

Use of Portfolios in Undergraduate Medical Training: First Meeting With a Patient

Mezuniyet Öncesi Tıp Eğitiminde Portfolyo Kullanımı: Hasta ile İlk Karşılaşma

Nilgün ÖZÇAKAR, Vildan MEVSİM, Dilek GÜLDAL

Department of Family Medicine, Medical Faculty of Dokuz Eylül University, İzmir

Submitted / Başvuru tarihi: 23.07.2008 **Accepted / Kabul tarihi:** 17.09.2008

Objectives: Portfolios, as learning tools, are becoming increasingly important in medical education. Our aim was to evaluate the contents of portfolios used in medical education.

Patients and Methods: We designed a portfolio that was aimed at making reflection in early undergraduate medical education. Conditions for portfolio use were identified through interviews with six trainers who were experienced in mentoring students in the process of developing their portfolios. Analysis of writings was performed using qualitative content analysis.

Results: The conditions for successful reflective use of portfolios that emerged from the interviews fell into categories: practice evaluation, patient perspective and primary prevention/health promotion. According to the students, working with a portfolio designed to meet these conditions is very useful and will stimulate students' abilities. The students shared the same opinion that analyzing one's competences in a portfolio was instructive and meaningful.

Conclusion: According to our students, portfolios are a potentially valuable method of developing students' skills in undergraduate medical education, provided that certain conditions for effective portfolios are recognized and met. The portfolio is a worthwhile addition to existing assessment and learning tools.

Key words: Undergraduate; medical education; portfolio.

Amaç: Eğitim araçlarından portfolyoların tıp eğitiminde önemi giderek artmaktadır. Bu çalışmanın amacı tıp eğitiminde kullanılan portfolyoların içeriğinin değerlendirilmesidir.

Hastalar ve Yöntemler: Tıp eğitiminde erken dönemde refleksiyon yapmak üzere bir portfolyo düzenlenmiştir. Hasta ile görüşme sırasında portfolyoların kullanımı portfolyo hazırlama konusunda danışmanlık yapmış altı deneyimli eğitici tarafından öğrencilere açıklanmıştır. Tamamlanmış portfolyoların değerlendirilmesi niteliksel içerik analizi ile yapılmıştır.

Bulgular: Portfolyo kullanımının başarılı refleksiyonu için portfolyolar, uygulamanın değerlendirilmesi, hasta perspektifi ve birincil koruma/sağlığı geliştirme bölümlerine ayrılmıştır. Öğrencilere göre bu koşulları karşılayan portfolyoları kullanmak oldukça yararlıdır ve becerilerini geliştirmektedir. Öğrenciler bireyin yeterliliğini analiz etmede portfolyoları eğitici ve anlamlı bulmaktadır.

Sonuç: Öğrencilerimize göre, etkin portfolyolar için gerekli durumların fark edilmesi ve karşılanması durumunda portfolyolar mezuniyet öncesi tıp eğitiminde öğrencilerin becerilerini geliştirmek için kullanılabilir olacak oldukça yararlı bir yöntemdir. Mevcut değerlendirme ve öğrenme araçlarına ek olarak portfolyoların kullanımı harcanacak emeğe değerlidir.

Anahtar sözcükler: Mezuniyet öncesi; tıp eğitimi; portfolyo.

The study of medicine generally comprises theoretical learning followed by practical training during clerkships. Medical school focuses on teaching facts but especially does not support students' reflective thinking in their developmental process. The theoretical knowledge achieved in the first three years is reinforced on real patients in second half of medical education in clinical training period. Changes in medical education provide the students with an introduction to clinical training within this theoretical period. The introductory clinical year is considered to be actually important in the process of becoming a doctor.

Medical education is a stressful and anxiety-provoking experience^[1] and it comprises theoretical and practical training causing profound changes. Early experience of meeting with a patient and problem solving may improve students' ability to communicate with the patients.^[2] Performing the first physical examination and finding one's role in the clinical culture are key experiences in this process. First meeting with a real patient and feeling like a doctor are important for professional adaptation. Medical education as a whole is a stressful training but also the first physical examination experience may cause anxiety in medical students.^[1] There are studies about the observation of the first patient contacts at medical schools. Thus, very few documents exist of "first hand" experiences and personal feelings of medical students on their emotional journey through medical school.^[1,2] In medical schools there are programs to balance and renew theoretical and practical training. The gap between theory and practice caused an increasing number of medical schools to revise their program.^[3] We apply active training so that our students take an introduction to clinical training.

Portfolio is a training instrument with an increasing importance in medical education that gives the students the opportunity to show their knowledge and progress further. From the students' side, using portfolio is very important to form a personal development plan by evaluating their experience of meeting with the

patient, thoughts about the patient and his/her disease and seeing their competency in practice of history taking and physical examination. And also the portfolios are used for data collection to summarize the experience of learning process.^[3]

Portfolios have different types such as documentation, process, and showcase and several functions such as personal development, assessment and learning.^[4-6] Portfolios used in communication with patients are not only an important tool for coaching and assessing authentic learning but also for improving independent active learning, developing criteria for evaluation of adequacy.^[7-9] The literature reports the use of portfolios in several educational contexts, including undergraduate medical training, postgraduate training and continuous professional development.^[10]

In this study our aim was to evaluate the contents of portfolios used in medical education of our students in 2003.

PATIENTS AND METHODS

Introduction to clinical skills training program in the first three years of medical education in Dokuz Eylül University is aimed at improving history taking, physical examination, and recording skills of the students before their clinical trainings. The target is to combine the things learned in the first two years and use all of them in the third year in front of real patients they meet in different environments. For this purpose the first meeting with patients is arranged to be with the trainers in their training hospital. In our faculty, students meet with simulated patients in the first and second years and with real patients in the third year as bedside teaching in internal medicine department. A portfolio for the third year medical students was designed in 2002-2003 to assess the new teaching program for clinical skills such as communication, history taking and physical examination using checklists. Students record their own personal progress and clinical experiences in their portfolio so that they have the chance to follow up their personal development.

Table 1. The structure of the portfolio (Instructions for writing)

Section 1:

- What did I learn (as knowledge, skills and attitude)? What do I think about this practice? How do I feel?
- Which topics did I focus? Weaknesses? Topics to be studied? Reference for the topics? When?

Section 2:

Demographic data: Patient's age, gender, job and diagnosis

Patient's perspective:

- If I were the patient how would I feel? What would I think about my disease?
- How would I cope with it? Which difficulties will I have to face with?
- What would I expect from others? Whose support do I expect most?

Primary prevention / health promotion:

- Preventive care: What could be done for prevention and/or early detection?
- Health promotion: What could be done for health promotion?

The portfolio has two parts: practice-related and patient-related parts (Table 1). Each student interviewed a patient under supervision of a trainer based on a checklist, completed the portfolio and presented as a case report and got feedback.

Introduction to clinical skills training is a compulsory program for the first three years of medical education and all of the students have to attend two times throughout a year. This program is one of the parts of clinical training and used as a step for evaluations at the end of the year.

For each practice there was one trainer for two students. All of the trainers were from the Department of Family Medicine. Each session took two hours, twice a year. There were 112 third year students, 49 practiced twice, 51 once, however 12 students were absent in the practice so were not included in the study. The majority of students were male (n=54, 54%).

After history taking and physical examination, the trainer gave feedback to each student and students completed their portfolios. Data from the portfolios were coded. Their personal writings were analyzed by qualitative content analyses.

RESULTS

Response rate was 89.2 % (100/112). When the portfolios were evaluated we observed that most of the students were positive about prac-

tice as it was based on learning by doing and was relevant with the lectures. They expressed this as follows:

A comment was *"These practices are very useful for us as it is relevant with the lectures."*

A girl outlined *"After every practice the experience is becoming more useful. I think it takes time to learn by doing."*

Elango et al.^[11] showed that students found portfolio useful.

Anxiety

First patient contacts produce anxiety in medical students. Pitkälä and Mäntyranta^[1] found that students expressed a number of uncomfortable feelings related to first patient experiences. Previous literature^[2] has established that the first patient encounter causes anxiety, feelings of insufficiency. In our study, students' feelings about the practice were obviously "anxiety" and "troubled" partly because of first contact with the patient and also using his/her theoretical knowledge in practice.

"At first I was excited and anxious. Every practice is an experience for history taking and physical examination." a male student wrote.

"Being a doctor and meeting a patient for the first time causes distress." a student explained his feelings.

"To be alone with the patient was so exciting." a female student wrote.

"I felt like a real doctor, I was anxious." was a good expression of their insight. These statements are very similar with those in the studies of Pitkälä and Mäntyranta,^[1] McMullan^[12] and Harris et al.^[13] Writing is a powerful tool. It forces the writer to stop and think. The students were surprisingly thorough and humble in their description of uncomfortable feelings.^[1] When they practiced for the second time, they felt better and they expressed that their anxiety was reduced. For example;

"I felt relaxed because it was not the first time."

Learning by doing

The students stated that they improved their history taking and physical examination skills.

"I learned more about doctor-patient interview."

"I think I improved my communication skills."

"First of all it was a reinforcement of clinical skills."

"I learned physical examination better."

It was similar to the results of the study of Elango et al.,^[11] McMullan,^[12] and Harris et al.^[13]

Relevance to the future role:

"This practice was essential for me as a future doctor."

It stimulates students to develop new understanding and appreciation of their experiences, recognize links between different aspects of these experiences and formulate insights to be tested in future actions.^[14]

"I can do it as a doctor." It was the same point that students stated in Rees and Sheard's^[15] study.

After the practice

Learning needs

"I forgot some steps of physical examination, I need more practice."

"I have to take a more detailed medical history."

"I learned my limitations."

"I need to perform physical examination in the right sequence." The majority of the students had

difficulty especially in the sequence of physical examination. They stated that practicing many times may be useful like Elango et al.'s^[11] study.

Personal plans

Most plans were in short term.

"As soon as possible." "Before the next practice."

AMEE (Association for Medical Education in Europe) Medical Education Guide recommends that portfolios should be related with personal and professional learning plans.^[16]

Introduction to clinical skills training practices are done in internal medicine services. Patients were told about the training process and patients volunteered with no handicap became our participants for the practice. Patients had generally chronic diseases such as diabetes with complications, malignancies, chronic obstructive pulmonary disease, dermatologic problems, etc. When we looked at the students' writings about the patient's perspective, their feelings were impressive.

Feelings like a patient

They expressed "fear", "anxiety", difficulty in accepting and coping with the disease.

"I would be suspicious. If I were the patient I would be scared of having cancer."

"I would be worried about leaving my family, being unfinished and dying."

"I would be afraid of not recovering."

"It is hard to accept disease."

"In the beginning I would be sad then I would comply and try to learn about the disease."

"There will be problems of acceptance, denial, anger. I would have to control myself."

Problems with activities of daily life

"I would have difficulties in my daily life."

"I would have to be limited at work, daily and social life."

They expressed problems with treatment and quality of life.

Support needs:

The primary source of support was declared as "family" and the second was "physician". The expectations from physician were "empathy", "communication" and "explanations on disease and treatment".

The interaction with the patient is one of the most valuable experiences for any student.^[17] Early experience helped students develop empathy for their patients. It helped them understand doctor-patient relationship and the importance of listening to the patients.^[2]

Awareness for prevention

Periodic health examinations, informing the patient and lifestyle modifications could help patients. From this point of view the students stated:

"We know that genetic and environmental factors affect diseases. Environmental factors can be changed. For example my patient was a smoker and drinker. He could be warned."

"Smoking, unbalanced and unhealthy nutrition, alcohol consumption may cause diseases, it is necessary to avoid these."

"If the patient could be followed up the disease would be prevented. It could be diagnosed early and complications would be prevented."

"Periodic examinations and patient information may help prevention and/or early detection".

"Complication rate would be reduced."

"I have to learn more on recommendation about early diagnosis and I have to read about my patients' disease."

DISCUSSION

There are many benefits of portfolio-based learning such as stimulating the use of reflective strategies. Portfolios helped the students to explain their feelings in their own words. One of the aims of our using portfolio in these practices was to have students gain insight on doctor-patient communication, health promotion, preventive care, self-learning, and self-evaluation. Those newly acquired insights inform medical edu-

cation and practice; encourages a holistic and integrative approach to medical practice. It is an important finding that portfolios are useful to expand the students' personal improvement by making their own personal learning plans after noticing the deficiencies. Portfolios improve independent active learning, criteria developing ability for adequacy evaluation and achievement of learning objectives, namely showing the point where the students begin and where they end. As portfolios are student-centered, they support and encourage the students by showing their personal efforts, progress, and success within learning intervals. Our students, with this study, also put forward these functions of portfolios. This study begins to highlight pre-clinical medical students' views about reflective portfolios. And also according to the writings portfolio is a potentially valuable method of developing students' skills in undergraduate medical education, provided that certain conditions for effective portfolios are recognized and met. However, further research is required using qualitative studies to explore students' views in depth. Medical educators should be encouraged to consider introducing portfolios as a method of developing skills earlier in the medical curriculum.

REFERENCES

1. Pitkälä KH, Mäntyranta T. Feelings related to first patient experiences in medical school. A qualitative study on students' personal portfolios. *Patient Educ Couns* 2004;54:171-7.
2. Littlewood S, Ypinazar V, Margolis SA, Scherpbier A, Spencer J, Dornan T. Early practical experience and the social responsiveness of clinical education: systematic review. *BMJ* 2005;331:387-91.
3. Gordon J. Assessing students' personal and professional development using portfolios and interviews. *Med Educ* 2003;37:335-40.
4. Burch VC, Seggie J. Portfolio assessment using a structured interview. *Med Educ* 2005;39:1169.
5. Cole G. The definition of 'portfolio'. *Med Educ* 2005;39:1141.
6. Hatem D, Ferrara E. Becoming a doctor: fostering humane caregivers through creative writing. *Patient Educ Couns* 2001;45:13-22.
7. Driessen E, van der Vleuten C, Schuwirth L, van Tartwijk J, Vermunt J. The use of qualitative research criteria for portfolio assessment as an alternative to reliability evaluation: a case study. *Med Educ* 2005;39:214-20.
8. McMullan M, Endacott R, Gray MA, Jasper M, Miller

- CM, Scholes J, et al. Portfolios and assessment of competence: a review of the literature. *J Adv Nurs* 2003;41:283-94.
9. Gannon FT, Draper PR, Watson R, Proctor S, Norman IJ. Putting portfolios in their place. *Nurse Educ Today* 2001;21:534-40.
 10. Driessen E, van Tartwijk J, Vermunt JD, van der Vleuten CP. Use of portfolios in early undergraduate medical training. *Med Teach* 2003;25:18-23.
 11. Elango S, Jutti RC, Lee LK. Portfolio as a learning tool: students' perspective. *Ann Acad Med Singapore* 2005;34:511-4.
 12. McMullan M. Students' perceptions on the use of portfolios in pre-registration nursing education: a questionnaire survey. *Int J Nurs Stud* 2006;43:333-43.
 13. Harris S, Dolan G, Fairbairn G. Reflecting on the use of student portfolios. *Nurse Educ Today* 2001;21:278-86.
 14. Driessen EW, van Tartwijk J, Overeem K, Vermunt JD, van der Vleuten CP. Conditions for successful reflective use of portfolios in undergraduate medical education. *Med Educ* 2005;39:1230-5.
 15. Rees C, Sheard C. Undergraduate medical students' views about a reflective portfolio assessment of their communication skills learning. *Med Educ* 2004;38:125-8.
 16. Challis M. AMEE Medical Education Guide No.11 (revised): Portfolio-based learning and assessment in medical education. *Med Teach* 1999;21:370-86.
 17. Blake K. The daily grind--use of log books and portfolios for documenting undergraduate activities. *Med Educ* 2001;35:1097-8.