

Sigma's 30th International Nursing Research Congress
Establish an Objective Structural Clinical Examination: Intravenous Injection Care Scale Reliability and Validity Test

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Purpose:

Objective Structured Clinical Examination (OSCE) has become one of the evaluation methods of medical education in major hospitals in recent years. The field of nursing is also actively promoting OSCE in clinical skills and teaching courses, intravenous injection care is one of the skills that nurses execute at high frequency in particularly. An effective and well care assessment tool can truly detect the ability of the personnel to ensure the professional skills of the nurses. In view of this, the purpose of this research was to test the reliability and validity of the intravenous injection care scale, and to effectively evaluate intravenous injection care ability of the nurses.

Methods:

This scale test study is divided into three stages. The first stage is the establishment of the scale. Experts in the field will organize the intravenous injection assessment project and establish the first draft of the scale according to the reference literature and expert focus group discussion. The second stage is the expert content validity test to detect the content validity index of five experts. The third stage is the reliability and validity analysis of the scale. The sampling is taken and a total of 241 nursing staff is accepted. The reliability and validity of the scale are tested through project analysis, construction validity and internal consistency.

Results:

The first draft of this scale is 14 questions. The content validity index (CVI) value is .96. The critical ratio (CR) is 4.66-11.53 ($p < .001$), indicating that each item has a degree of discrimination. After Exploratory factor analysis, it was found that there were five factors in the intravenous injection care scale, which explained that the amount of change was 63.3%. Two of these problems occur simultaneously in different factors, avoiding cross-loading situations and removing them. After the second analysis, three factors were extracted, named separately as physical assessment, health education guidance, and technical operation. The analysis load of the item factor is in the range of 0.72-0.87, 0.40-0.75, and 0.80-0.84, the total explanatory variation of the scale is 62.08%, the internal consistency of each aspect is Cronbach' α .094-.097, and the overall reliability of the scale is .73.

Conclusion:

The results of this study show that the Objective Structural Clinical Examination - intravenous injection care scale has good reliability and validity, and can also be used as one of the assessment of multiple abilities for clinical nursing staff to meet clinical practice needs and improve the clinical care ability of nurses. The results of this research can provide a reference for nursing educators in developing OSCE assessment tools.

Title:

Establish an Objective Structural Clinical Examination: Intravenous Injection Care Scale Reliability and Validity Test

Keywords:

Objective Structured Clinical Examination, intravenous injection care scale and nurse

References:

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Abstract Summary:

This research aims to establish the intravenous injection care scale of Objective Structured Clinical Examination to provide reference for nursing educators in developing Objective Structured Clinical Examination assessment tools.

Content Outline:

Introduction

A. Objective Structured Clinical Examination (OSCE) has become one of the evaluation methods of medical education in major hospitals in recent years.

B. The purpose of this research was to test the reliability and validity of the intravenous injection care scale, and to effectively evaluate intravenous injection care ability of the nurses.

Body

A. This scale test study is divided into three stages.

1. The establishment of the scale.
2. The expert content validity test.
3. The reliability and validity analysis of the scale.

B. The first draft of this scale is 14 questions.

1. The content validity index(CVI).
2. The critical ratio (CR).

C. Exploratory factor analysis.

1. Five factors in the intravenous injection care scale.
 - a) Explained the amount of change was 63.3%.
 - b) Two of these problems occur simultaneously in different factors.
2. After the second analysis, three factors were extracted.
 - a) Physical assessment.
 - b) Health education guidance.
 - c) Technical operation.

Conclusion

A. To show that the Objective Structural Clinical Examination -intravenous injection care scale has good reliability and validity.

B. Provide a reference for nursing educators in developing Objective Structural Clinical Examination assessment tools.

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