Background: According to the important role of Health Care Apprentice Program on medical students’ performance, especially in relation with Social Accountability of Medical Education, it is attempted to assess efficacy of Health Care Apprentice Program on the level of medical students’ knowledge and skills in the context of Primary Health Care at Babol University of Medical Sciences.

Methods: In this interventional study, the level of medical students’ theoretical and practical knowledge was evaluated in the context of primary health care before and after Health Care Apprentice Program. The study population includes 80 medical students attending two consecutive semesters that were introduced to Department of Social Medicine. The data were collected via a questionnaire designed by the researcher including 58 questions in the following fields: health education, controlling communicable and infectious diseases, vaccination, maternal and child health, health food, environmental sanitation, safe drinking water supply, and occupational health.

Results: students’ mean score was 2.1 ± 2.4 and 26.7 ± 5.3 in pre- and post-test, respectively (p < 0.01). In post-test, the female students’ mean score was 27.5 ± 5.3, and the male students were 25.7 ± 5.2. Among male students, average rating of practical skills in sound level measurement and measurement of chlorine in water was 88.3 and 81.3% which was higher than female students (64.3 & 75.7%). However, the female students’ skills in communication and health systems management were slightly higher than male students.

Conclusions: The influence of Health Care Apprentice Program on increasing the level of medical students’ knowledge and skill in the context of primary health care was noteworthy. However, it appears that emphasis on increasing practical skills is essential due to future professional needs of medical graduates.

Keywords: Medical Education; Health Care Apprentice Program; Knowledge; Skill; Primary Health Care

The Role of Health Care Apprentice Program on the Level of Medical Students’ Knowledge and Skills

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18

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INTRODUCTION

Ministry of Health and Medical Education is in charge of providing, maintaining and promoting public health. In order to achieve such a goal, qualified workforce is required that are acquainted with social needs. Recently, authorities have paid more attention to Social Accountability of Medical Education and Community-oriented Medical Education (1-4). Prior experiences represent that only a small proportion of people demand hospital services and particularly specialized medical services while a considerable proportion of people’s health-medical needs are provided by Primary Health Care (PHC) (5-6). The most crucial measures in PHC are health education, applying methods of food storage and preservation, providing sufficient safe drinking water, environmental sanitation, maternal and child health, family planning, immunization, occupational health services, oral hygiene, and etc.

Medicine is more considered as an art rather than a science. In addition to gaining science as a priority, a doctor should have various skills in observation and using his/her senses, also the ability to analyze theories and compare them with the patient condition. Moreover, doctors should learn practical skills, time management, communication skills, and as the country medical education stakeholders want, they should have the capability to manage health and hygiene of health centers (7-10).

Accordingly, medical students attend one-month Health Care Apprentice Program in order to gain required knowledge and skills to perform the last task as well as becoming capable to cover health and hygiene needs of the society. Hitherto, limited studies have been conducted on the mentioned programs. For instance, Ghadimi et al (2014) study showed that some issues have become more important, according to the current condition of the society such as occupational health, mental health and elders health (11).

Since Health Care Apprentice Programs have significant impact on doctors who are the stakeholders of health in the society or in other words who provide the main health and hygiene of the people, we attempted to assess the influence of theoretical and practical lessons of one of these courses (Health Care Apprentice Program) on the level of medical students’ knowledge and skill in the context of primary health care at Babol University of Medical Sciences.

METHODS

In this interventional study, level of theoretical and practical knowledge of medical students of Babol University of Medical Sciences about primary health care was evaluated before and after the program. The study population was 80 students including all students referred to Department of Social Medicine in two consecutive semesters. The inclusion criterion was the students who were introduced to Department of Social Medicine to attend HealthCare Apprentice Program and the exclusion criterion was the students who have failed or attended the course before.

The data was collected via a questionnaire designed by the researcher, including 38 questions about primary health care such as health education, controlling communicable and indigenous diseases, vaccination, maternal and child health, health food and nutrition quality improvement, environmental sanitation, providing safe drinking water, and occupational health. In order to assess students’ awareness in this section, each correct reply had 1 score. Face validity and content validity were developed towards six faculty members of Social Medicine Department.

Objective Structured Clinical Exams (OSCE) was used by faculty members of Social Medicine Department to determine students’ skill in the following subjects: vaccination, measuring vital horoscope and health indicators, completing family file and extracting data, sound level measurement and measuring chlorine in water. The data was analyzed by SPSS (ver.16); moreover, descriptive statistics indicators, t-test and paired t-test were conducted. The present research is confirmed to be conducted by the permission of University Ethics Committee.

RESULTS

The mean of students’ knowledge was 2.1 ± 2.37 in pre-test before attending the training Social Medicine Department. However, their mean score increased after they participated in one-month training course to 26.7 ± 5.31 as the results of post-test show (p<0.01). The average of post education scores were 27.5 ± 5.3 in females and 25.7 ± 5.2 in males with a little difference between them, however, t-test did not present any significant difference between the two groups.

Attending Health Care Apprentice Program, the data showed that students’ knowledge has enhanced significantly (at least 71.4 and at most 10400), on average 20 times more.

Before attending the training course, the least knowledge of students was about vital horoscope and its indicators and the highest level of knowledge was about health system structure and parts of primary health care. However, when the students took the course, as presented in diagram 1, their knowledge developed in food health highly, while, the least level of knowledge was for vital horoscope and measurement of extractive indicators.

In diagram 2, the mean of empowerment and skill acquisition among medical students is presented so that they can conduct some activities including how to extract information and health rates, how to measure chlorine in drinking water and conduct measuring level of sound. As the results present, the mean of skill development among all of the students is more than 60 percent. Although levels of development in different issues were rather similar for both male and female students, male students’ average score was higher in some practical skills such as sound level measurement and water chlorine (86.3 & 81.3, respectively). In Contrast, the female students’ skills was higher than the male in communication and health system management however there was no statistically significant difference.

DISCUSSION

An absolute necessity to continue and develop an organization or educational environment like universities is to assess and reform students and educational programs in different way (12). Therefore, respecting practitioners of health care apprentice program at medical faculty, the
current study assess the students’ knowledge and skill about some required skills that provide public health and hygiene and also indirectly assess the performance of health training team in health care apprentice program and social medicine. According to the results, the impact of apprentice programs on the medical students’ skill and knowledge development was fairly considerable. In so far as, in the pre-test the level was very low and near to zero while upgraded to 60 percent after education (p>0.05). Consequently, not only the trainings are efficient in transferring concepts and skills to medical students, but also the faculty member and involved training experts have had a good performance. It should be mentioned that the achievement was considerable in some areas like food health and health system management; while, in some other areas like extracting date from vital horoscope there were some shortages to reach the desired educational results. In this regard, it is probable that the students’ performance was better in the mentioned items due to gaining some information during previous courses, while vital horoscope was a totally new subject to them.

Recently, Social Accountability of Medical Education and...
Community-oriented Medical Education have become in the center of attention (1-4). Therefore, based on this approach, there should be more concentration on the quality and quantity of educational programs, health care apprentice program and social medicine. Undoubtedly, attending health and social medicine courses is not sufficient. Other experts have mentioned and highlighted this issue, as well (11, 13-14).

As the results in relation with gender distribution present, the female students provided better replies to questions about health knowledge than the males. However, the mean score of females’ practical knowledge and skills was lower than males. Other researchers have reported similar results, as well. For instance, Abaszadeh and Yordkhani (2009) state that there is significant difference between male and female students in analyzing and comparing life skills (15). In Jafari’s study (2014), there was difference between the two genders in learning neurology (16).

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The authors declare that they have no conflict of interests.

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