• **Title**: The Corelation between Written and Practical Assesments of Communication Skills among the First Year Medical Students

• **Short title**: Assessment of Communication Skills

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ABSTRACT

Background: Communication is a core clinical skill that is essential for clinical competence. The practical assessment (OSCE) is commonly used to assess communication skills among undergraduate students; this method requires high cost and complex organization. Faculty of Medicine Unjani University develops written assessments in an essay format to assess communication skills in the first year communication block. The evidence of written assessment in communication skills is still very limited.

Objective: To study the correlation between written and practical assessments of communication skills among the first year medical students; validity and reliability of written assessment to assess communication skills.

Methods: A cross sectional study was applied among the first year students in the Faculty of Medicine Unjani University. At the end of communication block, students were given written assessment in Modified Essay Questions (MEQ) format and practical assessment in one station with simulated patient that is videotaped. Each of assessment was examined by two teachers.

Result: Kappa coefficient for inter-rater reliability of MEQ was 0.707 and practical assessment was 0.735. The correlation coefficient between written and practical assessments from two examiners ranged between 0.063 – 0.127, N= 120, p>0.01. On the item level, correlation coefficient in building initial rapport was -0.067, identifying the reason(s) for consultation was 0.030 and gathering information was 0.107. This result showed a low concurrent validity of written test to assess communication skills.

Conclusion: Written assessment cannot predict the students’ performance in communication skills. Although it is reliable, written assessment has a low validity to assess communication skills.

Keyword: communication skills, assessment, Modified Essay Questions, practical and written test.
Introduction

An effective doctor-patient communication has a positive relationship with the increasing number of patient recovery, therapy compliance, and the decrease of malpractice number. Therefore, in medical education, communication is part of clinical skills which is necessarily poured into a curriculum at each institution (Rider et al., 2006; Laidlaw et al., 2002). There are many conceptual frameworks that can guide teachers to teach and assess communication skills, such as Arizona Clinical Interview Rating Scale (ACIR), Calgary-Cambridge Observation Guides (CCOG), SEGUE Framework (Set the stage; Elicit Information; Give Information; Understand patient’s perspective; End the encounter), and MAAS—Global Rating List for Consultation Skills of Doctors (Schirmer et al., 2005; Kurtz et al., 2005; Makoul, 2001).

In compiling the curriculum, Hulsman et al. (1999) and Kurtz (2005) have emphasized the importance of gradual communication skills teaching and assessment. Windish (2005) has developed an implementation of gradual communication skills curriculum with CCOG as the conceptual framework by teaching basic communication skills such as building rapport, giving an open-ended questions or active listening skills among the first year medical students. Besides, Baerheim et al. (2007) and Morrows et al. (2009) have mentioned that early clinical approach can provide performance of communication skills during the next level of education.

The achievement of communication skills competence can be seen by its assessment. Aspegren (1999) has mentioned that communication skills assessment can be in form of students’ perception, written report, written test on medical interview,
Objective Stuctured Clinical Examination (OSCE), self-rating scale, direct observation, video observation, patients' perception, and the number of patient recovery. More clearly, Hulsman et al. (1999) have argued that the assessment of successful communication learning is done by levels as follows: (1) Subjective perception about knowledge on communication manner which can be achieved by written test or self evaluation by reflecting communication ability, (2) Objective communication skills, e.g with OSCE, and (3) Assessing an output aspect of communication process, e.g simulated patient’s perception. Hulsman et al. (2004) has mentioned that OSCE is frequently used to assess communication skills in undergraduate level. According to Kelly and Murphy (2002), OSCE needs bigger amount of cost for its preparation, implementation and organization including the complexity of the arrangement and training of stimulated patients and the observers as well.

Besides practical assessment in OSCE, several studies mention written assessment that can also be used to assess communication skills. Humphirs and Kaney (2000) developed a video-based written assessment method which is called as OSVE (Objective Structured Video Examination). In OSVE, students watch a videotaped doctor-patient communication and then answer the written questions about their understanding in communication skills. This method can be facilitated by computer called as Computer Assisted Assessment (CAA) in (Hulsman et al. 2004).

The Faculty of Medicine Unjani University has included communication block in its second block of the first year curriculum. The aim of this block is to study the basic communication skills that will be applied in the integrated block during the next steps of education. At the end of this block, communication skills are assessed by written
assessment using an essay method. The application of written assessment to assess communication skills in the first year medical students at Unjani University brings the research question about correlation between the result of written and practical assessment to study the concurrent validity of written assessment.

Methods

All subjects were the first year students of Faculty of Medicine Unjani University that were just finishing communication block. Total subjects were 153 students. However, during study 3 students attended incompletely in the practical assessment. The instruments developed for this study were a set of Modified Essay Question and scoring rubric for written assessment, the checklist for one station with simulated patient in practical assessment. Both instruments assess three points of basic communication skills, i.e. building rapport, identifying consultation reason(s) and gathering information. Before the study began, a qualitative content validity with experts was done.

The assessment was done in two consecutive days; in the first day students were given a Modified Essay Question and the second day students were videotaped in one station with simulated patient. After that, the results of written assessment were examined by two teachers with the same scoring rubric, while the results of videotaped practical assessment were also examined by two trained teachers.

During practical assessment sessions, there was a problem with one camera, so out of 150 videotaped practical sessions, only 120 that could be examined well.
Result

1. Reliability of written and practical assessment

The measure of reliability in written and practical assessment in this study was achieved by determining consistency from two examiners which is called as inter-rater consistency. The result is presented in table 1 and 2.

Table 1 shows that written assessment was a reliable method to assess communication skills. Practical assessment was also reliable as shown in table 2.

2. Concurrent validity of written assessment

The concurrent validity of written assessment to assess communication skills was done by correlating the mean total scores of MEQ and the mean of total scores in practical assessment using Pearson’s correlation. The correlation result is presented in table 3.

It is shown in table 3 that correlation between the results of MEQ and practical assessment from the two examiners ranged between 0.063 to 0.127 with p>0.01. On the item level shown in table 4, correlation coefficient in building rapport was -0.067, identifying consultation reason(s) was 0.030, and gathering information was 0.107. All p-value > 0.01.

The result showed that correlation between MEQ and practical assessment was not significant. This also showed that written assessment as ‘predictor’ could not predict the performance of communication skills in practical assessment as a
'criterion'. Thus, written assessment had a low concurrent validity to assess communication skills.

Discussion

The determination of an appropriate assessment method requires the consideration of validity and reliability aspects, the impact of learning, and also the feasibility of the assessment method (Linn and Gronlund, 2000). Shumway dan Harden (2005) have defined validity as the degree to which an instrument measures what it is supposed to measure. Before the study began, the evidence for content validity was done by asking panel experts to review the representativeness of MEQ items and checklist items used in practical assessment. Although the inter-rater reliability of MEQs in this study was good (0.73), the evidence of concurrent validity of MEQs to assess communication skills was low. This could be proven by the result which was an insignificant correlation between written and practical assessment to assess communication skills.

The basic communication theory mentions that communication process is influenced by many factors such as knowledge, self concept, ethnic and culture. Those factors have roles in encoding process or interpreting of an idea (Dwyer, 2005; Ali et al, 2006). This theory is supported by Spitzberg (1983) which mentioned that one's performance in communication is influenced by knowledge and motivation. In relation with educational process, Miller’s pyramid can explain that knowledge (knows and knows how) is a foundation of skills (shows and does). In communication skills, Hulsman (2004) has mentioned that to build communication skill requires a detailed ‘knows how’ level, i.e., ‘knows why and when’ and ‘integration’ levels. Those theories may support an
opinion that there should be a significant relation between knowledge and performance that can be presented in written and practical assessment of communication skills.

However, Van Dalen et al.(2002) has conducted a research about correlation between written and practical assessment of communication skill on medical student; the result showed that there was a lower correlation between written and practical assessment in communication skills compared to correlation between written and practical assessment of other clinical skills. Furthermore, Vleuten (1989, cited by Van Dalen et al, 2002) explains that the correlation can increase in the final year of education.

In communication skills, the professionalism indeed has a basic knowledge; nevertheless, individual factors, i.e. student’s personality, influences more on formation of skills in communication (Van Dalen et al, 2002). Norcini dan Lipner (2000) have also mentioned a low corelation between student’s ability in written and practical tests in communication skills. Besides, Humpirs and Kaney (2001) have done a cohort study showing that OSVE in the first year has a low prediction of in OSCE of communication skills in the next year.

The results of this study had shown similar evidence that there was a low or insignificant correlation between the result of written and practical assessment of communication skills. McCrosney (1983) has opined that communication competence is “the ability in applying knowledge in a communication practice on a certain situation”. Based on the definition, it is possible that someone has a high level of knowledge about communication but cannot communicate well, because he/she cannot apply the knowledge in communication performance.
Kurtz (2005) mentions that communication skills are different with other clinical skills. As the consequence, Kurtz (2005) has suggested that communication teaching method should be prioritized on a skills-based approach; while the cognitive element may provide students to understand communication concept. On its assessment, the main assessment method should also prioritize the skills element, i.e. with practical or performance-based assessment. Cognitive or written assessment can supports the practical assessment to know the student’s understanding on communication concept.

This study also showed that on the item level, the lowest correlation was in building rapport. In this item, the assessment points were (1) Greeting and asking patients’ identity, and (2) Self introducing and explaining the session objective. It might indicate that individual factors in building rapport skills were higher than identifying the reason and gathering information skills. One example of student result in written and practical assessment is shown in the appendix-3.

**Conclusion**

The written assessment cannot predict student’s performance in communication skills. Even though written test is reliable, but it has a low validity in assessing performance of communication skill.
Recommendations

Further research can describe the development of correlation between written and practical assessments in a longitudinal study from the first until last year of education. The assessment instrument of practical test can be added by simulated patient’s perception.

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REFERENCE


