวนปรุง โรงพยาบาลจิตเวชขอนแก่นราชนครินทร์ โรงพยาบาลศรีธัญญาและโรงพยาบาลสวนสราญรมย์ สถานที่ละ 20 คน เพื่อตรวจสอบความถูกต้องของคำที่ใช้และตรวจสอบว่าคำแปลเป็นที่เข้าใจหรือไม่ จิตแพทย์ 2 คนจะช่วยกันนำความเห็นที่ได้รับจากอาสาสมัครที่ตอบแบบสัมภาษณ์มาประกอบการแก้ไข SCAN ภาคภาษาไทยจนคนไทยสามารถเข้าใจคำถามได้ง่าย การศึกษาเกี่ยวกับความเชื่อถือได้ของSCANภาคภาษาไทยได้กระทำตั้งแต่เดือนตุลาคม พ.ศ. 2547 ถึงเดือนกรกฎาคม พ.ศ. 2549 อาสาสมัครที่ตอบแบบสัมภาษณ์มี30 คน เป็นชาย 16 คน หญิง 14 คน เป็นผู้ป่วยจิตเภท 16 คน (ชาย 9 คน หญิง 7 คน) คนปกติหรือเป็นผู้ป่วยโรคทางจิตเวชแต่ไม่ใช่โรคจิตรวม 14 คน (ชาย 7 คน หญิง 7) กลุ่มตัวอย่างมีระดับการศึกษาและอาชีพที่แตกต่างกัน จิตแพทย์ที่ชำนาญในการใช้ SCAN ภาคภาษาไทยจะใช้ SCAN ภาคภาษาไทยหมวดอาการโรคจิตสัมภาษณ์กลุ่มตัวอย่าง มีการบันทึกวิดีโอเพื่อการให้คะแนนความเห็นในคำตอบในภายหลัง

ผลการศึกษา: จากคำตอบที่ได้รับจากกลุ่มตัวอย่างและจากการประเมินของจิตแพทย์ที่มีความชำนาญในการใช้ SCAN พบว่าSCAN ภาคภาษาไทยหมวดที่เกี่ยวกับอาการโรคจิตมีเนื้อหาที่แม่นตรง ระยะเวลาที่ใช้ในการสัมภาษณ์ผู้ป่วยโรคจิตคือ140.2 $\pm$ 36.0 นาที (พิสัย 75-193 นาที) กลุ่มเปรียบเทียบ 81.9 $\pm$ 25.9 นาที (พิสัย 48-124 นาที) ค่าเฉลี่ย $\pm$ ส่วนเบี่ยงเบนมาตรฐานของ inter-rater reliability kappa ของบทที่ 16, 17, 18 และบทที่19 คือ 0.66 $\pm$ 0.17, 0.71 $\pm$ 0.16, 0.70 $\pm$ 0.22 และ 0.64 $\pm$ 0.23 ตามลำดับ บางบทมีคำถามบางข้อที่จิตแพทย์ต่างก็ให้คะแนนเกี่ยวกับคำตอบของผู้ตอบตรงกันร้อยละ 100 ค่าเฉลี่ย $\pm$ ส่วนเบี่ยงเบนมาตรฐานของ intra-rater kappa คือ 0.65 $\pm$ 0.11, 0.74 $\pm$ 0.17, 0.86 $\pm$ 0.17 และ 0.80 $\pm$ 0.18 ตามลำดับ ทำนองเดียวกันบางบทมีคำถามบางข้อที่จิตแพทย์ท่านเดียวกันแม้ให้คะแนนห่างกัน 2 สัปดาห์ก็ยังให้คะแนนเกี่ยวกับคำตอบของผู้ตอบตรงกันร้อยละ 100 คำถามมากกว่าครึ่งหนึ่งของทุกบทได้ค่า kappa ทั้งชนิด inter และ intra-rater ขั้นต่ำที่สุดระดับ substantial

สรุป: SCAN ภาคภาษาไทยหมวดอาการโรคจิตเป็นเครื่องมือที่มีความแม่นตรงและมีความเชื่อถือได้อย่างมากในการประเมินอาการโรคจิตในคนไทย