

# Objective Structure Clinical Examination (OSCE) Based Teaching Material Development

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# Objective Structure Clinical Examination (OSCE) Based Teaching Material Development

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Most of knowledge and skills competency of nursing students (73.2%) in Surabaya had not met the expectation of value in nursing practice. One of the possible efforts to overcome this problem is by preparing the teaching and learning process based on practice, mediated by objective structure clinical examination (OSCE)-based teaching material. This paper aimed at explaining the result of developing objective structure clinical examination (OSCE)-based on teaching material for basic nursing course. The research design used research and development that based method paper was conducted in six stages namely introductory survey, initial-prototype development, product design, product validation, design revision, and research result description. The research used the samples of 240 students and 72 lecturers in Surabaya, Indonesia. The sampling technique used was simple random sampling. Data were collected by using questionnaires, and interviews. The result of research was teaching material for basic nursing contained. The teaching materials include: basic concepts and theories of nursing, basic nursing skills, case examples and nursing care, and OSCE exam practice questions. In the development of instructional materials, re-explanation of the basic concepts of nursing in teaching materials, and the presentation of the material briefly and shortly are needed. In addition, examples of OSCE-based on teaching materials that should be in the form of case study and completion in accordance with the OSCE and Competency Test are necessary. Suggestion that could be given that the result of basic nursing material development based on OSCE can be used in nursing basic learning as book enrichment can promote cognitive, affective and psychomotor abilities.

**Keywords:** Objective Structure Clinical Examination (OSCE), Nursing, Practice, Skill, Teaching, Material.

## 1. INTRODUCTION

Nursing is part of health profession education that the graduates have competencies as standard of profession has assigned. One of evidences whether the graduates have competencies or not can be seen from the result of competency test. Therefore, implementation of the competency test is important in profession of education. The problem is the low passing rate at a national competency test, which is caused by the lack of candidates' preparation in facing the competency test. Despite most (73,2%) nursing diploma graduates have adequate grade in nursing clinical practice, it is still fulfilling the value of expected standard yet in nursing practical that is of a good standard.

Those problems need to be solved, because it can influence the graduation of national nursing competency test, and give impact on the quality of graduates. One of the ways that can be used in preparing learning process is preparation of teaching materials based on OSCE that until now is unavailable. Some observations about the advantage of OSCE have been done, including Aliner who claimed that OSCE is able to promote self-confidence when

dealing with clinical instrument and to improve preparation in facing some cases in hospital.<sup>1</sup> Nayar claimed that OSCE is able to differentiate student categories in practical test and OSCE can be tested in laboratory learning as the evaluation of learning with good capacity.<sup>2</sup>

Baid claimed that the application of OSCE in intensive nursing needs the preparation of instructors and adequate time that also can reflect on new experiences.<sup>3</sup> Pandya claimed that the application of OSCE in nursing specialties education is able to promote the ability of psychomotor and cognitive ability significantly and constitutes as a reliable and effective method.<sup>4</sup> Kalbits claimed that OSCE is an evaluation method that has high relevancy and a lot of strategies that are liked by students with high enrollment.<sup>5</sup> Kurz claimed that there are differences between OSCE method application and traditional method in terms of practice final exam, learning evaluation and high satisfaction.<sup>6</sup>

For preparing the implementation of OSCE even in applying clinical test in diploma education, it requires various right learning methods with media of learning that is in line with OSCE method in terms of the use of OSCE media, because media that has been given only fulfill the curriculum target that occurs in the institution with conventional methods that are cognitive test,

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ethics, and separated psychomotor test (integration yet) which induce the abilities of students focus on one aspect only. The use of media in learning is important, because some benefits that can be felt, like what Richard Duschl claimed that learning with media will change misconception of students to the scientific concept.<sup>7</sup>

Based on the previous study, it is found or produced the development of nursing media research based on OSCE that is able to promote the capability of students' laboratory skills. So, the purpose of this research is explaining nursing media development base on Objective Structure Clinical Examination (OSCE).

## 2. METHODS

His study used research and development method that was conducted in six research steps namely preliminary survey, initial prototype development, design product, validation product, design revision and description of research's result. The samples were 240 students and 72 lecturers in Surabaya, Indonesia. The sampling technique used was simple random sampling. The data collected used questioners and interviews. The respondents were given informed consent before this study. This study was conducted for three months in 2016 in Surabaya. The study instrument consisted of 28 questions that included

- (1) Perceptions and Needs for the existence of OSCE-based nursing resources,
- (2) Understanding of the content and presentation of OSCE-based nursing teaching materials.

The statistical analysis used was descriptive analysis. Ethical approval for this study was conducted by the ethical committee of the Research Institute of Muhammadiyah University of Surabaya.

## 3. RESULTS AND DISCUSSION

Table I the results showed the perceptions/needs of students and lecturers on the existence of OSCE-based nursing materials as follows: 66.7% of students and 100% of lecturers had opinion that basic nursing learning is very important. As many as 54.1% of students and 50% of the desired nursing learning resource lecturers were from text books and internet. As many as 83.3% of students and 100% of lecturers had the opinion that the teaching materials used were not focusing on nursing cases. A total of 91.7% of students and 100% of lecturers agreed to the use of OSCE-based nursing teaching materials as a guide. A total of 75% of students and 100% of lecturers wanted the teaching materials that contained basic nursing concepts and theories, basic nursing procedures, case studies and OSCE-based practice exercises and competence tests.

Table II this table shows the understanding of OSCE-based nursing teaching materials on students and lecturers as follows: 33.3% of students and 100% of lecturers declared appropriate materials in basic OSCE based nursing materials covering basic concepts and theories of nursing, basic nursing skills, examples of cases and nursing care, and OSCE exam practice questions. As many as 91.7% of students and 100% of lecturers stated that they need an explanation of the basic concepts of nursing in teaching materials. As many as 91.7% of students and 100% of lecturers stated that the exposure of materials in OSCE-based basic nursing materials should be short and clearly. A total of

**Table I. Perceptions and needs of students and lecturers on the existence of OSCE-based nursing teaching materials.**

Perceptions and needs for the existence of OSCE-based nursing resources	Students (n = 240)		Lecturers (n = 72)	
	n	%	n	%
Opinion about basic nursing learning				
—Very important	160	66.7	72	100
—Important	80	33.3	0	0
Learning sources of basic nursing				
—Textbooks	79	32.9	36	50
—Internet	31	12.9	0	0
—Textbooks and internet	130	54.1	36	50
Opinion about learning sources used				
—Interesting	30	12.5	0	0
—Boring	10	4.2	0	0
—Pedestrian	0	0	0	0
—Do not focusing on nursing cases	200	83.3	72	100
Opinion about basic nursing materials based on OSCE as a guide				
—Agree	220	91.7	72	100
—Disagree	20	8.3	0	0
Materials that are desirable				
—Consist of concepts and theories of basic nursing	20	8.3	0	0
—Consist of concepts and theories of basic nursing and clinical procedures	40	16.7	0	0
—Consist of concepts and theories of basic nursing, basic procedure nursing, the example cases and exercises based on OSCE and competency test	180	75	72	100

66.7% of students and 100% of lecturers stated that the sample questions in OSCE-based nursing materials should be in the form of case studies and completion in accordance with the OSCE and Competency Test.

Based on the results, analyzes into basic nursing based on OSCE is needed, which in turn is able to structure the materials by giving consideration on various aspects in materials arrangement, which are

- (1) the contain of aspects or materials,
- (2) the presentation aspect of materials
- (3) language aspect.

- The content of aspects or materials. The content of aspects or materials that can be served in materials consist of concepts and theories of nursing, nursing basic ability, the examples of nursing cases and care.

- The presentation aspect of materials. The presentation aspect of materials consists of material parts that are divided into 5 chapters, consist of oxygenation needs, fluid and electrolyte, nutrition, elimination, and activities.

- Language aspect. Language aspect in book arrangement by using Indonesian raw, as textbooks generally should be easy to understand.

The analyses results of basic nursing material needs based on OSCE and based on the result of validation for arranging material



Table II. Analysis of OSCE-based nursing teaching materials.

Understanding of OSCE-based nursing teaching materials	Students (n = 240)		Lecturers (n = 72)	
	n	%	n	%
Materials are in line with the contextual in materials				
—Basic concepts and nursing theories	60	25	0	0
—Nursing basic ability	40	16.7	0	0
—The examples of cases and nursing care	60	25	0	0
—All	80	33.3	72	100
The need of clarification about basic concepts of nursing				
—Need	220	91.7	72	100
—Unnecessary	20	8.3	0	0
The way to explain basic nursing materials in media				
—Succinctly	220	91.7	72	100
—Using a lot of foreign terms	20	8.3	0	0
The examples of exercises that are in line with basic learning				
—Consisting of steps in doing ordinal and easy to understand	60	24.9	0	0
—Straight to the answer to the questions	10	4.2	0	0
—Cases and completions are in line with OSCE and competency test	160	66.7	72	100
—All	10	4.2	0	0

improvement give some advantages and weaknesses in using the materials. The materials of basic nursing based on OSCE is material used particularly for students, and the material should be grasped and practiced easily, not to mention that this material should facilitate the students to analyze some cases that possibly happen, such as cases in clinic.<sup>8</sup>

This material is material that is written using OSCE approach, that is one of methods in clinic evaluation, aside from observation method, written and unwritten. Appraisal method of clinical ability structurally and objectively in general gave a case with clinical condition. In textbooks there are various examples of cases and strategic completion to gain knowledge, psychomotor ability, and ethics because there are some exercises that need to be answered for improving understanding level of the cases after learning basic nursing material.<sup>9,10</sup>

Besides, cases in material that need to be solved by the readers have various aspects, which are curriculum vitae, physical checking, laboratory, identifying problems, formulating and concluding the data, interpreting the checked result, establishing clinics management, procedures of demonstration, communication ability, and the provision of health education. As the implementation of OSCE, materials are prepared using various things, which are clinic competencies that will be tested or certain kinds of ability that will be evaluated by students.<sup>11,12</sup>

According to Miller there are four levels of clinical ability appraisal that can be used which begins from knows, knows how,

shows how and does. In the evaluation of clinical ability all this time is generally conducted appraisal in knows and knows how levels, then big probability to ensure the competencies possessed by the nurse, then the clinical appraisal to find out shows how and does levels need to conduct, as in the implementation of OSCE.<sup>13</sup>

Based on that concept, material development based on OSCE focuses on verbal information, intellectual ability, cognitive strategic, ethics, and motor ability that will be adapted in material components such as introduction, learning activities, and case studies. Particularly in nursing education, the arrangement of material for nursing that is not much concern to material related to the terms of exercises of competency test that most of them use OSCE, students or the candidates of nurses face the difficulties to deal with competency test that is conducted.<sup>12</sup>

#### 4. CONCLUSION

The development of nursing materials based on OSCE includes the development of teaching materials includes: basic concepts and nursing theories, basic nursing skills, case examples and nursing care, and OSCE exam practice questions. The development of instructional materials needs re-explanation of the basic concepts of nursing in teaching materials, and the presentation of the material should be brief and concise. In addition, examples of OSCE-based nursing teaching materials should be in the form of case studies and completion in accordance with the OSCE and Competency Test.

Suggestion that can be given is the result of basic nursing material development based on OSCE can be used in nursing basic learning as book enrichment can promote cognitive ability, affective ability and psychomotor ability.

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