



Description of Student Performance in the Clinical Rotation of Forensic Medicine Period January-December 2019 in Faculty of Medicine, Syiah Kuala University

Taufik Suryadi¹, Kulsum Kulsum²

¹Department of Forensic Medicine and Medicolegal, Faculty of Medicine, Universitas Syiah Kuala, Banda Aceh, Indonesia

²Department of Anesthesiology and Intensive Therapy, Faculty of Medicine, Universitas Syiah Kuala, Banda Aceh, Indonesia

taufiksuryadi@unsyiah.ac.id

Abstract: *Introduction:* learning activities can be effective and achieved accordingly with what is expected if the student gets the goal learning in accordance with knowledge, attitudes and skills. *Methods:* the study is undertaken to investigate the success of students in rotation of forensic medicine. This study was carried out in the Faculty of Medicine, Syiah Kuala University, Banda Aceh, Indonesia. As many as 101 medical students were included in the study (39 male and 62 female), grouped in 16 groups. The instrument used in this study was a recapitulation document of clinical rotation student scores in 2019. *Results and Discussion:* the best average score of 89.47 was achieved by the group XV, the best average achievement index was 4.0 (group XV), the best male student score 90 (group VI), the best female student score 91 (group III), the average male student score is 80.22, the average female student score is 81.12, the average grade cognitive 64,27, psychomotor 74,20, affective 80,90, average achievement index is 3,35 for male student and 3,67 for female student. *Conclusion:* the female student is better than male student performance both in psychomotor and affective, but in cognitive aspect is similar relatively. In general, in 2019 the achievements of students in clinical rotation of forensic medicine are good but need to be improved in the cognitive aspect.

Keywords: clinical rotation; forensic medicine; student performance

I. Introduction

Clinical rotation activities are learning activities that prioritize the value of knowledge, attitudes and skills. With a good learning process, the holistic and holistic clinical rotation goals can be achieved (Tikollah et al., 2019). Quality assurance of medical education is an important matter related to efforts to improve the quality of public health in Indonesia given the mastery of science and skills, as well as having the character Good personality is a major factor in the quality of service to the community, therefore, ongoing clinical rotation activities need to be carried out with good quality standards (KKI, 2012).

In clinical rotation education, students are required to be able to provide health services directly to patients. Students are taught to have clinical skills, empathy, and decision making. The existence of clinical learning students are expected to be stimulated to actively participate in learning activities and have good professionalism (Ashari et al., 2017). As a preparation for students to become prospective doctors, the clinical rotation has an essential role in increasing the ability and competence of students. Measurement of the success of students undergoing clinical rotation is very necessary in order to achieve the expected competence in accordance with the Indonesian Doctors Competency Standards (SKDI) 2012 (Suryadi & Kulsum, 2020). The forensic medicine department of the Faculty of Medicine at Syiah Kuala University has established a comprehensive clinical rotation program covering cognitive, psychomotor and affective aspects. In this study report a description of the success of students undergoing clinical rotation in 2019 is explained.

II. Research Methods

This study examines students' documents in undergoing clinical rotations in the forensic medicine department at the Medical faculty of Syiah Kuala University in the January-December 2019 period. A total of 101 student documents examined in this study took the form of cognitive, psychomotor and affective fields. Descriptive data are presented in tabular form containing percentage, mean, median, mode and trend of learning outcomes. Trends in learning outcomes will describe the group of students, gender, age, and duration of clinical rotation.

III. Results and Discussion

The rotational learning system of the Faculty of Medicine at Syiah Kuala University basically consists of academic and clinical activities. Academic activities are relatively uniform and clinical activities depend on each department. Academic activities consist of nine methods, namely discussion of tutorials, case reports, scientific article presentations, case management, morning reports, disease guidance according to *Standar Kompetensi Dokter Indonesia* (SKDI) 2012, bedside teaching, Computerized Based Test (CBT), and Objective Structure Clinical Examination (OSCE). Clinical activities consist of evaluating patients, visiting with lecturers (specialist doctors), clinical skills, consulting, duty tasks, and medical actions.

Clinical rotation learning in Forensic Medicine at the Faculty of Medicine at Syiah Kuala University refers to the method of clinical rotation learning at the Faculty of Medicine at Syiah Kuala University in general. So far, the activities of the clinical rotation of forensic medicine have been carried out with a three domain education approach, namely cognitive, psychomotor and affective. The success of students in undergoing clinical rotation can be seen from the recapitulation of data that has been compiled as a basis for a student's final assessment. Recapitulation of student data on the clinical rotation of forensic medicine in the Medical faculty of Syiah Kuala University in 2019 as many as 101 documents, with characteristics based on period, academic values, age and gender presented in table 1.

A total of 101 student's documents were reviewed. In general the documents examined in this study belonged to students who were female (61.4%). The average of students age was 23.23, median and mode 23.00, age 21 minimum, and 29 maximum. The average of academic values was 3.54, median 3.50 and mode 3.50. Average number of students entering the clinic rotation: 8 people / month. Students undergoing clinical rotation on: Odd semester 2018/2019 as many as 14 people, even semester 2018/2019: 62 people, and odd semester 2019/2020: 25 people.

Table 1. Characteristic of respondents (n=101)

Characteristic of respondents	Category	F	%	Statistic value
Periods of clinical rotation	10-12-2018 until 13-01-2019 (I)	8	7,92	Mean= 6,31 Median= 6,50 Modus= 6,00
	31-12-2018 until 02-02-2019 (II)	6	5,94	
	04-02-2019 until 09-03-2019 (III)	7	6,93	
	04-03-2019 until 06-04-2019 (IV)	6	5,94	
	31-03-2019 until 13-04-2019 (V)	5	4,95	
	08-04-2019 until 11-05-2019 (VI)	7	6,93	
	15-04-2019 until 18-05-2019 (VII)	6	5,94	
	13-05-2019 until 16-06-2019 (VIII)	6	5,94	
	20-05-2019 until 22-06-2019 (IX)	7	6,93	

	24-06-2019 until 27-07-2019 (X)		5	4,95	
	01-07-2019 until 03-08-2019 (XI)		6	5,94	
	05-08-2019 until 07-09-2019 (XII)		7	6,93	
	09-09-2019 until 12-10-2019 (XIII)		6	5,94	
	14-10-2019 until 16-11-2019 (XIV)		6	5,94	
	18-11-2019 until 21-12-2019 (XV)		6	5,94	
	23-12-2019 until 21-01-2020 (XVI)		7	6,93	
Sex	Male		39	38,6	
	Female		62	61,4	
Age	21 years		2	1,98	Mean= 23,23 Median= 23,00 Modus= 23,00
	22 years		12	11,9	
	23 years		39	38,6	
	24 years		25	24,8	
	25 years		13	12,9	
	26 years		1	0,99	
	27 years		5	4,95	
	28 years		1	0,99	
	29 years		1	0,99	
Academic value (score)	A (4,00)	Male	8	7,92	Male: Mean=3,35 Median=3,50 Modus= 3,50 Female: Mean= 3,67 Median= 3,50 Modus= 3,50 and 4,00
		Female	24	23,8	
	AB (3,50)	Male	16	15,8	
		Female	24	23,8	
	B (3,00)	Male	11	10,9	
		Female	15	14,9	
	BC (2,50)	Male	3	2,97	
		Female	1	9,90	
	C (2,00)	Male	1	9,90	
		Female	0	0	

Table 2. How to assess student's competence

Domain	Assessment method	Percentage	Instruments
Cognitive	Pre test	5	Material: legislation, VER, thanatology, autopsy
	Slide based test	20	The exam uses MCQ questions according to SKDI 2012 standards
	Response test	10	Material: Traumatology, asphyxia, sexual violence
Psychomotor	Case report	10	Report interesting cases during clinic rotation
	Journal reading	10	Make articles and present at scientific sessions
	Log book	10	Daily activities
	Objective Structure Clinical Examination	20	Oral exam according to SKDI 2012 standards
Affective	Disciplinary	5	Attendance, guard duty
	Attitude	10	Attitude and spirituality

Assessment has an important role in the education process. The assessment tries to discuss student learning outcomes by discussing the way they learn, and can support the way the teacher teaches and what material is delivered. Learning with an assessment students must learn to learn more to get good results (Lisiswanti et al., 2017). Student assessment includes two things to discuss, namely the assessment method and agreed with the learning process. The assessment method is an assessment using formative, summative, presentation, written test, and Objective Structured Clinical Examination (OSCE) methods. The second point, which is the relationship between assessment and learning has a definition, namely the learning method and how it is applied has a relationship with learning activities (Arundina et al., 2015).

Testing in terms of cognitive aspects is carried out in the form of MCQ (multiple choice questions) which aims to understand which should be learned by scientists who have learned. In psychomotor evaluation, the ability of students' clinical skills, analysis, ability to absorb information, and problem solving is done by students taking Objective Structured Clinical Examination (OSCE), portfolios, conducting case study discussions, and taking notes through logbooks. Competency assessment as well as competence in practicing clinical skills including ethics and discipline are part of the way of affective assessment (UI, 2016). Evaluation of learning in students has a certain value benchmark that considers the learning objectives, acceptance of good, continuous information, and can be used for summative and formative purposes (UGM, 2017). The evaluation system that is owned by the forensic medicine department of the medical faculty of Syiah Kuala University is applied in clinical rotation activities by assessing three aspects; cognitive, psychomotor, and affective (Suryadi, 2019).

Achievement of academic competence while undergoing education in the medical faculty is an aspect that must be done by students, in this study conducted in several ways, namely:

1. Multiple Choice Question (MCQ): This assessment is in the form of answers given in the form of multiple choices and is the most frequently used assessment method by means of the process is to choose one of the most correct answers
2. Oral Examination, is one type of assessment in which one or more examiners will ask questions to students in oral form to test their ability to remember and knowledge of the material tested to pass the exam.
3. Portfolio and Logbook: Consists of a collection of documents containing assignments and student achievement records. Portfolios and Logbooks are widely used as formative assessments.
4. Case reports: detailed narratives that usually describe a diagnostic or therapeutic problem experienced by a person or several patients. The role of case reports is to provide descriptive information about clinical patient scenarios and to share this educational experience with the general medical and scientific community (Florek & Dellavalle, 2016).
5. Presentation of scientific articles submitted orally is assisted by exposure to material that is being presented through a combination of media and images (Mailoa, 2008).
6. Objective Structured Clinical Examination (OSCE) is a standardized assessment format in which the assessment is carried out in the form of stations.

The performance of students undergoing forensic medicine clinical rotation in 2019 has given some of the best values from several criteria as shown in table 3, and the distribution of cognitive, psychomotor and affective values can be seen in table 4.

Table 3. The best assessment of various criteria

No.	Criteria	1 st Rank	2 nd Rank	3 rd Rank	4 th Rank
1	The best group cognitively	XV	XIV	IX	XIII
2	The best psychomotor group	XVI	XV	III	I
3	The best group affectively	III	XI	II	XIII
4	The best group overall	XV	XIII	III	XIV
5	The best chief	EAS (XIV)	ASF (III)	KIR (VII)	NS (XI)
6	Male student with the best academic value	RPI 90 (VI)	NK 89 (III)	DFE 88 (XIII)	AYT 88 (XV)
7	Female student with the best academic value	AMF 91 (III)	DR 91 (XV)	SRR 91 (XV)	NM 90 (XV)
8	Male student with the best global rating	FRL (XI)	HM (VII)	HMT (II)	HS (III)
9	Female student with the best global rating	MH (XIII)	RPA (II)	DS (II)	RFW (XII)

Table 4. Student achievement scores are cognitive, psychomotor and affective

Group	Number of students			Cognitive average value			Psychomotor average value			Affective average value			Overall Average Rating			Score		Final score				
	M	F	Total	M	F	Total	M	F	Total	M	F	Total	M	F	Total	Highest	Lowest	A	AB	B	BC	C
I	2	6	8	61	63	62	74	76	75	78	78	78	73	78	75	87	71	1	2	5	0	0
II	2	4	6	65	66	66	74	75	75	82	80	81	83	85	84	87	81	2	6	0	0	0
III	2	5	7	67	67	67	75	76	76	83	83	83	84	86	85	91	78	5	2	0	0	0
IV	4	2	6	58	54	56	70	74	72	78	80	79	67	66	67	73	63	0	0	3	3	0
V	2	3	5	59	63	61	73	74	74	78	80	79	73	77	75	87	63	1	1	2	1	0
VI	5	2	7	63	64	64	64	74	69	79	83	81	79	81	80	90	69	1	4	2	0	0
VII	2	4	6	62	60	61	76	74	75	80	80	80	80	73	77	81	71	0	3	3	0	0
VIII	3	3	6	63	61	62	72	72	72	80	82	81	76	75	76	81	72	0	2	4	0	0
IX	2	5	7	69	68	69	74	72	73	79	80	80	81	80	81	85	73	0	5	2	0	0
X	2	3	5	54	61	58	72	73	73	80	81	81	63	76	70	78	56	0	2	2	0	1
XI	2	4	6	66	67	67	74	75	75	83	81	82	81	83	82	87	75	2	3	1	0	0
XII	2	5	7	66	65	66	73	75	74	78	81	80	81	85	83	88	78	3	4	0	0	0
XIII	2	4	6	70	69	68	74	75	75	80	81	81	86	87	87	88	83	4	2	0	0	0
XIV	2	4	6	69	69	69	72	75	74	80	81	81	84	83	84	88	81	3	3	0	0	0
XV	2	4	6	71	75	73	76	76	76	79	81	80	88	90	89	91	87	6	0	0	0	0
XVI	3	4	7	69	65	67	76	76	76	77	78	78	82	85	84	89	75	4	1	2	0	0
	39	62	101	64	64	64	73	75	74	80	81	81	80	81	81	91	56	32	40	26	4	1

From table 4 it can be seen that there is a striking difference between the highest and lowest score, which is 91 to 56, but on average the clinical rotation value is 81 with AB grade. In the Faculty of Medicine at Syiah Kuala University, the determination of the graduation grade is ≥ 87 (grade A), 78-86 (B), 69-77 (BC), 60-68 (C), 51-59 (C), 41-50 (D) and a score <41 (E). Female student grades are better on average. There is a tendency that the average value of students starting from group XI to XVI is relatively constant, the period of student entry between July and December (the second half of 2019). The distribution of values is quite good with 95% above the value of B. But there is a gradation between cognitive, psychomotor and affective values. Cognitive value is a bit low because the CBT score is relatively unsatisfactory. Likewise, psychomotor grades are not good due to lack of cases and coaching.

IV. Conclusion

In general, the performance of students undergoing clinical rotation in 2019 is good but needs improvement, especially cognitive and psychomotor aspects. Case discussion and psychomotor activity need to be added. Lecturers also need to be increased because the number of students is currently increasing.

References

- Arundina A, Tejoyuwono T, Armyanti I, Nugraha RP, 2015. Gambaran Evaluasi Penilaian Mahasiswa Program.. 4(3):109–14.
- Ashari, I, Prihatiningsih, TS, Agni A. Evaluation of the clinical supervision to clinical rotation students in a faculty of medicine. 2017;6:124.
- Florek AG, Dellavalle RP. 2016. Case reports in medical education : a platform for training medical students , residents , and fellows in scientific writing and critical thinking. J Med Case Rep: 1–3
- KKI. 2012. Standar Kompetensi Dokter Indonesia.
- Lisiswanti R, Oktaria D, Sari MI, Prabowo AY. 2017. The Difference Between Before and After Guidance Small Group Learning Method of Preparation of National UKMPPD at Faculty of Medicine Universitas Lampung. 1(I):473–7.
- Mailoa E. 2008. Teknik penyajian presentasi ilmiah yang efektif dengan menggunakan media elektronik.. 7(2):88–98.
- Suryadi T. 2019. Modul Kepaniteraan Klinik Ilmu Kedokteran forensik FK Unsyiah.
- Suryadi T, K Kulsum. 2020. Student's self-assessment regarding the clinical skills in forensic medicine. Budapest Int Res in Exact Sci J. 2(2): 241-247.
- Tikollah, MR, Hasyim, SH, Tangke S. Combination of PBL and I CARE Learning Models in Increasing Student Learning. 2019;335:530.
- Universitas Gadjah Mada. 2017. Program Pendidikan Dokter Tahun 2017
- Universitas Indonesia. 2016. Buku Rancangan Pengajaran: Modul Praktik Klinik Periode 2016-2017. Indonesia Univerity Press: Jakarta.