



Teaching communication skills and medical ethics to undergraduate medical student

SADIA AHSIN*, AFSHAN SHAHID, GHULAM MURTAZA GONDAL

Foundation University Medical College, Islamabad, Pakistan

Abstract

Introduction: The purpose of this study was to improve communication skills and knowledge of bioethics of last year medical students doing clerkship and to evaluate the effectiveness of using workshops for this purpose from students' point of view, in order to continue such programs in future.

Methods: After Ethical approval for the study a two-day workshop on teaching effective communication skills and principles of medical ethics was planned and conducted by the department of Medical Education through multidisciplinary faculty of Foundation University Medical College, Pakistan. A total of 102 last year medical students participated in this workshop. The students were divided into 8 groups each containing 12 students. A team of pre trained facilitators for each group conducted the group activities. Teaching strategies including interactive discussions on basic principles of doctor-patient relationship, power point presentations, day to day case scenarios, video clips and presentations involving students in role plays were used. Pre and post workshop self evaluation proformas about knowledge and skills of communication and medical ethics were rated (0=none, 1=below average, 2=average, 3=above average, 4=very good, 5=excellent) by the students.

Results: 89 out of 102 participants returned the proformas. A significant percentage of students (%82) showed improvement in their knowledge and skills of appreciating bioethical issues like valid informed consent, patient confidentiality, end of life issues and breaking bad news by rating as "very good" after participation in the workshop. More than %70 students recommended this activity for other students.

Conclusion: Teaching through interactive workshops was found to be an effective method as reflected by students' feedback. Therefore, the program will be continued in future.

Keywords: Communication skills, Medical ethics, Undergraduate medical students

Corresponding author:

Sadia Ahsin,
Address: Foundation University
Medical College, Islamabad,
Pakistan
Email: ahsinsadia@hotmail.com
Tel: +92-51-5788171

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Introduction

Professionalism is the core competency of physicians, developed over the framework of clinical competence, effective communication skills and sound knowledge of ethical and legal aspects of medicine (1). These attributes cannot be learned by chance alone; they can be taught, learned and assessed. One of the major reasons to incorporate these skills into medical education is to improve overall patient care (2). Effective communication skills and sound knowledge of ethical issues contributes to better doctor-patient relationship and medical outcome (3, 4). Studies from south Asian countries depict that

medical students lack knowledge and realization of the existence of institutional ethics committee and its exact role. Students show mixed responses--both desirable and undesirable in relation to questions regarding different facets of basic ethical reasoning in their professional lives (5, 6). Most students agree that there is a need to integrate ethics teaching programs into their curriculum. Results of these studies emphasize the incorporation of medical ethics and communication skills in medical curriculum (7, 8). Another reason to teach medical ethics is that medical students have been shown to face problems especially poor decision making and inability to communicate,

where they have to deal with ethical dilemmas like confidentiality, doctor-patient relationship and informed consent (9). Teaching medical ethics and communication skills would improve the moral reasoning of physicians when facing ethical dilemmas in their practice. Various methods have been successfully employed in teaching communication skills and medical ethics including lectures, small group discussions, ward rounds, standardized patients, role modeling, etc (3,4).

Integrated contextual curriculum was introduced in 2009 at Foundation University Medical College. Communication skills and medical ethics teaching has formally been introduced from first year MBBS since 2011 in the form of small group discussions over standardized patients during skills lab sessions. The outgoing class of last year MBBS was taught through a conventional system where no formal teaching program was devised to teach medical ethics and communication skills during their studies. Therefore, a two-day interactive workshop on developing effective communication skills and medical ethics was planned for them. The present study evaluates the effectiveness of this workshop in improving communication skills and medical ethics knowledge of last year MBBS students. The purpose of this study was to improve communication skills and knowledge of bioethics of last year medical students doing clerkship and to evaluate the effectiveness of using workshops for this purpose from students' point of view, in order to continue such programs in future.

Methods

A two-day workshop on teaching effective communication skills and principles of medical ethics was planned and administered by the department of Medical Education through the multidisciplinary team of Foundation University Medical College, in April 2012. Ethical approval for the study was taken from the university ethical review committee. A total of 102 students (67 girls and 35 boys) of last year MBBS with the age range of 22-25 years participated in this workshop. Pre workshop intimation and the reading materials regarding medical ethics were provided to the students a week before the workshop. On day one, the participants were divided into eight small groups with about 10 to 13 students in each. Anonymous self assessment pro formas with code numbers were provided to the students and they were asked to remember the codes so that the same codes could be written and matched with the post workshop self assessment pro formas. Students rated their pre workshop knowledge and communication skills

regarding the following categories on likert scale:

1. Principles of bioethics
2. Informed consent
3. Breaking bad news
4. Palliative care
5. Patient confidentiality

Where 0 was no knowledge, 1=below average, 2=Average, 3=Good, 4=very good and 5 was excellent. After the completion of the proformas, they were collected by the coordinator of the workshop. Large group interactive sessions on importance of good communication skills, history of medical ethics, and examples of ethical dilemmas faced by physicians were discussed by a subject expert. Students were encouraged to discuss ethical issues faced by them during their ward rotations. Video clips provided by Center of Bioethics and Culture, Sindh Institute of Urology and Transplant (SIUT) were displayed. Permission to use the material was taken from SIUT beforehand. Next, small group activity was arranged where case scenarios related to informed consent, breaking bad news, palliative care and patient confidentiality were discussed with pre trained facilitators from multidiscipline. For homework, theme related literature was provided to the group members and they were asked to prepare case scenarios for role plays on day 2. On day 2, the case scenarios and role plays were discussed and amended under the guidance of facilitators. Individual students were given time to rehearse their communication skills while preparing role plays according to the theme allotted to their group. Individual group presentations were done in classroom. After each role play the group members concluded their case and how they resolved the ethical dilemma. House and faculty were invited for questions. Presentations were judged by two members of ethical committee and one clinician on Communication Skills Attitude Scale (CSAS) (10). The best presenting group was awarded a shield. Post workshop proformas were provided for the students. They were asked to write same code numbers which were present on their pre workshop proformas. Pre and post workshop pro formas were matched with the codes by the coordinator and handed to the workshop organizers.

Results

The collected data were analyzed using SPSS version 14. Mean response of students for each category was calculated before and after the workshop. Improvement in knowledge and skills was considered, if mean pre and post workshop response difference was statistically significant with $p \leq 0.05$ using paired

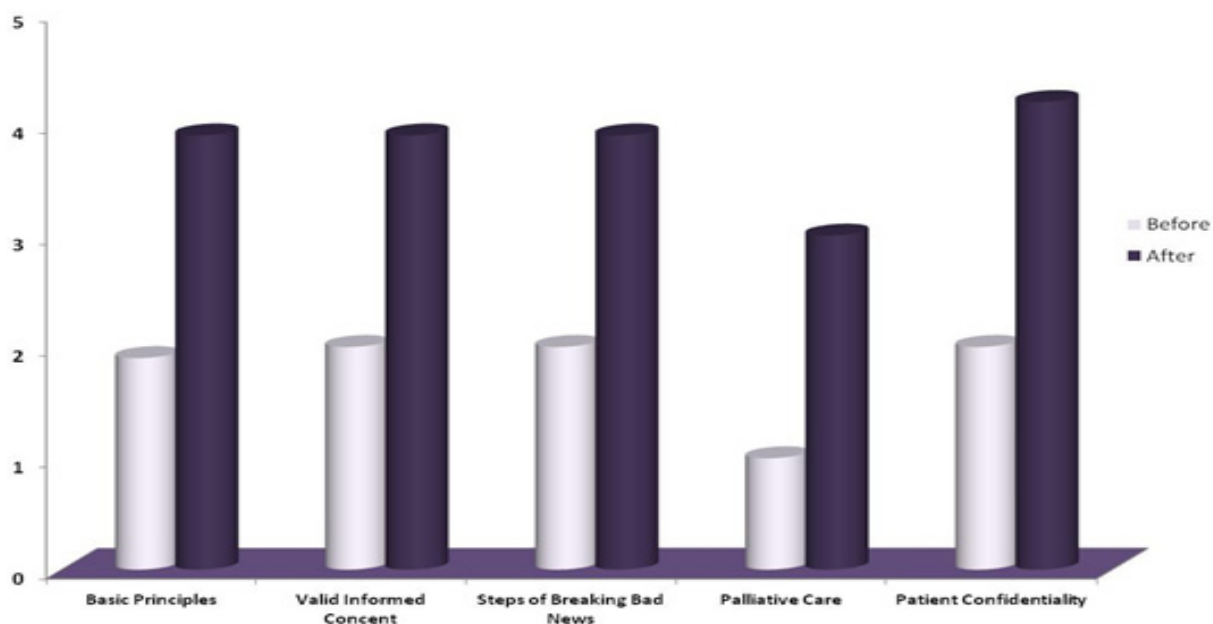


Figure1. Mean changes in knowledge of medical ethics of students before and after workshop

sample t test. Out of 102 a total of 89 proformas were completed. %82 of the students had an improvement from an average (2 before workshop) to very good (4 post workshop) in their basic knowledge of medical ethics, informed consent and steps of breaking bad news. The students’ knowledge about palliative care showed a remarkable improvement with an average response from 1.2 pre workshop to 3.9 post workshop. Similarly a significant improvement was recorded in the knowledge of maintaining or breaking patient confidentiality (%84). Overall %78 of the students felt improvement in their ability to take valid informed consent, break bad news, discuss palliative care with patient and decide upon patient confidentiality from below average to very good. Mean responses on likert scale are shown in figure 1 and Table 1. Almost %74 of the students recommended this activity for the upcoming class of final year.

Discussion

The importance of good communication skills

and knowledge of medical ethics cannot be overlooked. Lack of inculcating these competencies in undergraduate medical students would transform them into professionals demonstrating adverse medical outcomes including yelling, abuse, insults, refusal to complete duties, etc. Evidence shows that these skills can be both learned and assessed by different teaching and feedback techniques. Didactic lectures, Web based learning modules, interactive teaching models, for example, case discussions, hands-on practice sessions, role modeling and grand rounds have been shown as effective teaching strategies (1). Interactive workshops with a combination of lectures, videos, case discussions and small group activities were therefore planned for the students.

In the present study the reason for selecting basic themes, i.e. (a) Principles of bioethics (b) Informed consent (c) Breaking bad news (d) Palliative care and (e) Patient confidentiality was that in a two-day workshop not every aspect of ethics could possibly be covered. Therefore, the content of the workshop was

Table 1. Comparison of managers’ leadership style and maintenance motivational needs of employees

Categories	Average pre workshop score	Average post workshop score	P
Taking valid informed consent	1.5	3.5	< 0.05
Breaking bad news	1	3	< 0.05
Discussing palliative care and end of life issues	1.2	3.9	< 0.05
Deciding and communicating about keeping or breaking patient confidentiality	2	4	< 0.05
Presentation skills	2	3	< 0.05

carefully devised with the help of subject experts and clinicians to highlight common issues faced by the students during their clerkship in the last year. It is noted that students often come across ethical dilemmas in their clinical rotations. A survey on evaluation of frequency and type of ethical issues faced by medical students was carried out by Sarah L Clever et al. on 103 third and fourth year medical students of the University of Washington. The researchers reported that medical students often faced ethical issues and felt uncomfortable to speak up about their concerns, suggesting a need to train students in both knowledge of medical ethics and effective communication skills to resolve such problems (11).

Pre workshop knowledge of medical ethics of our last year medical students of MBBS was below average and the significant improvement after the workshop suggests the achievement of the objectives. The students especially found themselves lacking in the knowledge of palliative care before the workshop, which is not unusual because palliative care is not yet part of the traditional curriculum. In addition, there is a debate still going on in the west on how undergraduate palliative care education and its assessment should be incorporated in the curriculum. In a study carried out by Schulz, C. et al. pre and post undergraduate palliative care education program effectiveness was assessed and compared between two groups of students using two independent self administered tools based on likert scale. Self estimation of improvement in knowledge and skills was highly significant in undergraduates exposed to the palliative care education program compared to the control group (12). Results of the present study are consistent with Schulz, C. et al., that is the students' knowledge improved from no knowledge (1 on scale) to good knowledge (3).

Improvement only in knowledge of medical ethics is not enough to change daily practice of physicians. Therefore, communication skills teaching and clinical teaching should be consistent and complementary (13). For the same reason, small group activities and role plays were included in this workshop to let the students practice communication skills from their acquired knowledge. Studies reveal that employing role plays as a simulation method for developing necessary patient-care skills, including communication results in superior outcomes (14, 15).

This workshop was planned for last year students because they had not been delivered any formal teaching sessions of medical ethics and communication skills during their previous undergraduate years. With the advancement of medical education this inadequacy was identified. A study conducted at King Faisal University, Saudi Arabia also confirmed inadequate

formal training of medical students in medical ethics in developing countries and strongly recommended regular bioethics teaching in clinical settings (16). Murat Civaner, et al. express the importance of medical ethics education in undergraduate and post graduate terms to develop core professional values in physicians-to-be (17).

The main limitation of the present study is that it did not measure actual improvement in the students' performance in their clinical rotations. However, a review of literature indicates measurable improvements in knowledge, ability to handle ethical dilemmas and patient care when ethical education is incorporated in residency programs (18). We intend to follow these students in their house job and use feedback methods to evaluate this activity and measure improvement in their overall performance as doctors.

Conclusion

After a two-day interactive workshop with multiple learning strategies, a significant improvement was found in communication skills and knowledge of medical ethics by medical students on the basis of self evaluation proformas. Teaching through interactive workshops was found to be an effective method and will be continued for other students.

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Educational needs assessment of managers working in teaching and private hospitals

VAHID KESHTKAR^{1*}, NAHID HATAM², EHSANOLAH NIIKAEIN²

¹Community medicine department, Shiraz University of Medical Sciences, Shiraz-Iran; ²School of Management and Information Sciences, Shiraz University of Medical Sciences, Shiraz-Iran

Abstract

Introduction: Hospital managers, as one of the most important health care workers, are the subject of continuous education. In some countries around the world, health management education is an important part of health reforms. The aim of present research is to perform evidence-based studies based on assessing hospital managers' needs. Therefore, it should be considered that educational need assessment regarding hospital managers is essential in today's health care management.

Methods: A total of 26 hospital managers were surveyed using a data gathering form (questionnaire) including 59 open questions designed in order to obtain data in 3 different areas. These included managers' insight towards job duties and the capabilities required to fulfill their duty along with educational needs determined by managers. The next step involved presenting standard description of job duties to hospitals managers and asking them to document their educational needs regarding capabilities required to fulfill their duties. The standard description of job duties originated from ISO 9001 certified hospitals. For each manager, a score ranging from 0 to 19 was attained. For each correct matched statement, a positive point was considered and in the case of unmatched statements, managers received no points.

Results: Out of 26 participating managers, only 20 did state the educational needs of hospitals managers. In describing job duties of hospital managers, the mean scores regarding hospital managers of public sector was 10.27 while it was 8 with private hospital managers.

Conclusion: The findings of our study indicate that hospital managers as the leaders of the most sophisticated health care facilities delivering expensive complicated services need proper training regarding job competency. Therefore, it seems that continuous need assessment in this area should be carried out.

Keywords: Health care, Hospital, Manager, Need assessment

Corresponding author:
Vahid keshtkar
Address: Community medicine department, Medical School, Zand Ave., Shiraz-Iran
Email: keshtkarv@sums.ac.ir
Tel: +98-711-2305886

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Introduction

It is imperative for almost all of the health care workers to maintain a proper state of practice knowledge along with competency (1). Although such goals could be achieved through continuous staff education, performing needs assessment of the staff in order to provide them with proper educational material is a challenge. Assessing the needs of learners is advantageous because it helps to identify the gaps between knowledge and educational needs. In addition, incorporating changes of practice and policy is achievable through continuous needs assessment (2).

Hospital managers, as one of the most important

health care workers, are the subject of continuous education. Moreover, hospitals, as one of the most complicated health care facilities, are faced with numerous challenges regarding alterations in health economy, introduction of new technologies. The challenge of providing new costly equipment in saving patients' lives remains to be dealt mostly by hospital managers. It seems that hospital managers should have adequate managerial skills in improving management structures. In some countries around the world, health management education is an important part of health reforms. The aim of the present research is to perform evidence-based studies based on assessing hospital

manager needs. Therefore, it should be considered that educational needs assessment regarding hospital managers is essential in today's health care management (3).

Implementation of educational needs assessment may serve as a potential factor in reducing costs and managing resources. Moreover, in a study of analyzing cost-utility conducted by Ross, cost-utility of educational needs assessment has been approved (4).

In another study aiming at designing an on-job training model for hospital managers, Raesi et al explored the view of 31 hospital managers towards structure of the model and its components affecting hospital managers' performance. Raesesi declared that educational needs of hospital managers can go beyond their classic education. In addition, they concluded that a multidimensional approach considering knowledge, ability, managerial skills and personality is required in order to design an educational course for hospital managers (5).

The present study was, therefore, designed with the aim of assessing educational needs of Shiraz private and teaching hospital managers in order to reduce the existing gap between the managers' knowledge and skills required to fulfill their duties.

Methods

This study was designed as a cross-sectional descriptive study performed on managers of both private and teaching hospitals. The surveyed teaching hospitals were affiliated to Shiraz University of Medical Sciences. Job-analysis method was used in order to obtain data.

A data gathering form (questionnaire) including 59 open questions was designed in order to obtain data in 3 different areas. These included managers' insight towards job duties and capabilities required to fulfill their duty along with educational needs determined by managers. The questionnaire used in this study was a revised version of previously designed needs assessment data gathering forms, designed by the Ministry of Health in Iran. The questionnaire's validity was confirmed separately by the experts.

The next step involved presenting standard description of job duties to hospitals managers and asking them to document their educational needs regarding capabilities required to fulfill their duties.

The standard description of job duties originated from ISO 9001 certified hospitals.

The completed questionnaires were compared to standard descriptions of managers' job duties which included 19 items. For each manager, a score ranging from 0 to 19 was attained. For each correct matched statement, a positive point was considered and in case of unmatched statements, the managers received no points.

Results

Of the 26 surveyed hospitals, fifteen were in teaching sector while the remaining 11 were private hospitals. %92.3 of the hospital managers were men and %7.7 of them were women (Table1).

The age of hospital managers ranged from 30 to 70 with a mean of 43.53. Years of work experience ranged from 3 to 30 years regarding hospital managers with the mean of 16.53. The majority (%61.6) of Shiraz hospital managers had BSc Degree. Table 2 represents the type of educational degree of hospital managers.

Out of 26 participating managers, only 20 did state the educational needs of hospitals managers (Table 3).

In describing job duties of hospital managers, the mean scores regarding hospitals managers of teaching sector was 10.27 while it was 8 with private hospital managers (Figure 1). The mean score for all managers was 9.73. Our data showed that supervision of the quality of care was the maximum stated duties and coordination of hospital wards and coordination of staff towards external evaluation were the minimum stated duties (Figure1).

Discussion

The results of our study indicated that there is a considerable need regarding education of hospital managers as they are in charge of leading the most sophisticated health care facilities. It is perceived that managers' education should focus on skills required to satisfy job-duties. In this study, it was found that only %20 of the hospital managers mentioned the duties around coordination of hospital wards and Coordination of staff towards external evaluation programs. In addition, over %65 of the managers did not mention duties regarding budgeting, staff evaluation, and confirmation of executive procedures, Reporting chief executive hospital dean and Staff

Table 1. Distribution of hospital managers regarding gender and type of hospital

Hospital type	Teaching hospital		Private hospital		Sum	
	frequency	percent	frequency	percent	frequency	percent
Gender						
Men	14	93	10	91	24	92.3
Women	1	7	1	9	2	7.7

Table 2. Distribution of hospital managers regarding the majority of managers in teaching and private hospitals of Shiraz

Hospital type	Teaching		Private		Sum	
	percent	frequency	percent	frequency	percent	frequency
Majority						
Health management services	4	26.7	0	0	4	15.5
Management (other subspecialty)	1	6.6	4	36.4	5	19.2
^a Other majority	10	66.7	7	63.6	17	65.3
Sum	15	100	11	100	26	100

^aThe other majority consists of medicine, public health, anesthesiology, nursing, accounting, human sciences, and medical records.

education. These results are in agreement with those of Yarmohammadian's study which indicated that hospital managers did not have adequate knowledge of professional hospital management (6). Moreover, they concluded that managers' insight towards hospital management had mostly originated from their work experience. This finding further supports the idea that hospital managers in Iran need to have adequate education on their professional duties.

In another study conducted by Aminalroaya, it was declared that executive managers of Iranian universities

of medical sciences were in need of education regarding their responsibilities. Considering the findings of their experience, the priorities for educating managers included evaluation techniques and acquisition of new management techniques (7).

With regards to Figure 1, in describing managers' duties, approximately %70 of hospital managers did not mention staff evaluation. Such results agree with the findings of Aminalroaya's study, which emphasized educating managers about staff evaluation. Although in this study only %26.7 of hospital managers had a

Table 3. Description of job duties, capability and educational needs of teaching and private hospital managers in Shiraz

Job description	Required capabilities	Necessary educational titles
Budgeting	Method of budgeting	Performance budgeting
Establishment of hospital standards	Adjustment of programs with standards	Awareness and implementation of hospital standards
Supervision of quality of care	Assessment and improvement of quality of care	Instruction of total quality management
Meetings on health problems & problem solving	Formal conference meetings	Time management in meetings
Organization and drawing resources	Resource management	Optimum resource utilization
Establishment of quality management	Meetings on quality management	Quality control and management
Supervision on hospital expenditure	Financial management	Finance management
Supplying of hospital equipment and resources	Supply and Maintenance of equipment	Instruction regarding equipment supply and maintenance
Staff evaluating and personnel welfare	Skills regarding staff evaluation	Managing welfare
Supervision on CSR and nutrition department	Planning and supervision on CSR and nutrition	Management of supportive services
Managerial performance review	Organizational change	Organizational improvement
Meeting customer demands	Assessing customer preference	Instructions on customer need assessment
Auditory and internal evaluation	Skills regarding auditory and internal evaluation	Instructions on auditory and internal evaluation
Qualified staffing	Management of human resources	Methods of attraction and maintenance of human resources
Confirmation of executive procedures	Operational planning	Instruction of planning
Reporting chief executive hospital dean	Reporting	Reporting methods
Coordination of hospital wards	Coordination skills	Types of coordination
Staff education	Educational need assessment	Instruction assessment analysis
Coordination of staff towards external evaluation	Awareness of principles of external evaluation	Instructions on external evaluation

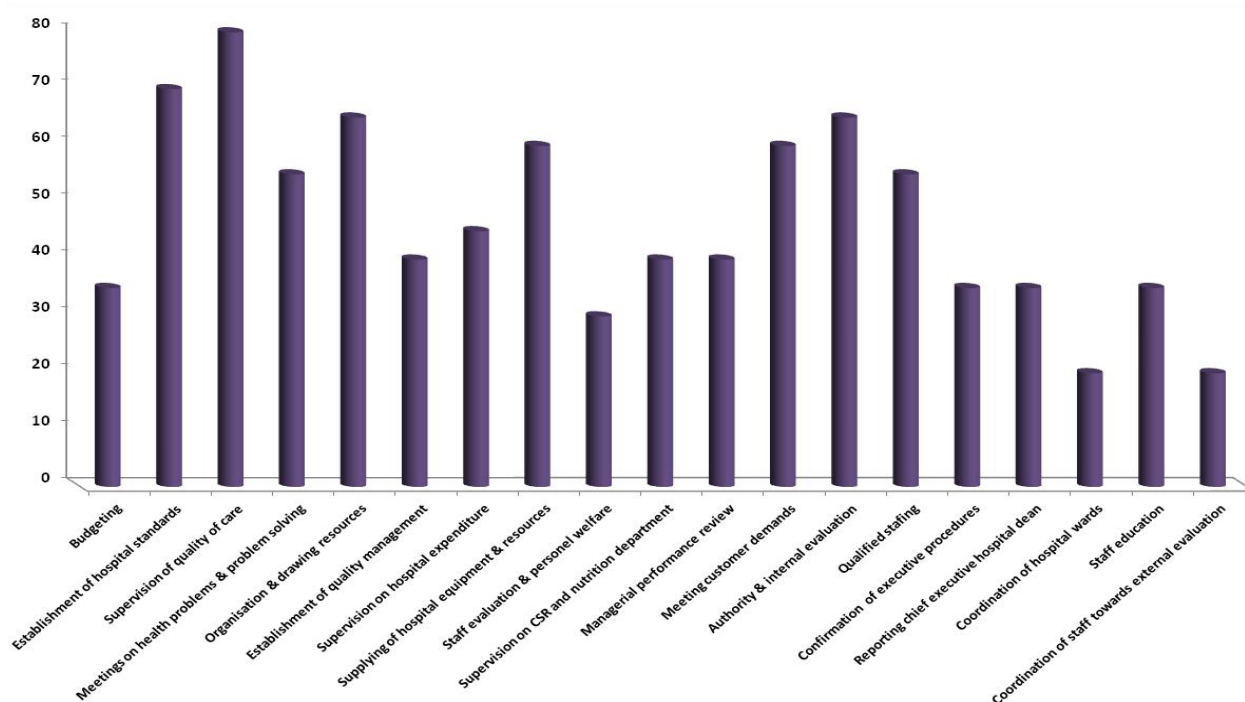


Figure1. The percentage of job duties according to the hospitals managers in Shiraz

degree in health care management, they did have adequate statements on technical duties of managers. Similar results were reported in a study conducted by Raeissi in which 31 managers of social security hospitals were surveyed. Raeissi showed that hospital managers had adequate knowledge about managerial skills. However, %74 of the surveyed managers in his study had an MS degree in health care management (5).

It is important to mention that all of the managers participating in our study pointed to their educational needs in the area of required managerial skills. Similarly, in a study of hospital managers in South Africa conducted by Pillay, %95 of the managers of governmental hospitals along with %80 of those in private sector agreed on having further training in order to develop their technical skills (8). Moreover, our results reveal that managers in teaching sector had higher knowledge in terms of managerial duties, compared to managers of private sector. On the contrary, Pillay reported that private hospital managers, as compared to those in public sector, had more knowledge in terms of managerial duties.

Conclusion

The findings of our study indicate that hospital managers, as the leaders of the most sophisticated health care facilities delivering expensive complicated services, need proper training regarding job competency. Therefore, it seems that continuous needs assessment in this area should be carried out.

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The effect of logbook as a study guide in dentistry training

KIANOOSH TORABI¹, LEILA BAZRAFKAN^{2*}, SAJAD SEPEHRI¹, MEHDI HASHEMI²

¹Dentistry School, Shiraz University of Medical Sciences, Shiraz, Iran; ²Quality Improvement in Clinical Education Research Center, Education Development Center, Shiraz University of Medical Sciences, Shiraz, Iran

Abstract

Introduction: Although logbook is a useful tool in learning and assessment of the student, its use in the education of undergraduate dentistry students is not well-established. The present study was conducted to assess the effect of logbook as a study guide and an effective method for assessment of the students in the fixed prosthesis course.

Methods: This quasi-experimental study was performed in Shiraz Dental School. The subjects of this study consisted of 60 students categorized into two experimental and control groups. In the control group, the students underwent the current format of Fixed Prosthesis curriculum. In the experimental group, the intervention was carried out using the Logbook. Pre and post tests were done using MCQ. The instructors and students had to evaluate the students' daily activities. The data were analyzed using SPSS software. T-test, Paired T-test and Mann Whitney test were used for statistical analysis.

Results: The logbooks were effective in cognitive and psychomotor domain (knowledge and practice) of dental education and the mean difference between the two groups was significant ($P < 0.01$). The use of logbook provided a more objective evaluation and led to further student satisfaction.

Conclusion: Logbook is a useful tool for teaching and learning as an interactive study guide and assessment tool. Using logbook in dentistry education necessitates more studies to be conducted in this regard and also the revision of dental curricula.

Keywords: Logbook, Study guide, Dentistry undergraduate Training

Corresponding author:
Leila Bazrafkan
Address: Education
Development Center, Sina-Sadra
Halls Complex, Neshat Ave.,
Shiraz, Iran.
Email: bazrafkanl@sums.ac.ir
Tel/Fax: +98-711-2333064

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Introduction

The objective of the dental curriculum is to produce clinically competent dentists who are independent performers, capable and critical thinkers, and long-term learners (1). Students of dentistry experience different practical and clinical courses to become experienced as a dentist (2, 3). Many studies have identified what dental educators perceive as effective laboratory instructor qualities, which includes clear goals and expectations of practical courses (4, 5). What students learn during these courses often depends on available competent teacher, facilities, and their interest (6, 7). To optimize the students' learning during any phase of the program, the learning situation and guidelines could be structured. This could be done by guiding and orienting the students by a set of goals, objectives and directions, such as a logbook (8). In Iran, some experiences are reported

by universities on the effectiveness of logbook as assessment tools for evaluating medical students' experiences (9-11). A student logbook was introduced in Manchester University to monitor their students' progress and assess the efficacy of clinical instruction in oral and maxillofacial surgery. Findings reveal that logbook assessment also facilitates effective audit of the teaching staff, clinical sessions and overall course delivery. They recommended logbook as a versatile aid to clinical teaching practice (12). There are several roles for log- book, namely logbook as a study guide (with the structure of the study guide), logbook for documented learning process and logbook as an assessment tool or for program evaluation. However, studies of properly constructed logbooks can provide structure and focus on the experimented learning cycle (13). This study examines the effect of logbook as a study guide and an effective method for assessment of

students in fixed prosthesis courses in dental schools.

Methods

This quasi-experimental study was performed in Shiraz dental school. The subjects of this study consisted of 60 students randomly categorized into two experimental and control groups. In the control group, the students underwent traditional teaching format of the fixed prosthesis curriculum (without any logbook). In the experimental group, the intervention was carried out using a logbook. After randomization procedure, the students in the experiment group were oriented for a short course with logbook. Three different approaches were used to assess the outcome of the study, i.e. logbook effectiveness

a) MCQ (Multiple Choice Question) test, b) DOPS (Direct Observation Procedural Skills) by checklist and c) self assessment.

Pre - and post-tests were done by using MCQ test. The MCQ test was developed with twenty questions and only one correct answer. The questions were categorized into two groups, five questions on general knowledge in fixed prosthesis and fifteen questions on most common practical applications in this course. All of the participants completed the MCQ test before any formal teaching in this course (the pre test). The MCQ test and Dopes were used for assessment of the students' performance at the end of the course. Moreover, also the students' performance for either logbook teaching or traditional method was done through self assessment. The content and face validity of MCQ were determined by experts and the concurrent validity of MCQ and DOPS by Pearson correlation coefficient. The Cronbach's Alpha Reliability coefficient of 0.90 over the three set of marks was very strong.

A student's log was developed which aimed at a study guide and also formative assessment tool, so the student's log in the study situation was learning activity of a student during his/her practical course of fixed prosthesis. In the log, a list of procedures of this course was provided. We asked the students to record their daily experience in the skill lab the first pages of the log contained an explanation of how to use the logbook and the instructors and students had to evaluate the students' daily activity.

The data were analyzed by SPSS software, using frequency distribution mean, standard deviations, and statistically analyzed with t-test and Paired t-test. Quantitative data were summarized as means, standard deviations and student t-test. $P < 0.05$ was considered significant.

Results

The students' mean age was 23 years (%30 female and %70 male). Comparison of the mean scores of the pre-and post-tests by paired t-test shows a significant

Table 1. Comparison of the Mean score in the case and control groups' MCQ exam

Control		Case	
Pretest	Post test	Pretest	Post test
2.5±0.64	6.37±0.53	2.8±0.87	5.33±1.2
Data are showed by mean±SD p<0.001			

difference in the study group ($p < 0.001$) and also in the control group ($p < 0.001$). The significant difference between the experimental and control groups' final exam (post test) by t-test reveals that teaching with logbook is more effective than traditional approach ($p < 0.001$) (Table 1).

The significant difference between the experimental and control groups' final exam scores of the students (post test), using direct observation of tutors, reveals that teaching with logbook is more effective than traditional methods ($p < 0.01$) (Table 2).

We designed a questionnaire to address the student's self assessment in achieving the goal and objective of the course. For the skills required in fixed prosthesis course, the questionnaire defined 10 items. Table (1) we used the following scale for marking – excellent (grade 4), good (grade 3), satisfactory (grade 2) and poor (grade 1).

The mean score for the perceived self-sufficiency in the control group was 29.6. In the case group, it was 31.37. The lowest mean score among the components of the course was given to Wax-up pattern and the highest score was give to finishing and polishing

The comparison of self ratings of the logbook's objective (Mann-Whitney test) revealed that there were significant differences between the experimental and control groups in some areas and students who did not receive the logbook had a lower rating in their self assessments in some areas (Table 3).

Discussion

The finding of this study suggests that logbook plays an important role in attainment of the psychomotor and cognitive domain in fixed prostheses courses of dental curriculum. It shows that the students appreciate and accept and supervisors support the logbook and show a positive response to the new tools (14). This is compatible with the study in which the same result was obtained (9-11). On the other hand, some outcomes (objectives) were unaffected by logbook. However, education does not function as a

Table 2. Comparison of the Mean score in the case and control groups' Dops exam

Case	Control
Post test	Post test
16.86±2.76	15.81±3.11
Data are showed by mean±SD p<0.001	

Table 3. Mean score, standard deviation and p. value in both groups (case and control) of students' self assessments

Topic	Group	n	Mean Score	P
ªPFM preparation on anterior teeth	Case	30	3.12±0.65	0.04
	Control	25	2.43±0.38	
Preparation for fixed partial denture	Case	30	2.56±0.44	0.978
	Control	25	2.50±0.55	
Impression	Case	30	2.97±1.24	0.05
	Control	25	2.10±0.82	
Working cast	Case	30	2.92±0.67	0.191
	Control	25	2.49±0.23	
Die preparation and articulating	Case	30	3.10± 1.31	0.03
	Control	25	2.20± 0.92	
Wax-up pattern	Case	30	2.80± 0.63	0.04
	Control	25	2.10± 0.32	
Spruing and investing	Case	30	2.80± 0.55	0.549
	Control	25	3.10± 0.75	
Casting	Case	30	3.04± 0.43	0.679
	Control	25	2.83± 0.65	
Finishing & polishing	Case	30	3.60± 1.14	0.329
	Control	25	3.24± 0.89	
Proceeding application	Case	30	3.08± 0.88	0.74
	Control	25	3.20± 0.95	

ª PFM: porcelain fused to metal

single factor. Instead, it is very often accompanied by other factors such as contextual and socioeconomic ones (15). This creates a web of interrelated factors that influence educational outcomes that are not easily disentangled (16). This study also showed the positive effect of log as a study guide and participation of interested tutors in teaching and learning. Obligation and time spent by instructor in planned and structured study guide for guiding students in laboratory may be an important factor to enhance learning (4, 9, 17, 18). These findings support the idea that active learning and logbook guideline and reflection is the best way to improve the students' learning. There are several studies that emphasize the low reliability of logbook and portfolio, lack of evidence for validity of inferences from testing and ethical concerns about the use of patients (19-20).

Also, the use of logbook encourages cooperation between tutors and students by providing constructive feedback to prevent misunderstanding (21-23). We made an attempt to create reflection, so logbook assessments have a positive impact on learning environment because they document what the learner has done and ask the learner to reflect on what she/he has accomplished. In fact, our logbook was more than an accumulation of what the learner has done. It was similar to portfolio. Due to commentaries of students on logs, the log could develop new skills, new attitudes, and new concepts of thinking (24- 26).

Conclusion

The results revealed that the students in the study group had more positive perceptions than those in the control group. It is concluded that students participating in this study were positive overall about

their learning experiences in laboratory and dental schools. The subjective data recorded on log by students and coordinators revealed that the log was useful as a study guide and also assessment tools because they have a clear understanding of the additional competence and knowledge that trainees should achieve on completion of each training program (2, 8, 26). As mentioned previously, a significant part of the dental curriculum consists of practical training that includes laboratory work. Thus, this finding validated the importance of having quality and capable dental technicians to assist the students in their learning process (2, 27, 28).

One of the limitations of this study was non-probability sampling in a single university, and single course might limit its generalization to different settings. However, the whole program was repeated in another field.

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Validity and Reliability of pre-internship Objective Structured Clinical Examination in Shiraz Medical School

NARGES VASEGHI^{1*}, MAHVASH ALIZADEH NAINI¹, REZA LABAF GHASEMI², SOHEILA AMIRI¹

¹Clinical Skill Lab Center, Shiraz University of Medical Sciences, Shiraz, Iran; ²Education Development Center, Shahid Beheshti University of Medical Sciences, Tehran, Iran

Abstract

Introduction: Objective Structured Clinical Examination (OSCE) is one of the most appropriate methods for assessment of clinical skills. Validity and reliability assurance is a mandatory factor for any assessment tool. In Shiraz University of Medical Sciences, medical students' clinical competences are evaluated by a pre-internship OSCE. This study is designed to examine the validity and reliability of this exam. Validity is the extent to which the test measures what it intends to measure. Reliability refers to the accuracy of measurement and the consistency of test results.

Methods: Content validity was evaluated by expert opinion about blueprinting and station checklists. To determine the construct validity, station scores correlation with the total OSCE score and inter station correlations were calculated. The inter examiner reliability was assessed by coefficient of correlation.

Results: Content validity was established by alignment between the curriculum and the blueprint using expert opinion. Correlation of the station scores with the total OSCE score were positive and statistically significant in all stations except the 16th station (suturing). Inter examiner reliability coefficients of correlations ranged 0.33 – 0.99, with an average of 0.83.

Conclusions: Our findings support the assumption that the pre-internship OSCE is valid, reliable and suitable to assess students' clinical competence. Validity and reliability studies should be performed for all new assessment tools, particularly in high-stakes assessments.

Keywords: OSCE, Assessment, Validity, Reliability

Corresponding author:
Narges Vaseghi
Address: Clinical Skill Lab
Center, Faghihi Hospital, Zand
Ave., Shiraz, Iran.
Email: vaseghin@sums.ac.ir
Tel: +98-711-2303878

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Introduction

Clinical skills assessment is an important aspect of medical education curriculum in all medical schools (1). Validity, reliability, feasibility and cost effectiveness are the main criteria for choosing assessment methods. On the other hand, an assessment tool should be able to predict clinical performance. Ignoring its limitation and based on its capability to evaluate clinical competencies, OSCE is used in medical schools to measure and compare medical students' skill. A well-constructed OSCE provides important information about the quality of training and can predict the candidate's performance well (2). In a typical OSCE, different stations are developed, using either real or standard patients (3). The examinees' competencies are assessed by structured

checklists. Examiners are chosen from trained staff, general physicians, assistants and nurses. All 6th year medical students at Shiraz University of Medical Sciences have been assessed by a pre-internship OSCE since 2005. The exam is concomitant with comprehensive MCQ exam and is held before the beginning of the internship period. Some aspects of these exams were assessed in prior studies. This study was designed to evaluate the validity and reliability of this exam to assure its applicability in the medical curriculum. Validity is the extent to which the test measures what it intends to measure, i.e. validity can be referred to as the truthfulness of the measuring tool (4). There are different kinds of validity of which five are the most common. They are (a) Face validity which is whether the assessment feels right on the

face of it, it can be demonstrated by expert opinion, (b) Content validity which refers to how much the exam covers the areas of competency, (c) Construct validity which is whether the assessment produces the expected results, (d) Concurrent validity which refers to the degree to which scores on a test correlate with the scores on an established test administered at the same time, and (e) Predictive validity which relates to the certainty with which a test can predict future performance (5). Reliability refers to the accuracy of measurement and the consistency of the results. In other words, it measures the extent to which an indicator or instrument measures consistently and accurately (6). In this study, we investigated face, content and construct validity as well as reliability of pre-internship OSCE used in Shiraz University of Medical Sciences. Concurrent validity of this exam was established by another study.

Methods

OSCE Implementation

All 6th year medical students (116; male: 55, female: 61) took part in OSCE in two main groups with 6 subgroups simultaneously. The students were informed about OSCE (rules and method) in an orientation session accompanied by an information sheet.

Considering the number of students, time factors and the availability of appropriate space (three similar floors at Shahid Motahari Clinic), the exam was repeated twice with 30 min interval, each in 3 subgroups. An expert team designed twenty short stations (each 5 min) with appropriate checklists for each station. One station was rest. All examiners were informed about scoring. Based on the pattern of evaluation, all security aspects were considered so that there was no contact between the two groups during intervals. All students completed the OSCE without any absentees. At the end of the exam, more than two thousand checklists were collected and scoring was completed. SPSS version 11.5 was used for processing and data analysis.

Assessing Validity and Reliability

Based on undergraduate medical student curriculum goals and objectives, an OSCE blueprint was prepared by an expert team. It listed the clinical skills such as History Taking, Physical Examination, Patient Management, Communication Skills, Procedural Skills, Problem Solving and Para Clinical Workup (appropriate choose and interpretation) in horizontal line. Specific domains of practice such as Internal Medicine, Surgery, Psychiatry, Obstetrics, Pediatrics, Emergency Medicine, Public Health, ENT, Ophthalmology and Neurology were outlined

in a vertical line. Based on the curriculum, content validity was assessed by comparing the content of each OSCE station with the variable aspects of clinical competencies. This was facilitated by constructing a grid of core curriculum subjects and competencies. Face validity was evaluated by expert opinion, done by interview and agreement more than 0.75 was accepted.

The construct validity was evaluated by correlating station scores with the total OSCE score and inter-station correlations.

For measuring the inter-rater reliability, students' competencies were assessed by two independent examiners simultaneously; both for written and interactive stations and the coefficient of correlation were calculated and categorized to excellent (> 0.9), good (0.7-0.89), borderline (0.5-0.69), acceptable (3-0.49), and poor (< 3).

Results

Face and content validity were reviewed and confirmed by faculty members. Content validity was established by alignment between the curriculum and OSCE using a blueprint (Table 1).

To assess construct validity correlation between station scores and the OSCE total scores was positive and statistically significant in all stations except the 16th station (suturing). The highest was in the 18th station ($r=0.550$, $p<0.001$) and the lowest in the 4th station ($r=0.217$ $p<0.019$). The inter-station correlations were positive in only less than 12 percent of scores and the highest was seen between 2th and 18th stations ($r=0.450$ $p<0.001$) (Table 2).

The inter-examiner reliability was assessed by the coefficient of correlation, an average of 0.83 (rang: 0.33- 0.99) as shown in Table 3. It was positive for all stations and statistically significant in 15 stations (more than 0.85), borderline in two stations and weak but acceptable in stations 1 & 2 (0.404 and 0.330, respectively).

Discussion

Assessment has a main role in any educational program. It not only measures and compares trainees' capabilities but also provides students and teachers with feedback about their performance (7). To choose an appropriate assessment method, five factors should be considered; Validity, Reliability, Feasibility, Acceptability and Educational Impact. Based on Millers pyramid, MCQ or writing exams, even if designed in a proper manner, could assess only cognitive domain of learning objectives. All assessment methods for clinical competence such as Global rating scores (GRS), Direct observation of procedural skills (DOPS), mini clinical exams (mini

Table 1. Pre – Internship OSCE Blueprint

Number of stations	Practice Domain	Clinical skills							
		History taking	Physical Examination	Communication Skills & Ethics	Differential diagnosis	Problem Solving	Doing Procedure	Para clinical workup	Patient Management
1	Endocrinology					+		+	+
2	Pulmonary disease		+	+					
3	Infectious disease				+	+			+
4	Ophthalmology		+		+				
5	Nephrology				+			+	
6	Cardiology					+			
7	Hematology			+		+		+	
8	Dermatology				+				+
9	Obstetrics		+					+	
10	ENT					+		+	+
11	Pediatrics							+	
12	Psychiatry	+							
13	Rest								
14	Urology							+	
15	Gastrointestinal disease	+			+	+			+
16	Surgery							+	
17	Emergency medicine		+		+	+			+
18	Rheumatology		+	+					
19	Neurology		+						
20	Public Health			+					

CEX) have known limitations such as high cost, time consuming, weak validity and reliability to be chosen routinely especially for under graduate trainees. On the other hand the degree for performance prediction differs in all above exams. OSCE take place in a standard artificial situation which differs with real work place, but if be chosen appropriately may overcome some above defects. To be success in OSCE, it is necessary to have a good clinical knowledge and be able to perform clinical skills appropriately.

DE Blakemore in medical council of Canada in

Mayo Graduate School of Medicine showed that assessing knowledge with multiple-choice or written examination is not a clear predictor of performance on clinical practices. Kelly Kirby Ortega and coworkers showed that the students' performance on the USMLE step 1 examination did not correlate with the students' performance on a 3rd year OSCE (8). But Wilkinson, et al. explained that knowledge leads to good OSCE performance (9).

In Shiraz University of Medical Sciences, OSCE is used for students' clinical assessment, one is

Table 2. Correlation station scores with the total OSCE score

Stations	1	2	3	4	5	6	7	8	9	10
Correlation with Total score	0.276	0.475	0.550	0.217	0.313	0.372	0.479	0.394	0.499	0.452
Stations	11	12	13	14	15	16	17	18	19	20
Correlation with Total score	0.395	0.263	-	0.288	0.321	0.158	0.531	0.555	0.355	0.361

Table 3. The inter-examiner reliability, the coefficient of correlation

Station	1	2	3	4	5	6	7	8	9	10
Pearson Correlation	0.404	0.330	0.982	0.793	0.998	0.999	0.794	0.968	0.879	0.976
P	.011	.040	.000	.000	.000	.000	.000	.000	.000	.000
Stations	11	12	13	14	15	16	17	18	19	20
Pearson Correlation	0.914	0.986	-	0.598	0.520	0.822	0.983	0.842	0.975	0.981
P	.000	.000	-	.000	.001	.000	.000	.000	.000	.000

performed at the end of History taking and Physical Examination course (mini OSCE with 6 stations). The other take place in pre internship and the last for competent assurance at the end of internship. For its implementation in under graduate curriculum it was mandatory to assure its validity and reliability.

In this study we investigated the validity and Reliability of the pre-internship OSCE at Shiraz University of Medical Sciences.

To evaluate construct validity, correlation of the station scores with the total OSCE scores and correlations of inter-station were calculated. This issue was previously supported by Wilkinson, et al. (10).

Conclusion

Positive and meaningful outcomes of the correlation between stations' scores and the OSCE total scores pointed out that designed stations in this study measured unique behavioral domain except for one station (the 16th station). This exception could be the result of a wrong design of the station or the examiner's mistake.

To assess inter-rater reliability, the coefficient of correlation between two examiners was calculated to be between 0.33-0.99. It was proposed that results were positive and meaningful. Moatari, et al. showed similar results between 0.38-0.95 in a research about evaluation of clinical skills among the 4th year nursing students (11).

This study ascertained that the pre-internship OSCE at Shiraz University of Medical Sciences has face, content and construct validity as well as inter-examiner reliability.

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The effects of homogeneous small groups on the efficacy of problem-based learning

JAVAD KOJURI^{1*}, BABAK SHEKARCHI², MOHSEN MOTSHAKER ARANI², POUYA FARHADI¹, MITRA AMINI¹, MOHAMMAD REZA DEHGHANI¹

¹Quality Improvement in Clinical Education Research Center, Education Development Center, Shiraz University of Medical Sciences, Shiraz, Iran;

²Army University of Medical sciences, Tehran, Iran

Abstract

Introduction: Problem-based learning (PBL) as a learning style has gained a special position amongst different levels of education systems, and many different approaches, such as tutor education, proper scenario presentation, etc., are used to increase its efficiency. However, the role of homogeneous groups to facilitate team working has never been studied. The purpose of this study is to examine the effect of selective group allocation in PBL efficiency.

Methods: In this semi-experimental double-blinded study, 40 students of medicine during their externship in the radiology department were divided into two equivalent groups based on their grade average points. The same topics and the same instructors were chosen for both groups. In the control group, the students were randomly divided into four subgroups each with five members. The subgroups in the study group, on the other hand, were homogenized based on their grade average points.

Results: The students' rate of learning of the theoretical topics and their performance in reporting and interpreting the stereotypes in radiology were measured at the beginning and at the end of the study in both groups by two questionnaires with Alpha Krunback of 0.87 and 0.85. All students were male with the mean age of 23.7 years \pm 1.19. Age, grade point average of the students in the last semester and the mean of their pre and post-test scores in both groups showed a normal pattern of distribution ($p > 0.05$). The learning and performance scores in each group at the beginning and at the end of the course showed a statistically significant difference with a p value of 0.011 and 0.03, respectively.

Conclusion: Homogenizing the PBL groups with allocation of more competent student in each group plays a complementary tutor role and boosts the level of learning by enhancing group dynamicity.

Keywords: Homogenization, Problem-based learning, Competent students

Corresponding author:

Javad Kojuri

Address: Education Development Center, Sina-Sadra Halls Complex, Neshat Ave., Shiraz, Iran.

Email: kojurij@yahoo.com

Tel/Fax: +98-711-2333064

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Introduction

Traditional education systems used from preschool to university usually leave alumni with a vast amount of information most of which have no practical use in their future career. In fact, in these teaching systems most of the taught subjects are forgotten easily, and consequently this will reduce the enthusiasm for learning among the students (1).

Problem-based learning (PBL) as a teaching style has gained a special position amongst different levels of education systems. Problem-based learning was implemented for the first time in MC. Master, Canada

(1). Perhaps one of the advantages of this education system is that students enjoy the learning process and this indeed motivates them to find the ways to solve different problems (2). This method has caused students to believe in their own capabilities, which in turn, increases the self confidence among them (3). PBL is a student -centered system in which students cooperate with one another closely. By this method they do exchange the information and learn the problem solving skills and critical thinking (2).

In this method the professor acts as a facilitator who holds the responsibility to guide and support students.

A PBL tutor should encourage the group members to have a close collaboration with one another, and only needs to assess the team work progress (3).

In 1992, Rankin JA conducted a study on the impact of PBL method in four medical schools, two of which used the traditional education system and two PBL system (4). The Purpose of the study was to define the correlation between PBL method and the students' information and their use of information resources. The results showed that the students who were taught through PBL method had referred to library recourses more than those taught through traditional methods and this had caused the first group to develop their searching abilities significantly even at the early stages of learning (5).

One of the purposes of PBL method in medical sciences is the integration of basic courses with clinical ones. This helps the students to see the connection between these two types of courses and develop a clinical standpoint from the very beginning (5).

Today the PBL method is not only used in medicine but also in different fields of study like engineering, advocacy, and social sciences (6).

The studies conducted on PBL method demonstrates that this method positively affects both the students' performance and learning rates (1-8). Some evidence showed that this method motivated medical students to do more research. Furthermore, PBL can help medical students to improve their competency in diagnosis and make better treatment decisions both in their internship period, and in practice.

One of the criticisms on PBL method is that the students do not exactly know which subjects are more important to learn; therefore, the professor, as a facilitator, should continuously supervise and evaluate them (9-13). A lot of studies were carried out on PBL and particularly looked into the factors which might help improve the efficiency and efficacy of this method.

A study by Norman and Schmidt on PBL showed that the facilitator's intervention improves not only the students' understanding of the Problems but also their performance (14).

The problems in PBL method are often written as a scenario whose preparation in a well-formed and systematic manner can add to its efficiency (14).

In 2004, Taradi S. K. and his colleagues integrated PBL with Internet technologies in order to make it as efficient as possible. In their study which was on physiology, they divided students into two experimental and control groups. In the experimental group, the PBL was integrated with a web-based learning (WBL) while in the control group it was employed as usual. The results showed that the students taught through WBL-PBL had better

performance (15).

In 2008, Lymn and Kingsburg studied the PBL method, employing it with larger groups. They divided the students into 16 groups, each with 20-21 members and then assigned a tutor to each group. The groups were further divided into 7 subgroups, each with 2-3 members. When working with the students, the tutors felt that this specific way of grouping significantly improved the students' learning and triggered the elucidation of medical concepts, but they suspected that the scenarios stimulated the students' use of subsidiary references or enhanced their motivation. The researchers came to the conclusion that the PBL method is not only practical in small but also in larger groups (16).

Up to now the role of different factors such as the correct performance of tutors, proper problems or scenario preparation and the integration of PBL with WBL has been studied in order to increase the efficiency of PBL. One of the factors which can be very effective is the division of students into small groups because PBL is a student oriented method whose success greatly depends on the student activity, team work, information exchange, and the use of problem solving and critical thinking skills (16).

In spite of widespread use of PBL in the preclinical curricula of the U.S.A, fewer than %6 of the universities there use PBL for more than %50 of their instructions (17), which may be partly due to difficulties of its delivery or disorganization of knowledge which is gained by small group team working (18, 19).

If the students through the PBL course are divided into smaller groups randomly or have the opportunity to select their own group, it is probable that the students with greater capabilities and less able students are separated without any interaction. This certainly reduces the active discussion, scatters student's attention, misleads them from the correct method of learning and finally wastes their time.

Although the well oriented and expert tutor can prevent this, the difference in the rate of learning between more competent and less competent groups still exists and the students' learning will not be the same.

On the other hand, the presence of more competent students with less competent ones may be useful when working together. In the study with even distribution of more and less competent students together in small groups, we have tried to make PBL more effective.

Methods

This study, which was of a semi-experimental type, was carried out on 40 students of medicine during their externship in the radiology department. In this study based on their grade average points, the students

Table 1. The comparison of means in pre and post-tests in the experimental and control. groups; knowledge and performance tests

	Experimental, Matching group			Control, Random group		
	Pre test	Post test	P	Pre test	Post test	P
Knowledge test	2.5	7.9	0.0001	2.4	7.4	0.0001
Performance test	3.4	9.8	0.0001	3.6	9.2	0.0001

were divided, according to paired wise matching, into two equivalent groups (a control and a study). The same topics and the same instructors were chosen for both groups. The length of the study and teaching of the topics were decided to be in a two week period.

In the control group, the students were randomly divided into four subgroups each with five members and the topics were taught to them according to the PBL method. On the other hand, the subgroups in the study group were homogenized based on their grade average points. For these subgroups, the topics were also taught based on PBL. The variables to be measured in this survey were the students' rate of learning of the theoretical topics (knowledge) and their performance in reporting and interpreting the stereotypes in radiology. These variables were evaluated at the beginning and at the end of the study in both groups.

Data collection tools were two questionnaires one of which with nine items and a reliability of 0.87 evaluated the students' performance and the other with eight items and a reliability of 0.85 measured their knowledge. The reliability of both questionnaires was calculated by Alpha Crunbakh method. The content validity of the questionnaires was confirmed by a panel of experts.

The study was double-blinded, i.e., neither the tutors nor the students were aware of the composition of the groups. Both the tutors and students thought that the assigning of the students in each subgroup was random.

All of the variables were checked regarding the normal distribution, using one-sample Kolmogrov Smirnov test.

The data were analyzed through independent t-tests and paired t-tests were used, using the statistical software. The independent t-test was used to compare the two groups' scores in the post-test and the paired t-test to compare the students' scores in the pre and

post-tests. The significant p value was considered less than 0.05 ($p < 0.05$).

Results

The students were divided into two 20 member groups (study and control). All of the students were male with the mean age of 23.7 years and a standard deviation of 1.19.

The variables of age, grade point average of the students in the last semester and the mean of pre and post-test scores in each group were analyzed, using one-sample Kolmogrov Smirnov test which confirmed that the data were following a normal distribution ($p > 0.05$).

The average score of the students in the test group was 15.4 with a standard deviation of 1.13 and that in the control group was 15.33 with a standard deviation of 1.07. Employing the independence t-test, we did not find statistically any significant difference between the means of the two groups. ($p < 0.05$) This denotes the homogeneity of the two groups.

On the other hand, the grade point average of the four subgroups, each with 5 members, in the previous semesters was 15.27, 15.34, 15.47 and 15.59, respectively. The comparison of these grade point averages, revealed statistically no significant difference ($p < 0.05$).

The results of knowledge tests and the students' performance are reported in Table 1. The comparison of the results of the knowledge tests and the students' performance did not indicate any statistically significant difference at the beginning of the study ($p > 0.05$).

Comparing the means of the knowledge and performance tests in each group at the beginning and at the end of the course, we found a statistically significant difference in both groups (Table 1).

The independent statistical t-test was used to compare the means of the knowledge and performance

Table 2. The comparison of means of post test values in experimental and control groups

	Experimental group post test	Control group post test	P
Knowledge test	9.8	7.9	0.011
Performance test	9.2	7.4	0.03

tests between the two groups at the end of the course. For the learning test, p value was .011 and for the performance test it was 0.03 (table 2).

Discussion

Problem-based learning (PBL) as a new teaching method has gained a special reputation amongst different methods of education. It is a student-oriented method in which students actively cooperate with one another, share information and acquire the problem solving skills and critical thinking (2). In this method the instructor serves as a facilitator who holds the responsibility of guiding and supporting the students. He should encourage the group members to have a close collaboration, and continually assess the activities done by the groups (2, 4).

Up to now a lot of studies have been carried out on this method to find out the factors which enhance and improve its efficiency. Norman and Schmidt maintain that the tutor's approach not only affects the students' performance but also improves their understanding of the problems in PBL.

In 2004, Taradi and his colleagues combined web-based learning with PBL in order to make it more efficient, and showed that a combination of PBL and Internet technology can improve students' performance (15).

So far the role of different factors such as the tutor's proper approach, proper scenario or problem provision and the combination of PBL-WBL has been studied to enhance the efficiency of PBL. Among these methods the way of putting which students together in the small groups can be very important because PBL is a student-oriented method and its success depends on the students' activities, team work, information exchange, problem solving skills and critical thinking. The purpose of this study was to investigate the selection of the students in small groups (16, 17, 19).

If the students are divided into smaller groups randomly or they have the opportunity to select their partners themselves, it is likely that in some groups there are only more capable students and in the other groups only less capable students. This reduces active discussion, less attention to important points, learning disorientation and finally waste of time in less able students.

Although the tutor, by employing a proper approach, can prevent this, the rate of learning will not be at the same level and there would be a wide gap in learning between the more competent and less competent groups (19). On the other hand, the combination of students with different competency can lead to active discussion and therefore more effective to less competent students. In the study we divided the

students into two homogeneous groups, a control and a test group, based on paired-wise matching, using their grade point averages. The comparison of these two groups' grade point average showed that the two groups were identical regarding their competency.

The small 5 member subgroups were also homogeneous based on their grade point averages in the past semesters, which did not show any statistically significant differences.

Conclusion

Comparing the results of both the learning and performance tests at the beginning and at the end of the study in the control group, we noted a statistically significant difference, denoting that instruction through PBL was effective. This difference was more notable in the test group.

The results of our study showed that educationally the presence of more competent students in each group can increase learning in team-mates, initiate active discussion within the group and prevent the learning disorientation. In fact, the presence of a more competent student in each group plays a complementary tutor role and boosts the level of learning in the group, particularly in less competent students.

This study enjoys the advantages of having homogeneous control and experimental groups, also homogeneous subgroups in the experimental group and finally the participants' being blind to the study. However, for more precise results, it is better to perform such studies with larger samples in different educational departments.

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The effects of teaching stress management skills on the quality of life in ICU nurses

FARIBA GHODSBIN, KHATEREH ROSTAMI*, FARKHONDEH SHARIF, IRAN JAHANBIN, SAREH KESHAVARZI

Department of Nursing, School of Nursing and Midwifery, Shiraz University of Medical Sciences, Shiraz, Iran

Abstract

Introduction: Job stress is one of the main factors in decreasing productivity in organizations and the leading cause of psychosomatic disorders in personnel. Since job stress of nurses working in Intensive Care Units (ICUs) is considered as an important segment in health and medical systems, it significantly affects the quality of care and the nurse's quality of life. To this end, the purpose of this research is to examine the effects of teaching stress management skills on the quality of life of the nurses working at ICU of the hospitals affiliated to Shiraz University of Medical Sciences.

Methods: The subjects of the study consisted of 60 ICU nurses with the average stress score in Osipow job stress exam working at the hospitals affiliated to Shiraz University of Medical Sciences. The subjects were randomly assigned to two groups (30 in the case and 30 in the control group). The intervention was performed as a teaching stress management workshop for eight hours throughout two-days (four hours per day), and the nurses were followed up for two months. The data were collected through a two part questionnaire including demographic characteristics and WHO Quality of life BREF and were analyzed in SPSS software using paired t test, and t-test.

Results: The findings showed that the nurses of both the case and control groups were homogeneous considering the demographic data such as age, sex, marital status, number of children, shift position, job satisfaction, number of working hours per week, work experience and the amount of income. Moreover, there was no significant difference between the mean score of the life quality before the intervention in both groups. But after the intervention, a significant increase was revealed in the mean score of the life quality of the case group as compared to that of the control group ($P < 0.0001$).

Conclusion: The findings revealed the efficacy of the stress management workshop in improving the life quality of ICU nurses. During one and two months after the intervention, the mean score of the quality of life had a significance increase compared to the stage before the intervention

Keywords: ICU, Nurse, Stress management, Quality of life

Corresponding author:
Khatereh Rostami
Address: Department of
Nursing, School of Nursing and
Midwifery, Zand Ave., Nemazee
Square, Shiraz, Iran.
Email: KhaterehRostami61@
yahoo.com
Tel: +98-711-6474252

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Introduction

In spite of rapid development in technology and industry and modernization of life, mankind has increasingly been susceptible to a variety of stressful conditions, particularly those in their workplace.

Worldwide, stress and anxiety affect everybody psychologically, physiologically and socially. In other words, they affect all dimensions of life, and in general, life quality. Having been exposed to stressors,

the sufferer faces physiological changes like spasm, high blood pressure, elevated heartbeat, etc. (1). There are different factors causing stress and an individual's physical, sensational, behavioral, and mental reaction to stress depends on his/her personality and the magnitude of the stress (2).

A significant type of stress is job stress which can lead to in the individual's low productivity. Stress has a direct relationship with job satisfaction and the

person's performance. The loss and costs associated with disease and the side effects of the stress in the work environment have attracted the managers' attention (3, 4). The current organizations, from a practical viewpoint, consider human resources as an intelligent asset whose life quality should be improved increasingly (5).

Job is one of the most important parts of life which can affect the life quality from two aspects. The first is the concrete properties and characteristics of the job, and the second is the person's mentality and attitude toward his/her job. For example factors such as job experience, job rank, job workload, and professional expertise can be the sources of stress. Therefore, improving life quality and decreasing job stress are gaining importance more and more in the society. Stress is a part of the life of the medical staff including nurses, especially ICU nurses, and affects their health and life quality (6). Stress is a well-known segment of modern nurses' work, and a lot of research has been done on the job stress of nurses (7, 8). On the other hand, the ICU nurses have much more stress in comparison to others since they encounter with critically ill patients, heavy work load, high number of cardiac and respiratory arrests and high rate of mortality. As a result, according to some inevitable stress causing factors, taking some measures to improve the life quality of these nurses is among the duties of the managers of Health and Medical Services organizations. One of the appropriate policies is to teach stress management skills. This type of education prepares a nurse to overcome the tensions in order to approach the problems in the most appropriate way. Considering the importance of the educational effect of stress management skills on the life quality of ICU nurses and the outbreak of psychological disorders and their serious side effects, and also because of the little research done in this field, this research was designed to tackle the problem. Therefore, the aim of this research is to determine the effects of teaching stress management skills on the life quality of ICU nurses and to determine the relationship between job stress and the life quality of ICU nurses. The hypothesis of the research is that there is a relationship between teaching stress management skills and elevating the life quality of ICU nurses at the hospitals of Shiraz University of Medical Sciences.

Methods

This is a clinical trial study that was carried out in the year 2012 in Shiraz-IRAN. After the approval of the study by the ethics committee of Shiraz University of Medical Sciences, 60 ICU nurses according to the inclusion criteria (non-user tranquilizers, having at least 6 months of job experience, achieving Osipow

score between 204-300 for women and 217-300 for men, not taking part in yoga, aerobics, meditation, and any other stress management training classes) were selected to participate in the study. The selected nurses were divided randomly into two equal case and control groups and completed the WHO QOL BREF. The validity and reliability of this life quality standard questionnaire have been tested by Najafi, et al. (9,10), in Iran and others like Yang, et al. (11), Materia, et al. in other countries (12). It includes 26 items. There are 6 items on the physical aspect, 7 on the psychological aspect, 3 on social communication, and 8 on the environment aspect. The scoring system is as follows: score 1 is given to options of not at all, and score 5 to the options of very much. And for the questions 3, 4, and 26 which have negative loads, it is vice versa. The higher score shows the higher level of life quality.

After obtaining the nurses' consent forms and explaining that participation is optional, both groups completed the questionnaire one and two months after the introductory session.

A stress management workshop was held for the case group in the fields of life quality, stress symptoms, compatible ways to manage stress, self-consciousness, etc. in two days from morning to noon, and one and two months after finishing stress management workshop, the questionnaire was completed by the education group and then collected.

The collected data were analyzed in SPSS software using paired- t-test and t-tests and repeated meager.

Results

All participants had BSc degrees in nursing. The subjects were randomly assigned to case and control groups, each containing 30 members. Most of the nurses in both groups were married. Most of them worked in cycle shifts and were not satisfied with their jobs either.

Their number of children for each nurse in each group was one or zero, and in general there was not a significant statistical difference regarding the subjects' educational level. These two groups were homogeneous considering their demographic qualitative characteristics.

Also, according to the quantitative demographic data of the studied units, the average age of the people in the education group was 31.57 ± 5.04 and in the control group 31.3 ± 5.07 ($p=0.83$). The job experience of the education group was 6.93 ± 4.98 years while this average for the control group was 5.43 ± 3.52 ($p=0.18$), and the work hours per week in the intervention group was 40.73 ± 2.26 and 37.95 ± 9.33 in the observer group.

Moreover, the subjects' income per month (in

Table 1. The mean total score of the quality of life before, a month after, and two months after the intervention in the education and control groups

Score of the quality of life in the groups				Time		
	Before	One month later	Two months later	Time	Group	Group/Time
	Mean±SD	Mean±SD	Mean±SD			
Test group	61.04 ± 2.63	70.0 ± 4.78	73.30 ± 3.20	<0.001	<0.001	<0.001
Control group	61.8 ± 2.40	61.70 ± 2.30	62.90 ± 2.50			

Rial) was 7246700 ± 630000 for the case group and 7120000 ± 820000 for the control group ($p=0.5$). So it was obvious that there was no significant statistical difference between the education and control groups regarding the quantitative demographic data; both groups were homogeneous.

The results of the effect of stress management workshop on the quality of life of the ICU nurses are demonstrated in Tables 1 and 2. The results of table 1 shows the total score of the quality of life of the nurses in both education and control groups before the intervention so that no statistically significant difference exists between the two groups ($p=0.25$)

According to Table 2, the mean total score of the nurses' quality of life in the case group has been increased significantly one and two months after the intervention.

But in the control group, the mean total score of the quality of life changed from 61.8 before the education to 61.7 a month and to 62.9 two months later. In the other words, the total score of the quality of life of the

intervention group increased 8.97 a month after the intervention. But, this score increased 3.3 two months after the intervention. It means that the score of the quality of life has decreased in the second month after the intervention compared to that in the first month after intervention.

The score of the quality of life of the control group before the intervention was much better than that of the education group, but a month after it there was a decrease of 0.1 in the score of the quality of life, and two months later there was only an increase of 1.2 in the score of the quality of life ($p<0.001$).

Discussion

Stress disorders can be managed by a psychological or medicinal method. The medicinal methods have their own side effects. Psychological methods include favorite activities such as yoga, music, meditation, swimming, and praying to God. The aim of this study was to examine the effects of stress management workshop on the ICU nurses' quality of life (13).

Table 2. The average of the score of the dimensions of the quality of life before, one month later, and Two months later after intervention in the education and control groups

The dimensions of the quality of life	Group	Time			P		
		before	One month later	Two months later	Time	Group	Group/Time
		Mean±SD	Mean±SD	Mean±SD			
Physical	Test	61.16±3.58	70.20±6.09	73.76± 4.78	<0.001	<0.001	<0.001
	Control	60.96±6.47	60.20±2.92	62.66±3.79			
Psychic	Test	61.40±3.76	70.26±5.99	73.26±3.48	<0.001	<0.001	<0.001
	Control	62.60±4.24	61.96±2.38	63.23±2.99			
Social Communications	Test	60.96±2.60	70.76±5.07	73.13±3.87	<0.001	<0.001	<0.001
	Control	61.00±4.79	62.33±2.77	63.16±2.79			
Environment	Test	60.56±3.31	69.46±4.90	73.33±3.12	<0.001	<0.001	<0.001
	Control	63.00±4.77	61.50±2.76	62.63±2.79			

Teaching stress management skills led to an increase in the quality of life of the education group as compared to that of the control group in this research. The role of working factors in the pathology of the psychological problems of nurses has been obviously emphasized. But few studies have been done on the effects of psychological effects on these people (14).

ICU nurses' quality of life and the other dimensions including physical, psychological, environmental and social communications are disturbed because of the stresses of the job environment. Nurses need psychic and somatic balance in order to lead a healthy life, and any change, especially unpleasant ones of life, or of job environment, is considered as a threat to this balance. In fact, stress disturbs the psychic and somatic balance of a person.

The existence of different factors in the job environment like the physical job environment, responsibilities, the limitation of functions, and the dualism of role, etc. leads to an increase in the nurses' stress and, indirectly, can have a negative effect on their quality of life. However, through teaching the methods of stress management, one can decrease the amount of stress and improve the quality of life.

By the use of stress management techniques and teaching self-relaxations, one can decrease the physical stress and the physiological anxiety symptoms in nurses. This also results in the improvement in the quality of life to a great degree. The unpredictable nature of the ICU patients causes nurses to suffer from permanent stress. By the use of stress management techniques, these nurses learn to control their daily stress and tensions.

According to the obtained findings, we can state that education can have a positive effect on the total score of the ICU nurses' quality of life in one and two months after education. The total score of the quality of life in the follow up stage is in compliance with the findings by Choobfouroush et al. that show that the behavioral cognitive treatment of stress management causes the improvement of the total score of the quality of life of the infertile women (15).

Also, the results of this research are in the same line with those of Neshatdoust who found that the total score of the quality of life of the people suffering from Alopecia after behavioral-cognitive treatment of stress management up to 66 and 46 in the post-test and follow up stage, respectively (16). The results of this study also agrees with the findings of Bourbeau et al. (17), Gadoury et al. (18), Decramer et al. (19), Martinovic et al. (20), and Au et al. (21).

Table 3 displays the comparison of the dimensions of the nurses' quality of life before, one month, and two months after the intervention. The score of the quality of life after the intervention increased in all

dimensions.

According to this Table, the average of the score of the quality of life of the physical dimension in the education group had an ascending trend so that it increased from 61.16 before the intervention to 70.20 one month later and to 73.76 two months later, and in the control group, the 60.96 score before the intervention increased to 61.2 one month and to 62.66 two months after the intervention which is not statistically significant.

In the study done by Javaheri, et al. on the efficacy of stress management skills on the quality of life of the women suffering from post-traumatic epilepsy, the results showed the improvement of the score of the quality of life concerning the physical dimension so that it increased from 10.4 before the education to 17.1 in the post-test stage and to 16.6 in the follow up stage. But in the control group, the score of this dimension changed from 12.9 before the education to 14.6 in the post-test and to 13.3 in the follow up stage ($p < 0.001$) (22).

Also, in the study done by Rezayi et al. with the aim of finding the influence of behavioral-cognitive interventions of stress management on the quality of life of the women suffering from asthma, the results demonstrated that the educational program was effective in the improvement of the physical dimension of the quality of life one and two months after the education so that the score of the physical dimension of the quality of life in the education group changed from 137 before the education to 165.33 in the post-test and to 150 in the follow up stage (23). Therefore by the use of stress management skills and relaxation techniques, the anxiety symptoms decrease in people.

According to Table 2, the mean score of the quality of life in the psychological dimension has had an ascending trend so that this score showed a significant increase from 61.4 before the education stage to 70.26 a month after and to 73.26 two months after the intervention ($p < 0.001$). But in the control group this score changed from 62.6 before the education to 61.96 a month later and to 63.23 in two months after the intervention. These findings suggest that education is effective concerning this dimension of the quality of life.

In the study by Soltani, Khalife et al. aiming to examine the effects of stress control skills on the health of dentists; it was found that such education caused the psychic health of the dentists to improve in the education group compared to that in the control group (24). The findings of the present research are in the same line with those of the other research on the psychic dimension [Hashemi (25), Ansari (26), Benson (27)]. Also, in the study by Goldstein, et al.

on the effects of cognitive therapy on the patients suffering from epilepsy, it was found that depression and psychological problems tended to be relieved considerably (28).

According to Table 3, the mean score of the quality of life in the social communication dimension one and two months after the intervention showed a significant increase compared to the stage before the intervention ($p < 0.001$).

Regarding this dimension, the score was 60.96 before the intervention which increased to 70.76 one month and to 73.13 two months after the intervention in the test group. But in the control group, this score was 61 before the intervention which increased to 62.33 one month and to 63.16 two months later; however, the difference was not statistically significant.

Moreover, the score of the quality of life in the environment dimension of the education group increased from 60.56 before the intervention to 69.46 one month and to 73.33 two months after it; this increase was statistically significant ($p < 0.001$).

But in the observer group, the score of the environment dimension increased from 63 before education to 61.5 one month and 62.63 two months after it; this difference was statistically insignificant compared to that in the education group.

Considering the obtained findings, we can state that such education caused nurses to improve their quality of life significantly in the social communications and environment dimensions. In a study by Nayyeri, et al., it was found that the educational program was effective regarding the social communications and environment dimensions of the students' quality of life. The results agree with the findings of the present research.

Sararoudy, et al. examined the efficacy of the psychological intervention in the enhancement of the quality of life of the patients suffering from chronic obstructive pulmonary disease, and demonstrated that education caused an increase in the quality of life of the studied subjects in the social communications and environment dimensions (29).

Conclusion

According to the results, in both education and control groups, there was a statistically significant difference in all physical, psychic, social communications, and environment dimensions one and two months after the intervention between the education and the observer groups ($p < 0.001$). These findings suggest improvement of the dimensions of the quality of life in the education group. The researchers believe that this subject can be related to the acquisition of knowledge by the nurses on stress management skills. Moreover, as Table 3 displays

the quality of life has increased one month after the intervention in all dimensions (physical-psychic, social communications, and environment) but this rare has been slowed down two months after the intervention. This can be due to the interruption in holding the workshop and the researched units being far from this workshop.

According to the results of the present and previous research, it is necessary to take measures in order to hold stress management educational courses for all organizations with the aim of decreasing job stress and increasing satisfaction and the nurses' quality of life. We suggest that in future research, other types of psychotherapy methods such as relaxation training, writing feelings, biofeedback, hypnosis, and yoga be used and find their effects on these dimensions of life.

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Continuous evaluation of midwives as to professional standards

ZAHRA YAZDANPANAHI¹, MAHBOUBE HAJI FOGHAHA^{1*}, SEZANEH HAGHPANAHI²

¹Department of Midwifery, School of Nursing and Midwifery, Shiraz University of Medical Sciences, Shiraz, Iran; ²Hematology Research Center, Shiraz University of Medical Sciences, Shiraz, Iran

Abstract

Introduction: Implementation of professional standards as well as evaluation and assessments of providers has an important role in health promotion of each society. The purpose of this study was to assess the midwives working at midwifery offices as to performance of professional standards and effectiveness of continuous evaluation and education on them.

Methods: This is an interventional study in which all of midwifery offices (110) were evaluated. The study was done in three stages using standard checklist observation and interview in each step. Based on detected errors, appropriate education was done and their performance was reevaluated in the next step of supervision. Finally total scores in each step as well as scores in different subjects were compared among three evaluated stages.

Results: Overall mean score of faults at midwifery offices decreased from step 1 to step 3 in the following fields: environmental health and infection control ($P < 0.0002$), personal and patient care ($P = 0.0005$), individual health ($P = 0.003$) and adherence to laws and rules ($P < 0.0001$).

Conclusion: Continuous evaluation is essential for assessing the effectiveness and improvement of our educational program. With continuous evaluation, correction of observed defects will be done at an early stage by appropriate intervention and education. So our medical and health programs will attain the planned goals.

Keywords: Midwifery, Professional standards, Education, Evaluation

Corresponding author:

Mahboube Haji Foghaha
Address: Department of
Midwifery, School of Nursing
and Midwifery, Zand Ave.,
Nemazee Square, Shiraz, Iran.
P.O.Box:71935-1314
Email: foghaha2000@yahoo.com
Tel: +98-711 6474256
Fax: +98-711-6474252

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Introduction

Increasing the efficiency of organizations depends on the efficiency of human resources. On the other hand, increasing the efficiency of human resources depends on knowledge, skills, training and best practices for successful performance. Effective targeted training and investment on staff training will improve their performance. Targeted training and online content significantly increase efficiency. Training promotes the quality and quantity of human resources of an organization (1). Promotion of the desired goals of the organization and implementation of complete and accurate plans and programs at each institution require assessment, inspection and surveillance. This accurate assessment can manage individual and group activities and judgments about the legal entities and the administrative performance properly.

Monitoring includes measurement of standards of the practical results (expected results) and taking corrective action if there is deviation from the result. Monitoring should be based on programs, and more integrated program results in a more effective monitoring (2).

According to Scales evaluation Program, evaluation should be carried out continuously to achieve the desired result at each stage (3). The main goal of the health care program is providing desirable and necessary health care through health services (4). The improvement of performance is essential in increasing the efficiency and effectiveness of medical centers. In this context, establishing standards and monitoring them play an important role in increasing the efficiency of the health care centers (5).

The use of professional standards is one of the most basic principles of evaluation of health care

providers in achieving the best desired result (6). Continuing education is an appropriate tool for medical professionals to respond to rapid changes in health system and to improve their professional skills considering the special requirement of the community (7). Monitoring and evaluating educational programs should be carried out continuously to achieve the perfect determined goals (8).

Several studies have been conducted on standards in medical centers. Ozturk et al evaluated the use of protective equipment in offices in Turkey. They showed that mask and gloves were used in a considerable number of offices but more education is needed about the use of protective glasses (9).

Askarian et al conducted a study evaluating the environmental health standards of the hospitals affiliated to Shiraz University of Medical Sciences. They reported a relatively good environmental health situation in the studied hospitals. In addition, they stated that regular education programs are essential for assessing the health care services (10).

The aim of this study was to evaluate the performance of midwives working in their offices with regard to professional standards and the effect of continuous training and assessment on their practice.

Methods

This was a quasi-experimental study. All midwives working in the midwifery offices of Fars Province, Iran participated in the study (11). Midwifery in each office was visited by a researcher and by an expert in the supervision and evaluation. Evaluation of each office was done in three steps during one year.

A standard questionnaire was used to collect data on five categories including legal and regulatory issues, personal hygiene, patient care, personal care and environmental health and infection control. Content validity of the questionnaire was approved by related experts and its reliability was acceptable (Cronbach's alpha=0.83). Also, interview with the participants and observation of their practice were done by the researchers. In each step after assessment of the practice based on the professional standards,

the items which were not established appropriately were determined and proper relative training by face to face method were carried out.

The information was then compiled into five categories as follows:

1. Legal and regulatory issues including 10 questions on rules related to board, head version, impress, work permits, approved tariffs, and ethical and legal standards in the examination of patients,
2. Personal hygiene items including six questions with the content from the gown, wearing white and clean especial cloth, washing hands after contact with patients, use of protective devices such as masks, gloves, gowns, goggles during the delivery.
3. In patient care, we had six questions about washing hands before contact with the patient, having sink, liquid soap, clean bed for patient examination, use of gloves, and sterility principles.
4. Personal care items including two questions about hepatitis and *DPT. TD* vaccination card in three-step vaccination.
5. Environmental Health and Infection Control consisting of ten questions on the building situation, the use of disinfectants, the waste disposal, and disinfection measures.

Results

Of all the participants, %97.7 had bachelor's degree and %2.3 master degree. Their mean age was 24 ± 3.3 years. The results of comparison of the mean scores of detected faults in three stages are summarized in Table 1. The reductions in the mean scores of the observed errors from the first to third visits were detected in the following fields: environmental hygiene and infection control ($P < 0.0002$), patient care and staff ($P = 0.0005$) and personal hygiene ($P = 0.003$). In the legal and regulatory compliance issue, only some items showed a significant decrease ($P < 0.0001$). Overall, the mean score of errors decreased from 5.23 ± 0.46 in the first visit to 1.32 ± 0.18 in the third visit ($P < 0.0001$).

There was no statistically significant association between total score of observed errors with age (younger than 20 years old and older than 20 years

Table 1. Mean errors score of evaluation of midwives' practice at midwifery offices regarding performance of professional standards and effectiveness of continuous evaluation and education

Evaluation	Mean score of errors	Legal and regulatory issues	Environmental health and infection control	Patient care and personal care	Personal hygiene
Access steps	Mean \pm SD	Mean \pm SD	Mean \pm SD	Mean \pm SD	Mean \pm SD
First stage	0.46 \pm 5.23	0.299 \pm 1.8	0.065 \pm 0.29	0.09 \pm 0.29	0.051 \pm 0.146
Second stage	0.33 \pm 3.08	0.136 \pm 0.729	0.065 \pm 0.729	0.06 \pm 0.08	0.035 \pm 0.625
Third stage	0.18 \pm 1.37	0.073 \pm 0.146	0.57 \pm 0.188	0.02 \pm 0.2	0.02 \pm 0.208
P	P<0.0001	P<0.0001	P<0.0002	P<0.0005	P<0.003

old) and with job duration (less than 5 years, 5-10 years, and more than 10 years) ($P>0.05$).

Discussion

The results showed that compliance with standards, training and ongoing supervision of midwives yields an acceptable effect on reduction of the average defects observed in midwifery practice with regard to professional standards in their offices.

Sarir et al. evaluated the effect of training on the standards of infection control in dental offices concluded that the standards of skill in dealing with infection are increased with training (5). Muhibi et al in Nigeria found out the follow up activities of medical laboratory service that have positive impacts on sustaining and improving of ethical and professional standards. The result of our study confirms this (11). Farzandipour et al. conducted an investigation in relation to standards of medical centers. They showed that 61% of the standards are obeyed by the studied population (4). According to a study conducted in Shiraz, Iran, it is clear that strict assessment of professional standards is important to minimize the faults of the health care providers (8). Also, Kearns et al. carried out a study in Ireland on controlling infection in offices in 2001 and found that infection control procedures were carried out in several offices (12). However, more training in areas such as the use of masks and changing gloves between patients is required and hand hygiene intervention programs should be designed and promoted in all service centers (13). Also, in the research conducted by Aliasgharpour and others, results showed that the use of infection control procedures by the staff of hemodialysis units in four hospitals of Tehran University of Medical Sciences was acceptable in %50 of the studied contexts. These results imply the necessity of considering regular training programs regarding professional standards (14).

Banaeian and colleagues examined midwives' knowledge with regard to religious laws and legal aspects of midwifery and related factors. They reported satisfactory knowledge of the law in %15.3 of the participants, and adequate knowledge in the religious laws in 11.3% of individuals (15). Moreover, the findings of a research showed that there is tension between legal, ethical and professional standards as to the assessment of capacity and consent within health care (16). It is concluded that education could increase the midwives' knowledge about legal and regulatory issues.

This study also found that the average reduction in prescription described in midwifery job and the use of tariffs for different stages of the visit were not acceptable. Haji Foghaha and her colleagues in their research entitled as "Comparison of midwives' working in midwifery offices, hospitals and clinics of Islamic

punishment laws related to workers in health professions" found similar results and suggested that for prevention of any violation, courses and seminars by professionals familiar with the rules and regulations are necessary to help health professional workers to consider the community based rules regarding their professional work (6).

In conclusion, it seems that implementation of continuing education programs, as well as regular supervision, in the practices of health care workers with regard to adherence to professional standards plays an important role in promotion of the quality of practices of health providing services.

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Professionalism for future humanistic doctors

SEDIGHEH EBRAHIMI

Department of Medical Ethics, Shiraz University of Medical Sciences, Shiraz, Iran

Corresponding author:

Address: Medical ethics department, Medical School, Zand Ave., Shiraz-Iran
 Email: sedighehebra@yahoo.com
 Tel: +98-711 2305886

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Dear editor

Clinical environments encounter is an important part of studying medicine (1). Patient contact as an integral part of medical education occurs in various formats in the clinical settings (2, 3). During clinical training, medical students may experience high levels of stress, and some may not deal with it well. The abruptness of students' transition to the clinical setting generated positive and negative emotions. Due to being a novice, they did not receive adequate training on how to get emotionally prepared for meeting seriously ill people. In such circumstances, the shortage of training will have predictably crucial consequences. Early clinical contact has been suggested to reduce these stresses and help the students adapt effectively to changes in the hospital climate (2).

Patient contact creates an environment where each student appreciates cultural diversity and reinforces the development of clinical professional interpersonal skills through social, emotional and cognitive experiences (4, 5). It encourages validating of the relationship between patients and doctors and allows students to experience a more personal relationship with patients and nurture the ability to empathize with them, providing considerable benefits for trainees and patients.

In this way, the social emotions that students experience when empathizing with a patient represent a uniquely human achievement. By internalizing their subjective interpretations of patient's beliefs and feelings, the student's body, brain and mind come together to produce cognition and emotion .

They construct culturally relevant knowledge and make decisions about how to act and think about the patient's problems as if they were their own.

On the other hand, patient interaction in undergraduate education offers students a valuable early insight into the day-to-day role of a doctor and the patients' perspective on specific conditions.

Early experience provides a greater knowledge of professional roles and responsibilities for students (6-8).

Considering the important role of patients in contributing to the educational process and the benefits that exposure to patients will have for the students, it is important to note that medical schools bear the responsibility of training their students in a framework to approach these experiences in a professional way. It is necessary that medical training programs begin to provide adequate and formalised preparation for ethical challenges of working in clinical settings.

While a large bulk of feedback from patients showed generally positive attitude toward medical student participation, there may still be the risk of adverse effect on the clinical teaching environment. Thus, patients should be adequately informed and permission should be obtained for medical students' involvement.

Previous studies have indicated that medical students often face ethical dilemmas concerning patient-care. A study conducted by Walters et al. (2003) reported some therapeutic benefits, for patients with common mental disorders contributing in undergraduate

teaching in general practice .The study revealed that there were high levels of patient satisfaction; however, a small number of patients reported that they found the encounter distressing (9).

Teaching hospitals need to become a safe and sacred place of respect for human rights and dignity (10). There are numerous ethical dilemmas to the patient involvement in medical education that may have unintended consequences such as loss of privacy and missing the patient's emotional and personal responses. An ethically sensitive organization often faces the probe of having to balance between duty of training the students well and duty of doing the best care for the patients. The main point of this ethical dilemma is beneficence to the students versus non-maleficence (harm) to patients.

Ethical sensitivity can be promoted by development of ethical guidelines proposed for patient-oriented teaching hospitals. The common ethical principles that guide all medical practices are central to any contact with patients at all stages of medical education. Patients may express concerns over their involvement in medical education as well as over breaching ethical considerations including consent and confidentiality.

Lack of related concerns could have a negative impact on patients and on the learning outcomes for medical students, trainees and doctors (11). With increased focus on patients' autonomy, this principle is also ignored when no freedom of choice is given to the patients being visited by the trainees. Therefore, it is essential to respect the patient's right to be informed about any teaching activity in which he or she will contribute, and specific consent must be obtained for student contact (12).

Patients must be given the authority of choosing whether students observe or participate during their visit and also should be reassured that doing so will not affect the care they receive. The experiences of patients who participate in medical education will be particularly dependent on the level of information that they receive and thus the extent of knowledge they have about the teaching situation to which they are being asked to consent (12). If the treating team has a good rapport with the patient and if the patient is assured that he or she will not be harmed or embarrassed in the proposed activity, most of them would cooperate and contribute to the education and training of medical students willingly (13). Patients should be informed that necessary information will be shared with students as a part of the learning process and the students have a duty to maintain the confidentiality of the information (1).

In conclusion, clinical exposure in the undergraduate program provides opportunities for medical students to develop professional behavior. They must

communicate well and respect their patients' wishes and needs as expected as to be doctors. For promoting medical education, sufficient weight should be given to the ethical, professional, attitudinal, and social features of medical practice. Therefore, treatment of affective and social learning in modern medical education must be considered as well as scientific foundations of medicine.

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