RESEARCH ARTICLE

Shaping effective communication skills in first-year medical students through community diagnosis exercise

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Abstract

Objective: The current study aimed to evaluate the impact of students' participation in this community diagnosis (CD) exercise on their competency development.

Methods: The CD was performed by 235 first-year students through a home visit to obtain health data through questionnaire and physical examination; the data was analysed using the IBM® SPSS® version 24 statistical analysis software. The impact of CD participation on student skills development was evaluated using a cross - sectional questionnaire - based survey using the Likert five - point scale to assess student attitudes.

Results: CD exercise was performed by 235 first-year students by collecting data from 373 community residents. Subsequently, survey on effect of CD exercise on student competency responses were collected from 47 students (20%) of the 235 CD participants; the results showed that most agreed that CD enhanced their competence as physicians in all areas. The highest mean (SD) Likert scale score was recorded for the statement, 'CD enhanced effective communication' (4.47 ± 0.747). A total of 44 (93.6%) respondents supported the continuation of CD, claiming that the activity is a forum through which students can practice interacting with patients.

Conclusion: The survey found that effective communication is the skill most established by involvement in CD, and the activity provides a good base for students' self-development as professional physicians.

Keywords: Communication, Medical education, Diagnosis, Community. (JPMA 71: S-37 [Suppl. 2]; 2021)

Introduction

'Community development' is defined as community-based social intervention involving agencies, government, health and social workers outside the community. Community development projects aim to identify and address issues through interventions to improve the community livelihood through the joint efforts of community members.[1] Medical workers typically contribute to community development through conducting 'community diagnosis' (CD), which is a collaborative effort between medical workers and community stakeholders to identify local health problems and prioritise interventions.[2]

Although hospital-based clinical training has always been an important part of medical training, community-based medical training is an emerging concept that first arose in the 1970s. In community-based medical education (CBME), students become acquainted with the common health problems of a particular population, which must be addressed in a primary healthcare setting before patients enter tertiary facilities.[3,4] Several reports on the impact of CBME have indicated that students are more sensitive to experience, as they develop more personal relationships with patients. CBME also helps students understand the socio-economic determinants of health. One of the objectives of CBME is to teach and train community-oriented primary care providers to improve the quality of the primary healthcare services.[3]

In the context of community diagnosis, students combine public health and primary data from their time, interacting with and collecting community data. In a study conducted at Ghent University, CD was performed over one week, and it was reported that students had an positive overall attitude towards exercise and were able to understand the impact of community on individuals.[6] Other studies reported that the social skills of students - such as teamwork, empathy and communication were improved and that they became more patient-friendly and had a great ability to put patients at ease.[7,8]

Based on the World Health Organization (WHO) Health Profile estimates, the quality of primary care in Indonesia has been considered to be inferior in comparison with other countries in Southeast Asia.[5] There is therefore a need to improve the quality of primary care in Indonesia by educating community-based primary care providers. In 2017, the faculty of Medicine of the University of Indonesia (FMUI) engaged first-year medical students in the faculty of Community Development programme to

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turn medical graduates into community-based primary care providers. The Community Development Programme of the FMUI took place in a low - income area near one of the university campuses. First-year students participated in the community development programme by completing a CD as an extracurricular activity and attending a mandatory four - month orientation. The CD exercise was carried out as one task in the context of this orientation programme.

Physician quality in Indonesia is generally measured by the Indonesian Standards of Physicians Competencies (ISPC), covering seven areas: professionalism, self-awareness and self-development, efficient communication , information processing, the scientific basis of medicine, clinical competence and health problem management.[9] These competencies cover the duties and functions of primary care physicians in clinical practice and have become the guiding principles for the construction of medical school curricula in Indonesia.[10] The aim of this study was to assess the impact of first-year student participation in CD on the development of these seven areas of medical competence.

Material and Methods

The research was a cross-sectional study evaluating student attitudes about their involvement in CD exercises as part of a community development programme using a self-assessed questionnaire. FMUI community development programme was held in a low-income, densely-populated urban area in Depok City, Jawa Barat. Depok is an urban city in the outskirts of Jakarta, where one FMUI campus is located. The subjects of study were first-year FMUI students who participated in CD exercise. Such subjects have been invited to complete the questionnaire. First-year students who did not participate in CD or higher-year students who participated in CD were excluded from the study; thus, they were not asked to complete the questionnaire. The study had been approved by FMUI ethical committee (KET-900A/UN2.F1.D1/KBK/PDP.01/2019).

The FMUI department of community medicine, in collaboration with the FMUI student union, designed a four-month CD exercise for the first-year student to be completed in the faculty community development programme. The exercise was organised through collaboration with local community leaders and health officials. The CD exercise was carried out by 235 first-year students. The CD exercise consisted of development of community health questionnaires, student training, data collection and analysis. The training course consisted of three sessions. The first training session was a two-hour session, which outlined the content of the questionnaire to the students, provided them with details on how to communicate with community residents. The second training session was a two-hour training session on how to conduct a physical examination and the interpretation of results, consisting of the following parameters: body mass index (BMI) measurement and calculation; blood pressure measurement; and glucose, cholesterol and uric acid (GCU) measurement with a GCU meter device. The third training session was a two-hour workshop for a group of 15-20 students on how to analyse the community health data that had been collected through home visits, questionnaire-based interviews and physical examination.

The effect of CD participation on the development of student skills was assessed using a self-assessed questionnaire. As summarized in Table 1, the questionnaire consisted of 11 items using five - point Likert scale questions to assess student attitudes towards the following statements: CD exercise enhanced each area of competence (Questionnaire Items 1-7); CD exercise benefited community and student self - development as physicians (Questionnaire Items 8 and 9); the training provided was adequate (Questionnaire Items 1-7); The questionnaire also included a multiple - choice question on the challenges faced by students in the exercise and an open - ended question to gather any recommendations and complaints that students had about participating in the exercise (questionnaire items 12 and 13, respectively). Responses were analysed using the statistical analysis software IBM SPSS® Statistics version 24 and Microsoft Excel version 15.30.

Results

Health data was collected by the 235 first-year students from 373 community residents through CD exercise. The survey related to the impact of CD on the development of physician competency skills was responded by 47 out of 235 (20%) CD participants. The study showed that students accepted that the CD strengthened their competencies as physicians in all seven areas of the ISPC. A list of survey questions is found in Figure-1. The competence most established through the CD exercise was effective communication, with a mean score of 4.47 0.74 . Clinical skills with a mean score of 3.68 0.88 have been shown to be the competence least improved through CD exercise. As for challenges of performing CD exercise, the majority of respondents, 27 out of 47 (57.4%), answered that the most significant challenge was the burden of other academic and non-academic activities resulting in a lack of commitment, followed by inadequacy of the training answered by 20 students

Table-1: Self-rated CD exercise questionnaire.

Questionnaire item	Question	Type of response
1	CD exercise enhanced competency in professionalism	Rating from strongly disagree (1) to strongly agree (5)
2	CD exercise enhanced competency in self-development and self-awareness	Rating from strongly disagree (1) to strongly agree (5)
3	CD exercise enhanced competency ineffective communication	Rating from strongly disagree (1) to strongly agree (5)
4	CD exercise enhanced competency in data management	Rating from strongly disagree (1) to strongly agree (5)
5	CD exercise enhanced scientific medical knowledge	Rating from strongly disagree (1) to strongly agree (5)
6	CD exercise enhanced clinical skills	Rating from strongly disagree (1) to strongly agree (5)
7	CD exercise enhanced health problem management skills	Rating from strongly disagree (1) to strongly agree (5)
8	In general, the activity is beneficial for my development as a physician	Rating from strongly disagree (1) to strongly agree (5)
9	In general, the activity is beneficial for the community	Rating from strongly disagree (1) to strongly agree (5)
10	We were provided adequate training to conduct CD	Rating from strongly disagree (1) to strongly agree (5)
11	(a) CD exercise should continue to be given to first-year medical students to enhance their ISPC	Rating from strongly disagree (1) to strongly agree (5)
	(b) Please state the reason for the answer given above	Open-ended question
12	Challenges experienced during CD exercise	Multiple-choice question
13	Please provide any suggestions, complaints and impressions about the CD exercise	Open-ended question

CD: Community diagnosis; ISPC: The Indonesian Standards of Physicians Competencies.

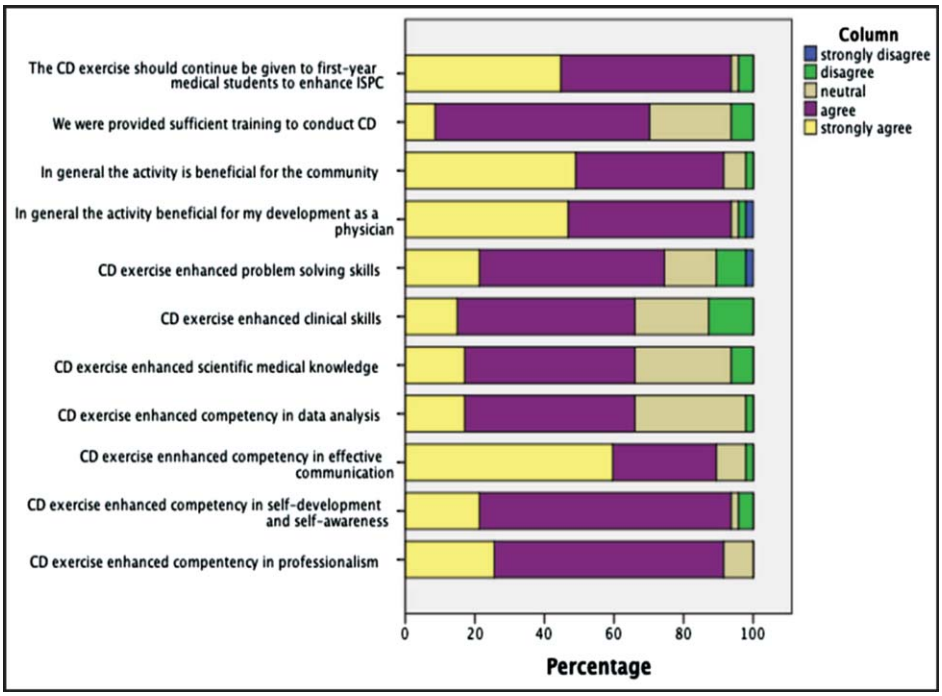

Figure: Self-rated responses of the students to questionnaire items.

(42.6%). A total of 43 students (91.5%) agreed or strongly agreed that the exercise was beneficial to the community, and 44 students (93.6%) agreed or strongly agreed on the argument 'In general, the activity was beneficial for my development as a physician'.

On the question whether exercise of CD should be continued, 44 (93.6%) respondents agreed or strongly agreed to it. The following are some statements made by the students themselves as to why they agreed that the exercise should be carried out by future first-year students: '[it] provides an initial exposure to the duties and responsibilities of doctors', and '[students] can get an overview of what their future careers will look like'.

The main reason why most students supported the continuation of the exercise was that it provided a first step in interacting with the general population as a healthcare worker, helping them to practice communication with patients. Some students have claimed that their communication or interaction skills have been improved because the exercise has helped them to develop a sense of empathy for the residents. However, one student argued that the activity was not appropriate for first-year students — because of their lack of clinical skills at the time of the exercise — and suggested that students may perform the activity in their clinical year. On the other hand, another student who actively supports the activity asserted that 'building clinical skill was not the main objective of this exercise. As a first-year student, the aim of this activity is to build a strong mentality, effective communication, etiquette, attitude and empathy towards patients.'

Discussion

To the author's knowledge, the current study is the first to assess the impact of student participation in community development projects on the development of medical expertise in Indonesia. Most students ISPC-based competencies have been strengthened in all fields. The field of competence most improved by first-year medical students was effective communication, while the skills least established by CD exercise was clinical skills. This is expected because students have only been given a two-hour training session to equip them with the clinical skills and knowledge they needed to measure BMI, blood pressure and GCU. The majority of students concluded that this activity improved both the community and their self-development as physicians.

CD, or community health assessment, have been introduced in medical education curricula in both developed and developing countries to improve the quality of medical practitioners. However, in most countries, CDs are conducted either by students in a clinical year as part of their clinical rotation in a community medicine department or by students at an advanced stage of their medical studies. A few universities have conducted CD exercises for first-year medical students.[11-13]

In Indonesia, CD is currently performed by medical students in their final year, during a five-month pre-internship module that is designed to prepare medical students before their one-year compulsory clinical placement, under accordance with the regulations of the Ministry of Health.[10] The author found one study, conducted at the University of Glasgow, in which medical students perform CD exercise in their first year. One of the significant differences between the CD exercise used in the current study and the one held at the University of Glasgow is that, in Glasgow, in addition to obtaining data from community residents, students also collected health data from general practitioners working in the community via interviews. Second, at the University of Glasgow, the exercise was part of the medical school curriculum, and therefore the student performance was evaluated. The assessment was conducted on the basis of both group and individual assessments.[13] The lack of assessment in the CD exercise of the current study is one of its weaknesses, as this potentially resulted in a lack of participation in training sessions and home visits interviews. Since the effect of student participation in the CD was evaluated on the basis of self-assessment of each participant, the skill development recorded by the student is subjective.

Compared to the results of the current study, previous studies have reported that CD improves student communication, collaboration, data collection, analysis and interpretation skills.[11-13] One study interviewed medical school graduates working in either practice or research stated that these graduates believed that their past experience in the CD had benefited them in their careers. One graduate said that CD provided students with the first-hand experience on how to tackle community health needs. The participant went on to explain that the experience provided problem-solving skills, teamwork and collaborative skills, networking skills and the ability to work with a diverse population.[14] The opportunity to have first-hand experience with community members and future patients was also identified by students in the current study and was one of the main reasons they thought was a possible first-hand experience.

Through means of a self-assessed questionnaire, communication was shown to be the skills most acquired by the students who participated in the CD. Medical professionals recognise effective communication as a key skill of physicians; however, there is limited training in medical education. Most of the existing communication training for medical students takes place in classroom and involves students playing roles with simulated patients.[15,16] Although Role-play has the advantage of being conducted in a controlled environment; where the tutor or observer is free to pause at any time and can provide immediate feedback — it cannot replace a real-life setting experienced by students through the CD exercise. Several students said that the exercise built up a sense of clinical empathy, which in turn helped them communicate and interact with patients. In clinical practice, physicians who show empathy have been reported to enhance patient satisfaction and confidence. Feeling empathic also has a positive effect on the physician, improving psychological well-being and making clinical decisions.[17] Accordingly, this study suggests that CD can be used as a valuable practical training method for developing communication skills in medical students while at the same time building their compassion as clinicians.

The current study shows that involvement in community development projects can be used as a learning method to develop the confidence of medical students in out-of-class setting and, in particular, to help them develop realistic communication skills. After participating in the CD, ISPC students was assessed through a self-reporting survey; however, it may be useful in the future to include peer evaluation and tutor assessment to provide a more

objective result. The practice was not part of the existing medical curriculum, but was an extracurricular activity of the undergraduate orientation programme of the FMUI student union. Therefore, in order to improve the commitment of students so that a more meaningful impact can be observed, it may be necessary to implement the programme in the curriculum. With the integration of a CD exercise into the first-year student curriculum, sufficient training could be provided to all students in the form of in-class study or lectures to address the issue of the inadequacy of the training perceived by the students.

Conclusion

The current study assessed the benefit of first-year medical students participating in a CD exercise to assist in the development of their medical competence. The study indicated that the CD exercises serve as a useful foundation for the development of all seven areas of the ISPC, with effective communication being the skills most developed by students through participation in the CD.

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