

Training Future Doctors to be Patient-Centred: Efficacy of a Communication Skills Training (CST) Programme in a Malaysian Medical Institution

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SUMMARY

This study evaluates the efficacy of the preclinical communication skills training (CST) programme at the International Medical University in Malaysia. Efficacy indicators include students' 1) perceived competency 2) attitude 3) conceptual knowledge, and 4) performance with regard to patient-centred communication. A longitudinal study with a before-after design tracked a preclinical cohort's progress on the aforementioned indicators as they advance through the training. Results indicate that following the CST, students perceived themselves to be more competent in interpersonal communication, had more positive attitude towards patient-centred communication, and developed a better conceptual knowledge of doctor-patient communication. In addition, those with good conceptual knowledge tend to demonstrate better communication skills performance at the Objective Structure Clinical Examination 12 months following the initial CST.

KEY WORDS:

Attitude, Communication skills training, Efficacy, Knowledge, Medical students, Preclinical

INTRODUCTION

The recent rise in the prevalence and incidence of chronic, lifestyle related diseases such as diabetes, HIV/AIDS and cardiovascular diseases has contributed significantly to the change in health concerns and the practice of health care¹. Since there is yet a cure for these chronic diseases, prevention of such diseases is the only way to contain this emerging public health problem. As such, promoting a healthy lifestyle and empowering the public to take responsibility for their health are the main challenges facing health professionals today. In this context, doctors are increasingly involved in educating, influencing and negotiating with their patients to adopt attitudes, beliefs, habits and lifestyles that are congruent with health. These tasks require doctors to firstly, shift their view of illness from the traditional biomedical model towards the more holistic biopsychosocial perspective and secondly, to embrace a patient-centred approach to doctor-patient relationship. This shift in paradigm calls for a concomitant change in the direction of training within medical institutions, particularly with respect to communication skills training. In order to meet the current health care challenges, communication skills training needs to be given more prominence and emphasis.

Research has unequivocally demonstrated that effective patient-centred communication produces a positive impact on patient satisfaction, treatment compliance, health outcomes and quality of care¹. Conversely, ineffective doctor-patient communication is related to medical errors² and malpractice claims and suits³. These findings have compelled many professional bodies in America, Europe and Australasia to consider communication skills training (CST) as an essential component of medical education and an important criterion for programme accreditation. In conjunction with this initiative, medical schools in these countries have now formalised the inclusion of (CST) programmes in their medical curriculum⁴⁻⁸. Such practice indicates that fostering good communication skills has been given priority and is considered a worthwhile investment.

In Southeast Asia, CST in the medical curriculum is likewise receiving more emphasis, particularly among medical educators in Singapore⁹⁻¹⁰ and in Hong Kong¹¹. With respect to Malaysia, medical schools are beginning to formalise the teaching of communication skills although not many have incorporated a systematic CST programme. Furthermore, very few provide continuous training throughout the undergraduate medical education programme. It appears that only medical schools adopting an integrated curriculum are more likely to endorse early and continuous exposure to CST¹²⁻¹³.

To date, there is limited published information describing the specific CST methods employed by medical schools in Malaysia. More importantly, there is a serious shortage of studies evaluating the efficacy and quality of such programmes. Without this information, it is difficult to determine whether medical education in this region is evolving towards producing doctors who are patient-centred and who are competent in establishing and maintaining effective doctor-patient communication in their practice.

Therefore, the purpose of this paper is to describe the preliminary findings of an ongoing study evaluating the efficacy of the CST programme at the International Medical University (IMU), Kuala Lumpur, Malaysia. The information presented in this paper pertains only to the CST in the pre-clinical phase. For details on the IMU CST programme, readers are directed to Lukman *et al.* (2006)¹⁴. Four parameters were selected as efficacy indicators. These include students' 1) perceived competency in basic interpersonal communication,

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2) attitude towards patient-centred communication, 3) conceptual knowledge on patient-centred communication and 4) communication skills performance during the Objective Structure Clinical Examination (OSCE). The CST programme is considered efficacious if the above indicators are enhanced following training. In order to explore the acceptability of the programme, students' evaluation of the CST programme was also investigated.

MATERIALS AND METHODS

Sample

The sample consists of a cohort of 189 first year medical students with a mean age of 19.56 (SD=1.43). There were more females (54.5%) than males (45.5%). Majority of the sample was Chinese (66.1%) with Malay and Indian students representing 14.3% and 13.2% of the sample respectively. The rest of the sample (6.3%) consisted of international students.

Design and Procedure

This study employs a longitudinal design. Data was accumulated from May 2005 to June 2006. The pre-clinical phase of the IMU medical programme consists of five semesters. The CST programme was introduced in semester 1 and continues throughout the five semesters (i.e. 2.5 years). Data collection was conducted at different time points during the pre-clinical phase. For the purpose of this paper, the data collected at 3 time points will be discussed (Figure 1). Only 153 students i.e. 81% of the sample provided the complete data for this particular analysis.

The inventories used were the General Information questionnaire, Interpersonal Communication Inventory (ICI), Communication Skills Attitude Measure (CSAM), and the Communication Skills Video Assessment (CSVA) (Table I). Readers are directed to Yeap *et al.* (2008)¹⁵ for more details on these inventories. Prior to the commencement of the 2-week CST in semester 1 which focused on basic communication skills such as building rapport, students' demographics and baseline data for ICI, CSAM, and CSVA were collected (in May 2005). Following the 2-week CST, the parameters measured during the Pre-CST Phase were assessed for the second time. In addition, students were requested to evaluate the CST using the Communication Skills Training Evaluation (COSTE) inventory (Table I). In IMU, OSCE takes place in semesters 3 and 5. When the study cohort progressed to semester 3 i.e. 12 months following semester 1, their communication skills performance during a 5-min History Taking OSCE station was assessed using a communication skills checklist (in June 2006). Between May 2005 and June 2006, students were exposed to another CST session on handling patients with discomfort and pain. The emphasis for this session was on developing observation skills and empathy.

Data Analysis

Paired t-test was used to investigate differences in the conceptual knowledge of doctor-patient communication prior to and following the CST programme. Where data is ordinal, as in the case with the attitude and perceived competency measures, Mann-Whitney U was applied. Spearman's Rho correlation coefficients were computed between the above parameters and communication skills

performance in the OSCE. Regression analysis was also conducted to identify which of the aforementioned parameters is predictive of students' communication skills performance. Analysis was performed using SPSS for Windows, version 11.5.

RESULTS

Pre and Post CST in Semester 1

Students' mean baseline scores for ICI, CSAM and CSVA were all above 50% of the maximum total scores possible (Table II). Following the CST programme, there was significant increases in the scores for ICI ($z=6.60$, $p<0.001$), CSAM ($z=7.66$, $p<0.001$) and CSVA ($t=16.15$, $p<0.001$). The most marked improvement in scores was observed for the CSVA. The total maximum score possible for the video assessment is 36 marks. Taking the pass mark as 50% of the total maximum score possible (i.e. a score of 18), the cohort's mean CSVA score prior to the CST in semester 1 was just above the passing mark. Further analysis reveals that prior to the CST, only 62.1% ($n=95$) of the sample scored 18 and above for CSVA. Following the CST, the figure rose to 97.4% ($n=149$).

With regard to the students' evaluation of the CST programme in semester 1, students generally responded with above average ratings. Most students reported either being "satisfied" or "somewhat satisfied" with their experience during the simulated medical interview. However, a substantial number of students (80.1%, $n=121$) reported some difficulties in interviewing. The top three difficulties identified were 1) lack of ability to respond appropriately to the simulated patient, 2) difficulty in phrasing questions and 3) paying attention to what the simulated patient is saying due to being overly concerned with eliciting the next question to ask.

Communication Skills Performance in Semester 3 OSCE

In order to investigate the relationship between the post-CST scores for ICI, CSAM and CSVA in semester 1 and communication skills performance at semester 3 OSCE, Spearman's Rho correlations were computed for the analysis. Only the CSVA score was found to be significantly correlated with communication skills performance ($r=0.283$, $p<0.01$). Higher score on CSVA is associated with better communication skills performance. Further analysis using regression confirmed that CSVA scores positively predict communication skills performance [$F(1,152)=9.92$, $p<0.01$].

DISCUSSION

The findings of this study indicate that positive attitude towards patient-centred communication was already present among the first year medical students prior to the commencement of the CST programme. In addition, these students perceived themselves to have adequate competency in interpersonal communication and demonstrated limited conceptual knowledge regarding patient-centred communication. All these parameters were strengthened following the introduction of the CST program with the most marked improvement observed for the conceptual knowledge. Moreover, the acquired conceptual knowledge appears to exert a continuous impact on communication

Table I: Inventories used

Inventory	Variables measured
1. General Information	Demographic details
2. Interpersonal Communication Inventory (ICI)	Perceived competency in basic interpersonal communication
3. Communication Skills Attitude Measure (CSAM)	Attitude towards the need for patient-centred communication
4. Communication Skills Video Assessment (CSVA)	Knowledge of concepts and application pertaining to basic communication skills used in doctor-patient communication
5. Communication Skills Training Evaluation (COSTE)	Evaluation on the training programme

Table II: Descriptive statistics for ICI, CSAM, CSVA and OSCE

Inventory	Scores (n=153)				
	Total Max Score Possible	Mean	SD	Min Score Reported	Max Score Reported
ICI1 ¹	32	22.63	3.07	16	31
ICI2 ²	32	24.37	3.74	15	32
CSAM1 ³	128	107.38	7.28	90	124
CSAM2 ⁴	128	112.22	7.99	93	126
CSVA1 ⁵	36	19.16	4.72	5	32
CSVA2 ⁶	36	24.63	3.85	15	34
OSCE ⁷	10	7.34	1.14	4.5	10.0

¹ Interpersonal Communication Inventory *prior* to communication skills training in semester 1

² Interpersonal Communication Inventory *following* communication skills training in semester 1

³ Communication Skills Attitude Measure *prior* to communication skills training in semester 1

⁴ Communication Skills Attitude Measure *following* communication skills training in semester 1

⁵ Video assessment for conceptual knowledge on patient-centred communication *prior* to communication skills training in semester 1

⁶ Video assessment for conceptual knowledge on patient-centred communication *following* communication skills training in semester 1

⁷ Communication skills performance at a 5-min History Taking OSCE station in semester 3

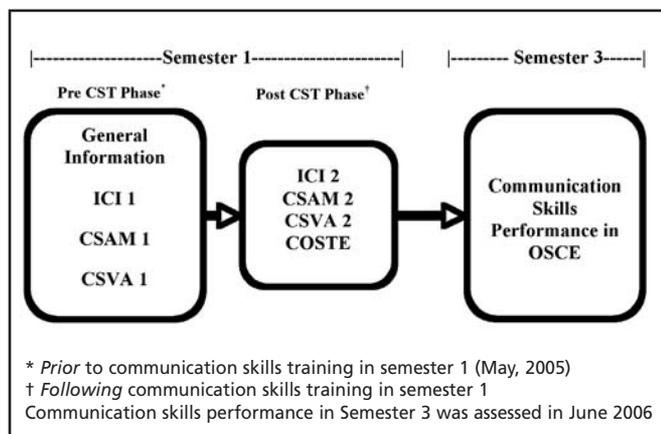


Fig. 1: Study Design

skills performance assessed during OSCE 12 months following the CST. Although this finding is pertinent, caution needs to be taken in interpreting this data since performance was based on a single 5-min OSCE station. Nevertheless, in the light of the evidence, the IMU CST programme can be considered as efficacious to a certain extent, particularly with respect to enhancing the aforementioned parameters in a controlled, non-clinical environment. The students' positive evaluation of the CST programme was a further demonstration of its beneficial impact.

A few findings from this study have highlighted the areas where the CST programme can be improved and therefore, further discussions are warranted. The ICI was developed with the intention of assessing students' perceived competency in basic interpersonal communication. Hence, this inventory

can be considered a tool for evaluating self-efficacy in performing a specified interpersonal communication task such as greeting, listening, observing etc. According to Bandura's social cognitive theory, self-efficacy represents an individual's estimate of his or her capability to perform a specific task successfully¹⁶. An individual with strong self-efficacy in a particular task is more likely to perform the task and persist through the task when difficulties arise.

Within the medical context, self-efficacy has been shown to exert a positive influence on performance of medically-related tasks such as diagnostic ability¹⁷, surgical procedures¹⁸ and end-of-life care¹⁹. Therefore, a positive relationship between students' self-efficacy and their communication skills performance at OSCE was expected in the current study. However, no association was found between these two variables although there was an improvement in the ICI scores following the CST training.

This contradictory finding implies that the relationship between self-efficacy and performance is not merely a linear association. Mavis argued that the relationship involves a more complex interaction between several cognitive components such as one's level of anxiety and the degree of preparedness perceived prior to engaging in a particular task²⁰. According to Mavis, self-efficacy was found to be negatively influenced by anxiety and the level of anxiety itself predicts preparedness. Preparedness in turn predicts performance. As such, in order to enhance self-efficacy and communication skills performance, the CST syllabus should be revised to include techniques in coping with anxiety and increasing preparedness.

No association between attitude and communication skills performance was observed in the present study. This finding

is congruent with Laidlaw *et al.*'s study that indicates attitude to be a poor predictor of communication skills performance²¹. There are two plausible reasons that could explain the lack of association between attitude and communication skills performance.

Firstly, contrary to popular assumption, empirical evidence has demonstrated that attitude is not a consistent predictor of behaviour²² unless the attitude and behaviour measured are of a similar level of generality²³⁻²⁴. In the case of the present study, the attitude measured pertains to students' evaluation of the need for patient-centred communication in general while the communication skills performance in OSCE emphasised the assessment of communication skills in an examination context. The difference in contexts may have contributed to the lack of association between attitude and behaviour in this case.

Secondly, attitude is only one of the many factors that influence behaviour. Fisbein and Ajzen suggested that intention i.e. motivation required to perform a behaviour is a stronger and more direct predictor of behaviour than attitude²². Since the communication skills performance in the current study is part and parcel of a formal assessment i.e. OSCE, it is expected that students had strong intention to perform well, regardless of their attitude towards patient-centred communication.

Intention to perform was not explicitly measured in this study and hence, the mediating effect of intention in the attitude-communication skills performance relationship cannot be established. Nonetheless, it would be beneficial if the CST programme provides opportunities for self-reflection and group discussions on intention and attitudes towards patient-centred communication. This might facilitate students to develop an implicit motivation to communicate well with their patients in the future.

Conceptual knowledge is the only variable in this study that predicts performance. The positive influence of conceptual knowledge on communication skills performance at OSCE appears to suggest that within the context of doctor-patient communication, good theoretical knowledge is necessary for competent demonstration of skills. In other words, the data fits well with Miller's assessment pyramid²⁵ and supports previous studies investigating the relationship between knowledge and performing medical communication^{20,26}. It demonstrates that the student who "knows" and "knows how" are more likely to "show how". More importantly, the current study implies that acquiring conceptual knowledge at an early stage can contribute to a better performance at a later time. This finding confirmed that conceptual knowledge is an integral part of CST and needs to be given due emphasis.

However, it is important to note that the relationship between knowledge and communication skills performance is partially dependent on the initial knowledge level prior to the commencement of CST. For example, Humphris conducted a prospective study investigating the relationship between first year medical students' initial knowledge and their communication skills performance in year 1 and 17 months later at year 2²⁶. Using structural equation modelling,

Humphris demonstrated a weak positive correlation between knowledge and communication skills performance at OSCE in year 1. Seventeen months later, a negative correlation was found between knowledge at year 1 and performance in year 2. In other words, students who started with weaker communication knowledge performed less well initially, but became better at a later stage. Conversely, those who had a higher knowledge base did worse following a delay in assessment. Humphris proposed that the unexpected results from his study could be due to the relationship between explicit knowledge (i.e. knowledge that can be verbalised or declared) and tacit knowledge (i.e. knowledge acquired without conscious deliberation). He predicts that a higher explicit knowledge base would hinder tacit learning.

If Humphris' model is accurate, future CST programme should emphasise on enhancing tacit knowledge, particularly in students who demonstrate good conceptual knowledge. For a start, the revised programme can focus on the difficult areas identified by the students which include the 1) lack of ability to respond appropriately to the simulated patient, 2) difficulty in phrasing questions and 3) difficulty in paying attention to what the simulated patient is saying due to being overly concerned with eliciting the next question to ask.

Although CST in pre-clinical phase has been shown to produce higher level of skills²⁷, exposure to regular patient contact in a clinical context is important for transferability of skills. Research indicates that medical competence demonstrated in the early phase of medical programme may not necessarily predict performance at a later stage or when students commence professional practice in a real clinical setting. Rethan *et al.* argued that "competence-based" assessment which measures what is done in a controlled environment i.e. educational setting should be differentiated from "performance-based" assessment which focuses on what is done in actual practice in clinical setting²⁸. The rationale for this view stems from evidence indicating that competence does not necessarily predict performance.

At present, it is unclear if the IMU CST programme enhances students' communication skills in the clinical setting. In order to ascertain the degree of predictive validity of the CST programme, a prospective within-subject study is needed to investigate the impact of the preclinical CST training on subsequent communication skills competency in the clinical phase.

CONCLUSION

The findings of this study indicate that the IMU pre-clinical CST programme is successful to a certain extent, particularly with respect to enhancing students' perceived competency in interpersonal communication, attitude towards and conceptual knowledge of patient-centred communication within a controlled educational environment. Although the programme received positive evaluations from students, future programme revisions should consider including techniques to deal with anxiety and preparedness; self-reflection on intention and attitude towards patient-centred communication; and ways to enhance tacit knowledge.

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