Abstract:

Purpose: Performing venepuncture is one of the most routinely performed invasive procedures in nursing care. The aim of this study was to develop instruments for the assessment of nursing students’ knowledge and skills when performing venepuncture and inserting a peripheral venous catheter.

Methods: Two instruments were developed using the following steps. 1) Assessment items of importance for the procedures (venepuncture 48 items and peripheral venous catheter 51 items) were collected from focus groups including nurses, lecturers and patients. 2) The number of items was reduced using a method based on the Delphi method. Experts (n=51) reviewed the instruments in two rounds. The revised versions included 31 items for venepuncture and 33 items for peripheral venous catheter insertion. 3) Usability tests were conducted by nurses who tested the instruments to confirm that items were possible to assess. 4) Inter-rater reliability was assessed by twelve lecturers who in pairs, but independently of each other, used the instruments to assess 50 nursing students.

Results: Proportion of agreement and Cohen’s kappa coefficient were calculated for each
item to determine inter-rater reliability. Among the tested items for both instruments, the median proportion of agreement was 1 (range 0.66-1) and the median kappa was 0.52 (range 0.22-1).

Conclusions: The instruments developed for assessing nursing students’ knowledge and skills of venepuncture and peripheral venous catheter insertion showed satisfactory inter-rater reliability.