



Reliability and Validity of the Intensive Care Delirium Screening Checklist in Turkish

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Introduction

Delirium is usually described as an acute reversible state.

Sudden onset and uncertain course



delirium as a psychiatric diagnosis needs to be determined as to specific criteria such as the Diagnostic and Statistical Manual of Mental Disorders-IV.

Introduction

Continuous assessment of patients in the ICU with an appropriate and a valid instrument is important for the accurate diagnosis of delirium.

However, the studies showed that the utilization of a standardized instrument for the assessment of ICU patients for delirium was not common among healthcare professionals.

Introduction

Most existing instruments do not assess ICU patients with sensory deficiency.

Therefore, the CAM-ICU and ICDSC are commonly preferred by many clinics.

They can be administered by health professionals who are not specialists in psychiatry, such as ICU nurses.

Introduction

However, culture and language validity-reliability study was not performed for this scale in a Turkish population.

The ICDSC is a quick-administered instrument with many advantages in terms of patients and users

Therefore, the ICDSC is one of the instruments used by nurses to detect and monitor delirium in the ICU

Method

Purpose

The aim was to investigate and evaluate validity and reliability of the ICDSC in Turkey.

Design

This cross-sectional study was performed in the medical ICU of a military hospital in Ankara (Turkey) between October 2011 and May 2012.

Method

Sampling

The minimum sample size of this study was calculated to be 43 patients, with 10% delirium ratio, 50% kappa value, 95% reliability interval, and 90% power.



Fifty-nine patients were accrued in a short time and the study was concluded with 59 patients.

Method

Before initiating the study, the ICDSC was translated from English to Turkish and then from Turkish to English for the evaluation of language quality and effectiveness.

Three professionals, familiar with the medical terminology, translated the ICDSC from English to Turkish.

This text was checked by a Turkish linguist and then translated from Turkish to English by two professionals.

The data of the study were collected using the patients' descriptive characteristics form developed by the researchers and the ICDCS.

Data Collection

Method

Intervention

The evaluation of patients and the data collection for delirium were initiated 24 hr after their admission to the ICU.

The patients were evaluated with the ICDSC for a maximum of 5 days, based on the ICDSC user manual.

The ICDSC assessment of patients who were discharged or transferred to another clinic was terminated.

Method

During the study, the patients were assessed for delirium by a specialist nurse, a primary nurse, and a psychiatrist.

Intervention

At the end of each shift, the primary nurse and the specialist nurse evaluated the patients in terms of delirium.

The psychiatrist assessed the patients for delirium according to the DSM-IV criteria.

Method

Intervention

The psychiatrist's evaluation was accepted as the gold standard.

The psychiatrist evaluated patients for delirium once a day independently of the nurses' evaluations.

Method

Ethical Considerations

- Ethical approval of this study was obtained from the ethics committee of our institution.
- Patients were informed about this study after their admission to the ICU, and written consent was obtained from the volunteer patients for the study

Method

Data Analysis

- SPSS for Windows Ver. 15.00 (SPSS Inc., Chicago, IL., USA) program was used for the statistical analysis of data.
- The data obtained from the ICDSC were analyzed according to the gold standard.

Method

Cronbach's alpha reliability coefficient was used for the assessment of ICDSC internal consistency analysis.

Receiver operating characteristic (ROC) curve analysis was used in this study to assess the validity of the ICDSC based on psychiatrist assessment.

Data Analysis

The correlation between the assessments of specialist and primary nurses, inter-raters correlation, and correlation between the nurses and psychiatrist was determined by kappa (κ) coefficient.

The correlation between the specialist and the primary nurse's assessments was compared by using Spearman's correlation test.

Method

Data Analysis

- Patients who had a score of 4 or higher based on the ICDSC were considered to have delirium.

Results

Table- The analysis of 5-day specialist nurse and primary nurse assessments' results according to the psychiatrist assessment.

Cut-off value	First day		Second day		Third day		Fourth Day		Fifth Day	
	Primary Nurse	Specialist Nurse	Primary Nurse	Specialist Nurse	Primary Nurse	Specialist Nurse	Primary Nurse	Specialist Nurse	Primary Nurse	Specialist Nurse
	n = 59		n = 51		n = 44		n = 36		n = 36	
Cut-off: 4										
Kappa	0,452	0,708	0,461	0,676	0,386	0,359	0,217	0,321	0,250	0,212
Sensitivity (%)	80	100	60	90	85,7	85,7	50	75	100	100
Specificity (%)	79,6	87,8	87,8	87,8	73	71,1	81,3	78,1	85,7	82,9
Pos. Predic.*	44,4	62,5	54,5	64,3	37,5	35,3	25	30	16,7	14,3
Neg. Predic.**	95,1	100	90	97,3	96,4	96,4	92,9	96,2	100	100
ROC curve	0,798	0,939	0,739	0,889	0,793	0,784	0,656	0,766	0,929	0,914

Results

- The (κ) value was moderate for the specialist nurse and weak for the primary nurse based on psychiatrist assessment.
- The ROC curve was +0.863 for the specialist nurse and +0.767 for the primary nurse, and the correlation with gold standard was strong.
- The sensitivity was 90.6%, specificity was 82.1% for the specialist nurse.
- The sensitivity was 71.9%, specificity was 81.4% for the primary nurse.

Results

Table- The reliability analysis of the scale based on all items

Days	n	Specialist Nurse Cronbach's alfa (R ₂)	Primary Nurse Cronbach's alfa (R ₂)
1 st Day Evening	59	,783	, 801
1 st Day Morning	59	,855	, 784
2 nd Day Evening	58	,784	, 816
2 nd Day Morning	51	,726	, 776
3 rd Day Evening	48	,720	, 767
3 rd Day Morning	45	,769	, 793
4 th Day Evening	40	,724	, 728
4 th Day Morning	36	,811	, 830
5 th Day Evening	36	,811	, 790
5 th Day Morning	36	,768	, 730

Cronbach's alpha coefficient was calculated 0.720-0.855 for the specialist nurse's and 0.728-0.830 for the primary nurse's 5-day assessment

Conclusion

- In our study, we found that the ICDSC was an easy-to-use instrument with high validity and reliability for the detection of delirium.
- The ICDSC is suitable for patients without a verbal, visual, or auditory connection.

Implications for Clinical Practice

- The findings showed that the sensitivity and specificity of the ICDSC are high for Turkish patients.
- Therefore, the ICDSC may be integrated into daily nursing care procedures and used routinely in the ICU.



**Thank
You!!!**