

Soft Skill Components in Structured Nursing Clinical Skill Assessment on Assisted Procedures: A Clinical Audit

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ABSTRACT

Background: Assisted procedures in nursing involve scenarios where nurses are tasked with supporting physicians in the execution of medical procedures. Nursing academics play a crucial role in cultivating appropriate attitudes towards nursing students. This study aimed to examine the soft skill elements in objectively structured clinical skill assessment on assisted procedures in the undergraduate nursing programme.

Methods: A clinical audit was carried out on the retrospective structured clinical skill assessment exam questions by using the clinical skill assessment index V (CSAI-V) instrument. A total of 3 assisted procedures set of exam questions were collected from 7 higher learning institutions in Malaysia where they offered the undergraduate nursing programme. The data were analysed descriptively.

Results: There were 3 assisted procedures out of 237 collected exam documents found and analysed in this study. The assisted procedures were grouped into 7 types to make them more specific. Although there are nine soft skill elements were identified in relation to assisted procedures, including communication, social and responsibility, critical thinking, problem-solving, teamwork, leadership, professional and ethical decision-making, numeracy, and interpersonal skills. However, none of the identified nine soft skill elements were found in the assessment rubrics.

Conclusion: Thus, the current assisted procedure checklist needs improvement, especially the soft skills components. Besides, higher-learning nursing institutions should visit and revise the content of their checklist and the related materials if they are concerned about quality graduates.

Keywords: Clinical skill assessment; Soft skills; Assisted procedure; Undergraduate nursing programme

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INTRODUCTION

In the contemporary healthcare delivery system, the significance of soft skills has risen to paramount importance as they are deemed essential for revitalizing the perceived decline in nursing care quality. Undoubtedly, nursing embodies both scientific principles and artistic elements. Soft skills in nursing encompass the inherent creative aspect that illuminates nursing as a compassionate and noble profession (1). Throughout history, nursing leaders have grappled with the interplay, integration, and harmonization of the scientific and artistic dimensions of the discipline.

The nursing education program holds the responsibility of equipping graduate nurses to thrive in this dynamic environment (2). Consequently, the primary challenge for nursing academics lies in bridging the gap between theoretical knowledge and practical application (3). Studies have indicated that nursing education programs primarily focus on developing specific technical skills crucial for safe clinical practice, while often placing less emphasis on nurturing the soft skills essential for effective functioning in clinical settings (4-6). There are various assessment methods have been utilized to evaluate nursing students' proficiency in clinical skills, including case studies, clinical running assessments, objective structured clinical examinations (OSCEs), reflective writing, nursing procedures, and more (7,8). Among them, the OSCE has emerged as a widely utilized formative and summative assessment tool in health-related medical education, including nursing (9-12). However, it's noteworthy that within the OSCE framework, assessors predominantly focus on evaluating students' manual dexterity, with minimal attention devoted to assessing their utilization of soft skills during procedures (13,14). Assisted procedures in nursing involve scenarios where nurses are tasked with supporting physicians in the execution of medical procedures.

Conversely, soft skills are fundamental principles essential to nursing practice and the provision of high-quality care, particularly during nursing procedures, including assisted procedures (13-16). Current structured clinical skill assessments in nursing, especially those involving assisted procedures, often prioritize technical proficiency excessively, while overlooking the evaluation of crucial soft skill components (4). According to prior research, nine soft skills can be evaluated in structured clinical skills assessments of assisted

procedures: communication skills (CS), social skills and responsibilities (SSR), critical thinking skills (CTS), problem-solving skills (PSS), teamwork skills (TS), leadership skills (LS), professional and ethical decision-making skills (PEDMS), numeracy skills (NS), and interpersonal skills (IS) (4,5). Therefore, this study aims to address this gap by examining the integration of soft skill elements within the Objective Structured Clinical Skill Assessment (OSCE) of assisted procedures within undergraduate nursing programs.

METHODS

This research utilized a clinical audit employing the Clinical Skill Assessment Index V (CSAI-V) tool, previously developed in a separate study (5). The study reported a content validity index (CVI) of 1 and a Cronbach's Alpha value of 0.9 for the CSAI-V, indicating its validity and reliability (5). The CSAI-V tool has a 10-domain to look at the current structured clinical skill assessment or commonly known as OSCE.

Those are a) Type of procedure, b) Soft skill elements, c) Equipment, d) Instruction for the student, e) The clinical scenario, f) Model Usage, g) Duration, h) Assistance, i) How many marks are allocated for soft skills?, and j) The opportunity of soft skills that can be measured in the particular procedure. The focus of this investigation was on the assessment documents for structured clinical skills, commonly known as Objective Structured Clinical Skill Assessment (OSCE) documents, specifically related to assisted procedures.

The study was conducted within Malaysian higher learning institutions offering undergraduate nursing programs. Participation in the study was voluntary. Initially, the researcher approached all 12 institutions, encompassing both governmental and private entities across Malaysia's eastern and western regions, after obtaining the necessary approvals. Each institution had an assigned gatekeeper to facilitate the research process. However, only 5 of these institutions agreed to actively participate in the study.

Given that the study involved accessing examination documents, which are considered confidential, data collection was conducted solely by the researcher to ensure the integrity and confidentiality of the data. The researcher personally visited each of the participating institutions to collect the sample documents. Due

to the geographical dispersion of these institutions, the data collection process spanned 8 months to accommodate travel and coordination efforts. This thorough approach ensured that data was collected systematically and comprehensively across the diverse locations.

A total of 237 retrospective OSCE documents were collected from the participating institutions. However, within this dataset, only 3 sets of OSCE questions related to assisted procedures were identified and audited for this study. These question sets included clinical case scenarios, procedure checklists, examiner's comments, and documentation charts for transfusion-related procedures. Ethical approval was granted by the International Islamic University Malaysia Research Ethics Committee, and consent was obtained from the participating higher learning institutions.

RESULTS

In this study, the types of assistance in the nursing procedure were grouped into 7 types: a) Insertion of invasive lines (CVP, ABP), b) Insertion of the drainage tube, c) Lumbar puncture procedure, d) The bone marrow aspiration procedure, e) Intubation, f) Thoracentesis, and g) Others (*other assisted procedures*) based on the current nursing practice of the undergraduate nursing programme. However, only 3 assisted procedures were found among the 237 OSCE documents collected in this study.

Under the domain 1, type of procedure, the 3 assisted procedures found are intubation 1 (33.3%) and others (abdominal paracentesis) 2 (66.7%), as shown in Table 1. Although 7 types of assisted procedures for the client were identified in this study, the most assisted procedure was not found in the collected OSCE documents such as assisting in the insertion of invasive lines, assisting insertion of the drainage tube, assisting in lumbar puncture procedure, assisting in bone marrow aspiration procedure, and assisting in thoracentesis procedure. From this clinical audit finding, it can be said that those assisted clinical procedures are very limited in assessing current nursing clinical skills assessment.

With regards to domain 2, the soft skill elements, there were 9 elements of soft skills that can be

assessed in the assisted procedure based on the CSAI-V tool. It was found that none of the OSCE documents of the assisted procedure skill assessment checklist/rubric has those identified soft skill elements as shown in **Table 1**.

For domain 3, equipment, it was found that students need to prepare themselves for the respective assisted procedure in all the collected OSCE documents assisted procedure as shown in **Table 1**.

In domain 4, instruction for the student, among the 3 (100%) assisted procedures of OSCE documents, none of the assessment documents mentioned the allocated time for the student to read the scenario and the question before starting the procedure as shown in **Table 1**. However, with regards to the clear instruction for the students, it was found that all the 3 (100%) assisted procedure documents have written clear instructions for the student to perform the assisted procedure.

Related to the clinical case scenario domain 5, it was found that all of the assisted procedure's clinical scenario 3 (100%) falls under a simple case scenario regardless of the type of procedure as shown in **Table 1**. Another important component under this domain of the CSAI-V tool was where the researcher looked at whether the clinical scenario matched the assessment objective or not. Thus, the researcher also audited the clinical case scenario together with the respective structured clinical skill assessment's objective. However, none of the assisted procedures did mention their assessment objective.

The sixth domain of the CSAI-V tool is about the type of model used in the assisted procedure. It was found that all the 3 (100%) assisted procedures were not using any model in the respective procedure. Another aspect audited from the sixth domain is whether the model used is suitable for the procedure being assessed. Since no model was used in the assisted procedure, the researcher could not analyse this part.

The domain 7, duration in the CSAI-V tool refers to the allocated time for the student to complete the assisted procedure. Based on this clinical audit study, all 3 (100%) assisted procedures to allocated 5 minutes for the students to complete the procedure. For the second aspect of this domain, it was found that all the students did not finish the 3 assisted (100%) procedures in time.

Table 1: Overview of nursing core procedure area 5: Assisted procedure (n=3, N=237)

Domain	Variable	Frequency (n)	Percentage (%)			
1) Type of procedure	Insertion of invasive lines (CVP, ABP)	0	0			
	Insertion of the drainage tube	0	0			
	Lumbar puncture procedure	0	0			
	The bone marrow aspiration procedure	0	0			
	Intubation	1	33.3			
	Thoracentesis	0	0			
	Others	2	66.7			
2) Soft skill elements	Communication skills	0	0			
	Social skills and responsibilities	0	0			
	Critical thinking skills	0	0			
	Problem-solving skills	0	0			
	Teamwork skills	0	0			
	Leadership skills	0	0			
	Professional and ethical decision-making skills	0	0			
	Numeracy skills	0	0			
3) Equipment	Interpersonal skills	0	0			
	Has been laid out for the student	0	0			
	Has been laid out with an unnecessary requirement	0	0			
	Students need to prepare themselves	3	100			
4) Instruction for the student	Others (specify)	0	0			
	Time allocation	0	0			
5) The clinical scenario	Is the instruction given clearly	3	100			
	Case scenario					
	Simple	3	100			
	Medium	0	0			
	Complete	0	0			
	Complex	0	0			
6) Model Usage	Is the clinical scenario matches the assessment objective?	0	0			
	Model					
	Mannequin	0	0			
	High fidelity	0	0			
	Actor	0	0			
	Others (No model)	0	0			
7) Duration	Model usage suitable for the procedure is assessed	0	0			
	5 minutes	3	100			
	> 5 minutes	0	0			
	Others (Specify)	0	0			
8) Assistance	Is the time allocation enough to complete the procedure?	0	0			
	Any assistance is provided for the procedure?	0	0			
9) How many marks are allocated for soft skills?	The "0" mark is allocated in all assisted procedures out of 20 steps.					
10) The opportunity of soft skills that can be measured in the particular procedure	√	Communication skills	√	Social skills and responsibilities	√	Critical thinking skills
	√	Problem-solving skills	√	Teamwork skills	√	Leadership skills
	√	Professional and ethical decision-making skills	√	Numeracy skills	√	Interpersonal skills

Moreover, it was found in the examiner's comments about the student's performance that students were confused about the equipment selection and unsure about the correct equipment for the respective assisted procedure. This was reflected by the following quotes from the examiners' comments:

"students do not know how to choose the correct equipment in the OSCE exam."
(E1)

"students seem to be confused in selecting the proper equipment for preparing the procedure."
(E3)

In domain 8 of the CSAI-V tool, the researcher audited any assistance provided to the students while performing the assisted procedure. No evidence was found in any single assisted procedure documents that mentioned assistance provided for the students.

For domain 9, the researcher also conducted a clinical audit on soft skills for the collected assisted procedures checklists/rubrics. Although 9 soft skill elements were identified for the assisted procedure, as mentioned earlier, none of the assisted procedures' s checklist/rubric has the component of soft skill elements despite having 20 steps checklist/rubrics. It can be concluded that soft skills marks are not given favour in the current assisted procedure assessment. Furthermore, in the audit findings from the examiner's comment documents, it was written that:

"none of the students even greet the examiner when they come to assisted procedure station."
(E1, E3)

This is also an alarming issue to think about students' soft skills. In the last domain 10 of CSAI-V, the researcher did the clinical audit on the opportunity of soft skills that can be measured in the assisted procedure on the collected checklists/rubrics and their clinical scenario. All (3, 100%) of the collected assisted procedures' checklists/rubrics can be included in all the identified 9 soft skill elements.

DISCUSSION

A clinical audit was conducted focusing on "assisted procedures" within the undergraduate nursing programme. Using the Clinical Skill Assessment Index V (CSAI-V) tool, a total of 3

assisted procedures were identified and audited. However, notably assisted procedures such as assisting in the insertion of invasive lines, bone marrow aspiration, lumbar puncture, insertion of drainage tubes, and thoracentesis were not found in this study, indicating a significant gap in the curriculum. This absence suggests that nursing students' competency in these areas was not being adequately assessed. This finding is in contrast with a previous study where they highlighted that nurses are frequently involved in the investigation like a lumbar puncture procedure and thus they must be aware of and understand the procedure (17).

In assisted procedures, the preparation of the patient and the equipment necessary are vital parts. Besides, nursing actions before and during the procedure and the need for appropriate after-care also are important and nursing students should be tested on this procedure. Previous studies also described that nurses play a crucial role in preparing the patient, ensuring the sterility of equipment, and monitoring the patient's condition during the procedure (18,19). Proper training and assessment in this area are vital to prevent complications such as infections or incorrect line placement (19).

Regarding soft skills elements in these procedures' checklists, none were found in this "assisted procedure," even though 9 types of soft skills elements can be integrated as described in the former chapter. Even though it is an "assisted procedure", we need to understand the concept of nursing care: nurses are dealing with human beings (15,18). A study has described that humans are not just biological organisms with mental and emotional manifestations but multidimensional entities with a body, mind, soul, and spirit (13). All those elements interact and affect one another. Based on the current study findings, it can be seen that soft skills marks are not given favour in the current assisted procedure assessment.

Regards to preparation of equipment in all these assisted procedures, the preparation of the patient and the necessary equipment is a vital part of the process. Ensuring that all equipment is sterile and functioning correctly is crucial to prevent infections and ensure procedural success. Nursing students should be trained and assessed on their ability to set up and handle equipment properly (18,19). The current undergraduate nursing curriculum has all the identified 9 soft skills (16). However, implementing revised assessment methods to evaluate these skills poses several

challenges. Additionally, nurse academics may require specialized training to accurately assess and provide feedback on soft skills, further complicating the implementation process. Despite these challenges, the integration of soft skills training and revised assessment methods is a crucial step towards producing well-rounded, competent nursing professionals equipped to meet the demands of modern healthcare environments.

CONCLUSION

This study highlights a significant gap in the current evaluation of assisted procedures within undergraduate nursing programs in Malaysia, particularly concerning the assessment of soft skills. Despite recognizing the importance of competencies such as soft skills were notably absent from the assessment rubrics analyzed. The findings underscore the need for higher learning institutions to revisit and revise their clinical skill assessment frameworks to ensure that nursing graduates are not only technically proficient but also equipped with essential soft skills necessary for effective practice in real-world clinical settings. By addressing these gaps, the undergraduate nursing programme can better prepare their students to meet the complex demands of the healthcare environment, ultimately contributing to higher quality patient care and improved healthcare outcomes.

LIMITATION

This study faced several limitations that may impact the generalizability and depth of the findings. Firstly, the study's sample size was relatively small, with only 7 out of 12 approached higher learning institutions participating, which may not fully represent the broader landscape of nursing education in Malaysia. The geographical dispersion of institutions and logistical challenges in data collection over an 8-month period also posed constraints, potentially leading to sampling bias. Additionally, the study focused solely on exam questions and assessment rubrics, which may not comprehensively capture the entire scope of soft skills training and evaluation within the undergraduate nursing programme. The retrospective nature of the study limited the ability to observe the practical application of these assessments in real time. Lastly, the reliance on the Clinical Skill Assessment Index V (CSAI-V) instrument, while robust, may not encompass all nuances of soft skills pertinent to assisted nursing procedures.

RECOMMENDATION

To address the identified gaps, several recommendations are proposed. Higher learning institutions should enhance their assessment rubrics to explicitly incorporate the 9 soft skills elements mentioned above, ensuring that these competencies are evaluated alongside technical skills. It is recommended that the structured nursing skill assessments be revised to integrate more comprehensive soft skills, with an emphasis on their practical application in clinical settings. Regular workshops and professional development opportunities for nurse academics should be provided to underscore the importance of soft skills and effective methods for teaching and assessing them. Institutions could also benefit from implementing longitudinal studies to track the development of soft skills in nursing students over time, providing more robust data on the efficacy of integrated soft skills training. Lastly, collaboration with international nursing education bodies may provide valuable insights and benchmarks for best practices in cultivating a well-rounded nursing workforce.

ETHICAL APPROVAL

Ethical approval from the ethics committee of International Islamic University Malaysia, ethical approval number IREC 2019-129 was obtained for this study.

CONFLICT OF INTEREST

There is no conflict of interest among the authors. The development of this manuscript is a part of a PhD study.

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AUTHOR CONTRIBUTIONS

TS@SJ: drafted and finalized the manuscript through data collection, data analysis and data interpretation for the article.

MSN: contribute to the concept development, design of the article and approved the final version of the article.

NA: contribute to literature review.

SA@NM: contribute to the suitability of tool used for this study.

CMC: contribute for arrangement of data collection and data analysis.

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