

# AN OVERVIEW OF THE INTERESTS AND PERCEPTIONS OF EARLY-STAGE RESIDENT DOCTORS TOWARDS ETHICS AND MEDICO-LEGAL TEACHING METHODS IN A FACULTY OF MEDICINE

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## ABSTRACT

**Background:** Ethics and medico-legal (EM) teaching must be carried out in a fun way so that resident doctors can more easily understand the material being taught. Conventional lecture methods are considered monotonous, so efforts are needed to find the best method that is most in demand by early-stage resident doctors so that learning objectives are achieved optimally. This study aims to describe the interests and perceptions of early-stage resident doctors toward EM teaching methods at the Faculty of Medicine, Universitas Syiah Kuala.

**Methods:** This was an interventional study with a cross-sectional design conducted among early stage resident doctors (n=54) with a self-administered online questionnaire. The participants of this study were early-stage resident doctors who had passed the EM courses. The participants were collected using the total sampling method. The participants were tested for seven teaching methods for seven EM materials. After all teaching methods were carried out, participants were asked to fill out a questionnaire.

**Results:** A total of 54 participants were involved in this study. All resident doctors have a high interest and positive perception of all EM teaching methods. The respondent chose the film/video clipping method as the most interesting, followed by CBL, role play, MCD, jigsaw technique, conventional lecture, and narrative writing. The resident doctor's perception of the CBL teaching method was considered the most positive, followed by the film/video clip method, moral case deliberation, role play, jigsaw technique, conventional lecture, and finally narrative writing.

**Conclusion:** The CBL method is most in demand by resident doctors because it directly discusses cases in educational settings, but the resident doctor considers the film/video clipping method to be the most enjoyable. The most favorite teaching method is expected to produce a better understanding of the material than others.

**Keywords:** Early-stage resident doctors, ethics and medico-legal, teaching methods

## ABSTRACT

**Latar Belakang:** Pengajaran etika dan medikolegal (EM) harus dilakukan dengan cara yang menyenangkan agar dokter residen lebih mudah memahami materi yang diajarkan. Metode ceramah konvensional dianggap monoton, sehingga diperlukan upaya untuk menemukan metode terbaik yang paling diminati oleh dokter residen tahap awal agar tujuan pembelajaran tercapai secara optimal. Penelitian ini bertujuan untuk mendeskripsikan minat dan persepsi dokter residen tahap awal terhadap metode pengajaran EM di Fakultas Kedokteran Universitas Syiah Kuala.

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**Metode:** Ini adalah studi intervensi dengan desain sekat lintang yang dilakukan di antara dokter residen tahap awal ( $n = 54$ ) dengan kuesioner online yang dikelola sendiri. Partisipan penelitian ini adalah dokter residen tahap awal yang telah lulus mata kuliah EM. Peserta dikumpulkan dengan menggunakan metode total sampling. Para peserta diuji tujuh metode pengajaran untuk tujuh materi EM. Setelah semua metode pengajaran dilakukan, peserta diminta untuk mengisi angket.

**Hasil:** Sebanyak 54 partisipan terlibat dalam penelitian ini. Semua dokter residen memiliki minat yang tinggi dan persepsi yang positif terhadap semua metode pengajaran EM. Responden memilih klip film/video sebagai yang paling menarik, diikuti oleh CBL, role play, MCD, jigsaw technique, kuliah konvensional, dan menulis narasi. Persepsi dokter residen terhadap metode CBL dinilai paling positif, diikuti oleh film/video clip, MCD, role play, jigsaw technique, kuliah konvensional, dan menulis narasi.

**Kesimpulan:** Metode CBL paling banyak diminati oleh dokter residen karena langsung membahas kasus di lingkungan pendidikan, namun dokter residen menganggap metode klip film/video paling menyenangkan.

**Keywords:** Dokter residen tahap awal, etika dan medikolegal, metode pengajaran

### PRACTICE POINTS

- The case based-learning (CBL) method is most in demand by resident doctors because it directly discusses ethical and medico-legal cases in educational settings.
- The resident doctor considers the film/video clipping method to be the most enjoyable. Resident doctors get a visual image of the solution to ethical dilemmas when watching the film.
- A combination of all teaching methods can be applied so that the teaching and learning process runs perfectly.

### INTRODUCTION

The educational curriculum that incorporates ethical and medico legal (EM) material in the Specialist Medical Education Program of the Faculty of Medicine, Syiah Kuala University (SMEP-FM USK) began in 2016. In line with the 2019 National Standards for Professional Medical Education (NSPME) to achieve competence in the course of ethics and medicolegal, SMEP participants began to be trained to review moral issues in medical practice such as values, rights and responsibilities related to doctor behavior, as well as medical decision making.<sup>1,2</sup> Learning curriculum at SMEP-FM USK emphasized on the theoretical aspects of ethics, legal and professionalism, as well as the core values of medicine.<sup>3</sup> The expected goal is that

medical education, especially EM course will be able to provide an optimal learning experience, enable analysis of patient health needs, practice effective communication, do not hesitate in making decisions, clinical decisions and implementation of the code of medical ethics.<sup>2,4</sup>

Currently, EM learning at SMEP-FM USK is carried out with one-way conventional face-to-face lectures, with lecturers providing theoretical material. There have been no new innovations related to EM learning methods. One-way lectures are currently a bit monotonous and resident doctors seem less creative in expressing how to make ethical decisions. Cognitively, there has also been no evaluation of EM learning outcomes at the SMEP-FM USK. In the previous study, among resident doctors, only

22.6% knew ethical theory, 30.8% knew basic ethical principles, 23.1% knew supporting ethical principles, 39.7% knew ethical conflict resolution, 28.8% know the end of life decisions, 45.5% know the medico legal evidence, and 43.6% know the ethical considerations. Overall, only 32.9% of resident doctors know the EM content. Respondents' knowledge was tested by recalling questions and case analysis. Of the 22 questions, the minimum score for individual knowledge is 6 and the maximum score is 14. The majority have limited knowledge (94.2%) with a score of 50 out of a maximum score of 100.<sup>5</sup>

Based on the findings above, research is needed regarding what learning methods resident doctor want to apply so that the objectives of EM learning at the SMEP-FM USK are maximally achieved as preparation for SMEP-FM USK resident doctor in solving various ethical challenges, both in the educational process and situations that arise will be faced in daily medical practice. There are several teaching methods that can be applied, namely case based learning, role play, moral case deliberation, film/video clipping, jigsaw technique, conventional lectures and narratives writing.<sup>6</sup> This paper aims to answer several research objectives as follows: (1) To describe the interest and perception of early stage resident doctors towards EM teaching methods at the Faculty of Medicine, Syiah Kuala University, (2) To obtain information about the description of interests and perceptions of early stage resident doctors towards teaching methods case based learning, moral case deliberation, role play, film/video clipping, jigsaw technique, conventional lectures and narratives writing related to ethics and medico legal.

## METHODS

### Study setting and participants

The research type is an interventional with a cross-sectional design. The population in this study were early-stage resident doctors who are currently taking specialization education in the academic year 2022/2023 in the Medical Faculty, Universitas Syiah Kuala (MF-USK). Inclusion criteria: a) registered and active as a resident doctor of MF-USK, b) have undergone as a resident doctor for at least 1 month,

c) have studied EM. Exclusion criteria: a) resident doctor who is currently receiving an academic sanction, b) resigned as a respondent. The sampling technique used in this study was total sampling. A total of 54 respondents were involved in this study.

### Study instrument

The instrument used in this study was a questionnaire that was made by the researcher because there had not been any similar studies before. There are several procedures to be carried out in this study, namely: data collection techniques in this study using primary data collected directly by researchers through questionnaires to respondents, which was preceded by filling out informed consent. This study involved all early-stage resident doctors with total sampling for each study program. The intervention carried out was when the EM course were given with seven different methods, namely: (a) Conventional lecture method for ethical theory material, (b) Case based learning method for basic principles of bioethics material, (c) Moral case deliberation method for clinical ethics material, (d) Film/video clipping method for ethical dilemma material, (e) Jigsaw method for malpractice material and medico legal aspects, (f) Role play method for end of life decision material and (g) Narrative writing method for the post-test exam. After all methods were carried out, respondents were given a questionnaire to describe the interests and perceptions of early-stage resident doctors towards EM teaching methods at the Faculty of Medicine, Universitas Syiah Kuala.

Interest is a feeling of preference or interest in the EM teaching methods without any coercion felt by the early-stage resident doctors. Perception is the response or assessment of early-stage resident doctors on EM teaching methods. The measurement of interest and perception uses a Likert scale which consists of 5 answer choices, namely strongly agree, agree, neutral, disagree and strongly disagree. To answer positive questions, strongly agree is given a value of 5, agree is given a value of 4, neutral is given a value of 3, disagrees with a value of 2, and strongly disagrees is given a value of 1.<sup>7</sup> The highest score for each category is stated as the most attractive and the most positively perceived.

Assessment of EM teaching methods by ranking each of them. Respondents were also asked to write down the reasons for choosing each teaching method. After that, sorting is done from favorite to least favorite based on the frequency of choice of teaching method that is most desired by the resident doctor to be applied to the USK Medical Faculty residency. The ranking is determined by the number of scores with the following conditions: the choice of ranking 1 is given 7 points, ranking 2 points 6, ranking 3 points 5, ranking 4 points 4, ranking 5 points 3, ranking 6 points 2 and ranking 7 points 1.

Barometers for interest are segregated into four elements, i.e.: (1) Jubilant. An individual with an inclined target may persist to learn what they please. A person may act what he please deliberately without intimidation. (2) Intriguing. Intriguing is akin to continual passion of exuberant movement towards matter of interest. (3) Recognition. An inclining person with matter may deliberately remark without realizing it. (4) Engagement. Somebody with inclining target and committed it, thus tend to participated in enterprising implementation of intrigued matter.<sup>8</sup>

### **Validity and reliability test**

The questionnaire in this study was not tested for validity and reliability because the questionnaire was standardized.

### **Ethics approval and consent to participation**

This study was approved by the Health research ethics committee at the MF-USK No. 009/EA/FK/2022.

### **Data collection**

The data collection technique in this study uses primary data using an online questionnaire (Google form) which has been prepared by researchers to respondents which are distributed via social media by enumerators to help gather resident doctors in filling out the questionnaire. The time for data

collection began on 19 August 2022 to 19 October 2022. All respondents filled out the questionnaire independently consisting of an overview of the interests and perceptions of early-stage resident doctors toward EM teaching methods at the Faculty of Medicine, Universitas Syiah Kuala.

### **Data analysis**

This study uses uni-variate data analysis to describe each variable. Descriptive statistics are used to explain the characteristics of respondents, interests and perceptions of early-stage resident doctors toward EM teaching methods.

## **RESULTS AND DISCUSSION**

### **Demographic details**

This study was conducted in the Faculty of Medicine, Syiah Kuala University with a data collection time span of two months, namely 19 August 2022 to 19 October 2022. Data were collected using primary data with online questionnaires (Google form). The characteristics of the respondents in this study were grouped by sex, age, study program, the origin of the participant, the previous education institution of the participant, grade point average (GPA) when accepted as a resident doctor, and experience in joining any training about EM. The number of male and female participants were balanced, each 27 people (50.0%). Based on the age, many respondents were 30-31 years old and 32-33 years old, each 11 people (20.4%). Based on the study program, Paediatrics, Pulmonology and Anesthesiology is balanced, each 7 people (13.0%). Based on the place where the participants come from, as many as 34 people (62.7%) come from Aceh province. Based on the institution the participant studied in before their residency, the respondent institutions that participated in this study came from 11 universities, most of the respondents came from Syiah Kuala University with a total of 33 people (61.1%). Most of the respondents have never attended ethics training before. Demographic details of participants can be seen in Table 1.

**Table 1. Demographic Characteristics of Respondents (n=54)**

Variable	Characteristics	Frequency (N=54)	Percentage (%)
Sex	Male	27	50.0
	Female	27	50.0
	24-25	3	5.6
	26-27	10	18.5
Age (years)	28-29	9	16.6
	30-31	11	20.4
	32-33	11	20.4
	34-35	10	18.5
Study Program	Surgery	3	5.6
	Internal Medicine	4	7.4
	Obstetrics and Gynaecology	4	7.4
	Paediatrics	7	13.0
	Neurology	6	11.1
	Pulmonology and Respiratory Medicine	7	13.0
	Otorhinolaryngology, Head and Neck surgery	6	11.1
	Anaesthesiology and Intensive Therapy	7	13.0
	Cardiology and Vascular Medicine	2	3.7
	Plastic Surgery, Reconstruction and Aesthetics	2	3.7
	Orthopaedic and Traumatology	3	5.6
	Radiology	3	5.6
The place where the participant come from	Aceh	34	62.7
	North Sumatera	10	18.5
	West Sumatera	1	1.9
	Lampung	2	3.7
	Banten	3	5.6
	West Java	1	1.9
	East Java	1	1.9
	Central Kalimantan	1	1.9
	North Sulawesi	1	1.9
The institution the participant study in before their residency	Universitas Syiah Kuala	33	61.1
	Universitas Abulyatama	1	1.9
	Universitas Malikussaleh	4	7.4
	Universitas Sumatera Utara	3	5.6
	Universitas Islam Sumatera Utara	5	9.2
	Universitas Muhammadiyah Sumatera Utara	2	3.7
	Universitas Andalas	1	1.9
	Universitas Baiturahmah	2	3.7
	Universitas Indonesia	1	1.9
	Universitas Muhammadiyah Jakarta	1	1.9
	Universitas Muhammadiyah Malang	1	1.9

Variable	Characteristics	Frequency (N=54)	Percentage (%)
Grade point average (GPA)	3.76-4.00	3	5.6
	3.51-3.75	8	14.8
	3.26-3.50	14	25.9
	3.01-3.25	23	42.5
	2.75-3.00	6	11.1
Training experience about ethics and medicolegal	Ever	6	11.1
	Never	48	88.9

**Interests towards the ethics and medico legal teaching methods**

Table 2 shows the respondents interests towards the EM teaching methods. The teaching method using films/video clips was considered the most attractive

by respondents, followed by the case based learning (CBL) method. Likewise, for the most fun, most desirable and most suitable category to be taught at the residency, both methods are in the top position of the respondents' choices.

**Table 2. Respondents Interests Towards the Ethics and Medico-legal Teaching Methods (n=54)**

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Score
<b>1 Teaching EM with the methods below is interesting</b>						
Conventional lecture	13	29	8	3	1	212
Case based learning	27	25	1	0	1	239
Moral case deliberation	22	29	1	1	1	232
Role play	16	31	5	1	1	217
Jigsaw technique	12	24	5	2	1	176
Film/video clipping	32	20	1	0	1	244
Narrative writing	10	31	7	4	2	205
<b>2 Teaching EM with the methods below is fun</b>						
Conventional lecture	13	29	7	5	0	212
Case based learning	25	29	0	0	0	241
Moral case deliberation	17	32	4	1	0	227
Role play	17	35	1	1	0	230
Jigsaw technique	16	33	4	1	0	226
Film/video clipping	30	23	1	0	0	245
Narrative writing	9	34	7	3	1	209
<b>3 I am passionate about teaching EM with the methods below</b>						
Conventional lecture	10	27	12	5	0	204
Case based learning	23	28	3	0	0	236
Moral case deliberation	20	27	7	0	0	229
Role play	20	29	5	0	0	231
Jigsaw technique	15	21	6	2	0	181
Film/video clipping	33	21	0	0	0	249
Narrative writing	10	30	10	3	1	207

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Score
<b>4 I enjoy studying EM because the teaching method is not boring</b>						
Conventional lecture	12	26	10	6	0	206
Case based learning	21	29	4	0	0	233
Moral case deliberation	17	31	4	2	0	225
Role play	17	32	5	0	0	228
Jigsaw technique	15	33	4	2	0	223
Film/video clipping	35	18	0	1	0	249
Narrative writing	11	28	10	4	1	206
<b>5 I find the methods below suitable for teaching EM in residencies</b>						
Conventional lecture	14	29	8	3	0	216
Case based learning	21	29	2	2	0	231
Moral case deliberation	21	29	2	2	0	231
Role play	19	32	3	0	0	233
Jigsaw technique	16	34	2	2	0	226
Film/video clipping	30	23	0	0	1	242
Narrative writing	12	30	8	3	1	211

The results of this study found that the majority of respondents have a high category of interest in EM teaching methods (see Table 2). Statement 1 related to indicators of interests. Statement 2 dealt with indicator of feeling happy, statement 3 dealt with indicator of attention, and statement 4 dealt with indicator of involvement. Based on the results of this study, the EM teaching method that most attracted resident doctors was the film/video clipping method. On average for all indicators, the respondent chose the film/video clipping method as the most interesting, followed by CBL, role play, MCD, jigsaw technique, conventional lecture, and narrative writing.

Interest is an action of an inclined person for something that coincides with inquisitiveness to learn and thrive. The translation of interest is a perception of affinity and inclination for something or an act without behest from others. The base of interest is a process of bond affirmation between individual and target of interest. Interest is an individual carnal view to form perception of affinity and inclination to peculiar targets and may alter their nature. The

sight of interest induce somebody become jubilant when entangled with their interested target, thus making it more prone to the matter.<sup>9</sup>

### Perceptions towards the ethics and medico-legal teaching methods

Table 3 shows the respondents perceptions towards the EM teaching methods. The resident doctor's perception of the CBL teaching method was considered the most positive, followed by the film/video clip method, moral case deliberation, role play, jigsaw technique, conventional lecture, and finally narrative writing.

The results of this study found that the majority of respondents have a positive category of perceptions in all EM teaching methods (see Table 3). On average, the respondents' most positive perception is CBL, followed by film/video clipping, role play, MCD, jigsaw technique, conventional lecture, and narrative writing. Respondents who agreed that EM learning with the case based learning (CBL) method can train resident doctors' critical thinking through real cases in clinical practice were 31 respondents (57.41%)

strongly agreed, and 22 respondents (40.74%) agreed. Respondents who agreed that by using film/video clipping, it makes it easier for resident doctors to solve ethical dilemmas because they get direct examples visually where 29 respondents (53.70%) strongly agreed, and 24 respondents (44.44%) agreed.

Respondents who agreed that through role-play, resident doctors are more active and motivated to learn EM were 18 respondents (33.33%) strongly agreed, and 35 respondents (64.81%) agreed.

the perception aspect as the most positive, the CBL method is also the respondent's favorite method to be applied in residency education at SMEP FK USK, followed by film/video clipping, role play, MCD, jigsaw technique, conventional lecture, and narrative writing (see Table 4).

Perception is the response or assessment of early-stage resident doctors on ethics-medico legal teaching methods. Effecting elements of perception i.e.: 1) Event or insight. These aspects were prominent

**Table 3. Perceptions towards the Ethics and Medico-legal Teaching Methods (n=54)**

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Score
1 Case based learning	31	22	1	0	0	246
2 Role play	18	35	1	0	0	233
3 Moral case deliberation	20	31	3	0	0	233
4 Film/video clipping	29	24	1	0	0	244
5 Jigsaw techniques	13	35	6	0	0	223
6 Conventional lectures	11	34	6	3	0	209
7 Narrative writing	8	32	11	1	2	205

The MCD method can train communication skills and ethical decision-making in accordance with actual clinical situations where 20 respondents (37.04%) strongly agreed, and 31 respondents (57.41%) agreed. EM materials can be easily accepted by resident doctors with jigsaw teaching techniques because resident doctors will depend on each other and cooperate cooperatively in completing the material being studied where 13 respondents (24.07%) strongly agreed, and 35 respondents (64.01%) agreed. Through conventional lectures, EM materials delivered directly by experts can be accepted by every student equally because they get the same opportunity and explanation where 11 respondents (20.37%) strongly agreed, and 34 respondents (62.96%) agreed. By writing a narrative, the resident doctor is able to directly analyze the real conditions in the field and can explain in its entirety the understanding of EM where 8 respondents (14.81%) strongly agreed, and 32 respondents (59.26%) agreed. Apart from

in presenting matters, especially events or insight owned by a person. 2) Likelihood. People have different likelihoods thus may have significance to anyone's perceptions. 3) Demand. An individual's demand may change their matter perception. 4) Encouragement. Encouragement to people may influence their matter perception. 5) Sentiment. Stimulant occurs in a scared or unhappy person may dispartate if they are confident or pleased. 6) Background. Diverse personal backgrounds may affect presenting topic in different matters.<sup>10</sup>

**Favorite EM teaching methods**

Table 4 shows the choice of the respondent's most favorite teaching method. On average, the order of teaching methods most desired by resident doctors is CBL (score 330), film/video clip (score 309), role play (score 300) , moral case deliberation (score 283), jigsaw technique (score 260), conventional lecture (score 244), and finally narrative writing (score 221).



**Table 4. Respondents Suggestion Regarding the Ethics and Medico-legal Teaching Methods (n=54)**

Teaching methods	Ranking							Score
	1st	2nd	3rd	4th	5th	6th	7th	
Conventional lecture	9	14	8	5	5	9	4	244
Case based learning	25	19	5	2	2	1	0	330
Moral case deliberation	10	20	10	6	6	0	1	283
Role play	14	20	9	8	0	2	1	300
Jigsaw technique	8	17	10	3	10	4	2	260
Film/video clipping	23	14	6	7	1	0	3	309
Narrative writing	6	18	5	4	2	5	14	221

We provided several quotations of early stage resident doctors towards the interesting EM teaching method. In the present study, it can be seen that the most interesting EM teaching method is the film/video clip method.

*Film/video clipping teaching methods will increase the character of resident doctor to understand how to deal with real situations in the future (Respondent 36).*

However, when viewed from the most favorite method that the resident doctor wants to apply to SMEP FM USK is case based learning. Residents doctors prefer CBL because they think CBL can help them learn better and their motivation to study with CBL increases.

*By using CBL teaching method, so that from the beginning they have been trained and taught so that in the future they can work well according to medical ethics (Respondent 48).*

Meanwhile, the conventional lecture method is the least favorite because students think this method is boring.

*Conventional lectures are very dependent on the giver of the material and the monologues given tend to be monotone. Not all resident doctor can understand the terms given at one meeting, so the question and answer often takes place minimally. Conventional lectures should be accompanied by supplementary material that can be read in advance by resident doctor, or accompanied by pre-test & post-test so that participants can*

*anticipate the main points of material that must be understood in lecture (Respondent 19).*

### Several reviews related to the seven teaching methods

#### Film/video clipping

In this study, we used the film 'Lorenzo's oil' as teaching material regarding ethical decisions on ethical dilemma.<sup>11</sup> During the film screening, the resident doctor was enthusiastic to watch the film, and actively discussed the EM aspects contained in the film. The film tells the story of a child named Lorenzo Odone in 1985 who suffered from a severe hereditary disease, namely Adrenoleucodystrophy (ALD), in the form of damage to the nervous system that resulted in blindness, muteness, and unable to move his limbs.

Teaching methods using multimedia devices are very popular with resident doctors. Resident doctors also enjoy interactive sessions or direct involvement in lectures.<sup>12</sup> The use of film (cinema-education) to teach resident doctors refers to the use of video clips from films and videos to educate resident doctors regarding the psycho-social aspects of medicine. Films are a powerful tool for engaging the affective domain, linking learning to experience, and promoting reflection.<sup>13,14</sup>

#### Case-based learning

Future doctors gain experience in clinical practice while studying in educational institutions through the application of the case method in their teaching

and learning processes.<sup>15</sup> Case based learning is defined as a teaching method that requires resident doctor to actively participate in real problem situations.<sup>16</sup> Objectives learning with case based learning (CBL) is to prepare resident doctor to undergo clinical practice through the use of actual clinical cases. CBL connects theory with practice through applying knowledge to cases using inquiry-based learning.<sup>17</sup>

When resident doctors faced with a case, they put themselves in a decision-making role while reading the situation and identifying the problem at hand. This can build resident doctor' critical thinking in investigating fundamental problems, comparing various alternatives when analyzing action considerations, positive interactions between resident doctor to discuss their findings, and finally suggesting actions in solving cases.<sup>18</sup>

#### Role play

Effective communication is at the main principle of the patient-physician interaction. Communication skills are not innate, but are learned and improved by practice.<sup>19</sup> Currently, medical education curricula the worldwide emphasize the importance of communication skills.<sup>19,20</sup> Learning methods to teach and train communication in medical institutions that are proven to motivate resident doctor to learn actively is to play a role (role-play). Through role playing, resident doctors hypothesize about their role and develop professional and interpersonal attitudes and skills. In relation to the teaching process, role-play can be used to develop the cognitive, psychomotor and affective domains of learning.<sup>21</sup>

Role playing activities can be done in various ways. We recommend that the selection of methods be aligned with the needs of learning objectives, such as the fulfillment of knowledge, attitudes, or skills. In the fulfillment of knowledge, role-play is made to be observed and then discussed. As an attitude development, role-play is arranged in such a way that players experience empathy spontaneously. As for the acquisition of skills, it is very important to have opportunities for repeated implementation accompanied by feedback.<sup>21</sup>

#### Moral case deliberation

Ethical problems that are often encountered are ethical dilemmas. In solving the ethical dilemma, the method that can be used is moral case deliberation.<sup>22,23</sup> Moral case deliberation (MCD) is used as a method of solving dilemma cases involving 8-12 participants, consisting of presenters of dilemma cases and experts in the field of ethics as facilitators in the hospital.<sup>24</sup> The facilitator explains the purpose and procedure of the deliberation, the events and context of the deliberation and then the case presentation is delivered by resident doctor who handles the patient's health case in full starting from the medical history to the prognosis and the family's decision as the patient's guardian. The case submission is expected to provide a brief but concise description of the facts of the current situation.<sup>23,24</sup>

In relation to EM teaching, the main purpose of role-play is for resident doctors to play the role of medical practitioners in real clinical situations.<sup>22</sup> In order to familiarize and train resident doctors' abilities in communication and appropriate ethical decision making, the MCD method can be applied in the EM teaching.<sup>23</sup>

#### Jigsaw Technique

The Jigsaw method is one of the cooperative learning methods which is like a puzzle game, each student has an important role of each to build a complete understanding for all members of the study group.<sup>25</sup> The study group in this method consists of the original group (jigsaw group) and expert group. Jigsaw groups consist of 4-6 people and get different materials, this group is a combination of several experts. Expert groups consist of resident doctor who get the same subject matter, tasked with exploring certain topics and then explaining them to their original groups.<sup>26,27</sup>

Jigsaw is designed to increase resident doctors' sense of responsibility towards their own learning as well as the learning of others. Resident doctors not only study the material provided, but they must also be ready to provide and teach the material to other group members. This makes resident doctor dependent on each other and must cooperate cooperatively to learn the assigned material.<sup>27,28</sup>

### Conventional lecture

Conventional lecture methods apply teacher-centered learning, which results in resident doctor being little or no involvement in the learning process.<sup>29,30</sup> Quoting from Mardhia, conventional lecture methods are useful if the teacher wants to convey views on a general concept, but will not or will not help resident doctor develop critical thinking skills.<sup>6</sup>

In conventional lectures only lecturers are actively involved in learning. In contrast to the jigsaw method which requires resident doctors to be actively involved in lectures, conventional lectures place resident doctors only as passive listeners.<sup>29</sup> As a result, the development of important communication and social aspects of resident doctors is often neglected. Resident doctor are not trained to be able to solve problems and make decisions on a matter, which is not in accordance with the objectives of teaching bioethics.<sup>30</sup>

### Narrative writing

There are not many studies that discuss the learning method through narrative writing. Mardhia in her research states that writing a narrative, either through pictures or writing, can show a person's true view of a thing or condition. Two different people will not see a condition in the same way. Mardhia's research argues that writing narratives is the right thing for ethical reflection because it deals with important aspects of life such as feelings, affection, hopes, emotions, beliefs, and values.<sup>6</sup>

Narrative writing can be applied to a community based education (CBE) system that will bring resident doctors to meet directly with the community and see real conditions on the ground. Through this interaction, resident doctor can express their thoughts, express their opinions, and describe their experiences through writing or pictures.<sup>6</sup>

### Study strengths and limitations

The strength of the study is the use of the intervention of several teaching methods so that respondents can compare which method is the most attractive, which method is the most favorite and desirable for teaching bioethics. The evaluation of integrated learning is proven to be accepted by

resident doctors and helps resident doctors achieve integrated learning outcomes into solutions in achieving holistic competence.

Teaching methods can be interpreted as a systematic and deliberate effort to create conditions so that learning activities can run effectively and efficiently. Methods in teaching not only function as a way to convey material, but also to manage learning activities so that learning objectives can be achieved appropriately.

Seeing that there is no teaching method that is dominant from one method to another, it is necessary to think about an integrated teaching that uses a combination of all teaching methods so that EM teaching is more easily understood by resident doctors.

The limitations of this study method is that it does not uniform the interventions carried out to provide variations in the teaching methods tested. In this study, it is possible that the resident doctor's interest is influenced by the current situation, for example if the resident doctor is tired, he or she may not be interested in the material being taught, on the other hand, if they are fit, they may show interest. The teaching material tested also affects interest, for example, the material is indeed liked by the resident doctor, so he/she chooses the teaching method as an interesting method.

## **CONCLUSIONS**

Most of the resident doctors who participated in this study had a high interest and positive perception of all EM teaching methods. The CBL method is most in demand by resident doctors because it directly discusses cases in educational settings, but the resident doctor considers the film/video clipping method to be the most enjoyable. The most favorite teaching method is expected to produce a better understanding of the material than others.

## **RECOMMENDATIONS**

Nothing is too dominant of all the teaching methods offered, so that a combination of all methods can be applied so that the teaching and learning process runs perfectly.

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**COMPETING INTEREST**

The authors declare that there are no competing interests related to the study.

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**AUTHORS' CONTRIBUTION**

*Kulsum Kulsum* – data analysis, and publication manuscript.

*Taufik Suryadi* – developing research proposal and collecting data.

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