

**A Preliminary Report on:**

**STUDENTS SELF-ASSESSMENT IN A  
COMMUNITY BASED CLINICAL CLERKSHIP  
IN FAMILY MEDICINE**

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**Abstract**

Introduction:

The College of Medicine and Medical Sciences at the Arabian Gulf University in Bahrain is a community-oriented school with a problem based learning (PBL) curriculum. The community-based AGU clinical clerkship in family medicine, which lasts 6 weeks, takes place in six Gulf Countries: Bahrain, Saudi Arabia, Oman, United Arab Emirates, Kuwait and Qatar. The training and education systems in many of these countries are traditional and the concepts of problem based learning are not well understood. Given these factors, the program coordinator has less than optimal influence over students' teaching and learning experiences. Therefore, for both important philosophical and practical reasons the introduction of a self-assessment skills package as a major component of the family medicine clerkship with major responsibility given to students, seemed timely and appropriate.

Method and Experience:

The self-assessment package consisted of 2 main parts: (i) A Log of Experiences, to record on-going practical experiences, and (ii) Self-assessment measures of performance in clinical method, clinical reasoning and examination skills; information handling and communication.

Beside completing a detailed log of their experiences on a daily basis, students were asked to assess themselves in terms of performance, on three occasions: at two, four and six weeks of commencement of the clerkship. They were supplied with specially designed self-assessment forms. At the end of the clerkship, all students were assessed by pairs of observers, while carrying out a clinical interview with a patient in a health center in Bahrain.

**Results:**

Students' self-assessments were compared with their supervisors' summary evaluations, in addition to the observers' assessments of the clinical case. There was good congruence among all three sets of assessment results. From a program planning point of view, this pilot model was interesting and important in two ways: (i) self-assessment of performance by students was congruent with parallel assessment by supervisors; (ii) students were encouraged to learn by their new responsibilities, because self assessment helped them to modify their learning if they felt that their educational objectives were not met.

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**Introduction**

The College of Medicine and Medical Sciences of the Arabian Gulf University, was the first college in the Gulf region to implement a problem-based curriculum. It draws its students from six Gulf Cooperation Council countries (Bahrain, Qatar, Saudi Arabia, Oman, Kuwait, and United Arab Emirates), allowing the exchange of ideas and experiences between students, and strengthening the social relationships between communities, and countries.

The curriculum comprises three phases; a premedical phase (1-year) followed by the problem based learning phase (3 years) and the clerkship phase lasting two years. The family medicine clerkship (6 weeks) is the last clinical rotation prior to the MD examination and is the only rotation implemented outside Bahrain. Satisfactory completion of all clerkship rotations is a pre-requisite to sitting the MD examination.

The family medicine clerkship is intended to meet a number of goals in addition to those specific to the discipline. For example, it provides an opportunity for students to integrate specialized areas of knowledge and skills, and also to confront the realities of health care services with the specific needs of patients and populations, in their country of origin. Another generic objective that is especially important in the primary care setting is that of effective referral behavior, which depends upon an accurate self-assessment of competence and limitations.

Self-assessment is a critical component of both learning and practice. Although its importance is recognized, very few medical schools adopt a curriculum which enhances self-assessment behavior among students (*Clack, 1994; Westberg & Jason, 1994*). While it seems to be difficult, self-assessment is a trainable skill: It is, however, time consuming. That there is a need for such training cannot be ignored, given the context of primary care or family practice. In such a context, the physician is continuously challenged with regard to his/her skills, attitudes and knowledge, without direct external

supervision, monitoring or peer review. Only through accurate and honest self-assessment can physicians maintain and upgrade their skills, attitudes and knowledge. Such healthy behavior will not appropriately develop in an individual unless self-assessment skills have been taught and learned during training. In consequence, various educators and researchers have indicated the necessity of introducing self-assessment to students in their undergraduate medical education (*Morton & Macbeth, 1977; Woolliscroft et al., 1988; Gordon, 1992,*). Others have found that students have the ability to achieve levels of accuracy and validity in their self-assessment and are good judges of themselves (*Farnill et al., 1997*), a point emphasized by Woolliscroft et al. as being a central issue. Given the need, and the evidence that students can accurately assess their abilities, there seemed to us to be sufficient reason to develop a self-assessment program, which can have additional cognitive and non-cognitive advantages. (*Arnold et al., 1985; Woolliscroft et al., 1993*)

## **Material and Method**

All the twenty-five students, fourteen males and eleven females who were in year 7, were included in the study. Their ages ranged from 25 to 33 years with a mean of 29 years. Each student had a Bachelor degree in science and was admitted directly to year 3. These students are considered atypical because CMMS usually admitted students who are a high school graduates. Before proceeding on their Family Medicine clerkship assignments, they were oriented with regard to the self-assessment procedures and formats which is considered to be first experience to themselves. The self-assessment program comprised of; i) experience logs, where students record their experience with patient encounter; ii) Self-assessments of the following areas using structured forms were practiced: a) interview techniques and structures, b) skills related to history taking, clinical reasoning and physical examination; and c) information recording and processing, where the students critically assess their skills of recording patient's data in the patient's family folder. Those forms were designed to contain areas related to knowledge, attitude and skills and students were oriented (through an orientation session prior to start of the rotation) about the best possible way of assessing themselves using these forms. During this clerkship rotation each student was under the care of one supervisor tutor. The students were encouraged to work independently, i.e. see patients alone, but to discuss - their findings and management plans with their tutor, before discharging the patient. Appropriate forms to test knowledge, attitude and skills were designed and distributed for use. The students were asked to assess themselves three times at two-week intervals (i.e. at 2, 4 and 6 weeks). In order to avoid bias, the students were informed that their self-assessments would not have any bearing on their final assessment. The tutors were also oriented to the program and were requested to ensure that students complied with the assessment protocol.

At the end of the family medicine clerkship rotation, students received a summary assessment form completed by their supervising tutor. The form contained items similar to those in the self-assessment forms. Furthermore, at the end of the rotation, each student was observed and assessed using a clinical encounter, by faculty in Bahrain. These faculty had not had prior exposure to the students (i.e. during the training in the Family Medicine clerkship). Again, the domains to be assessed by the faculty were

similar to those that formed the basis of self-assessment. A comparison was made among the results of the students' self-assessments, the tutors' assessments, and those completed by faculty in Bahrain.

## Results

All the 25 students participated in this exercise the results of the 3 students' self-assessment at 2, 4 and 6 weeks were accumulated together and its summary assessments were considered for comparisons. The mean results of self-assessment, end of rotation tutor assessment and clinical examination assessment were comparable (82%, 80%, 83% respectively). When the results of the clinical examination, tutors' assessment, and students' self-assessment were compared using the general linear model of one way analysis of variance, no significant differences among these three groups of assessments were found ( $df = 2, F=0.101, P<0.904$ ). A positive correlation was found between self-assessment and the tutors' assessment (Pearson's Correlation Coefficient = 0.471,  $P<0.018$ ), perhaps not surprising given our earlier comments on the students' use of the assessment forms. Again, a positive correlation was also, found between self-assessments and the clinical examination assessment (Pearson's Correlation Coefficient = 0.489,  $P<0.013$ ). Using multivariate analysis, gender showed no influence on the different types of assessment ( $df=2, F=1.493, \text{ and } P<0.235$ ). Our experience showed congruence in all the 3 types of summary assessments (self-assessment, tutor's end of rotations and the clinical encounter), a finding that needs further study, when one considers that Gordon (1994), found the strongest agreement between teachers and students (after self-assessment) in areas related to specific skills, and Farnill (1997) reported that students showed a good level of accuracy in interviewing skills.

## Discussion

Since this was the students', and our, first experience in a self-assessment program, the findings have to be interpreted cautiously, especially as this student group was "atypical" (students with bachelor degrees in science) and more mature. In addition, students used the individual forms for Physical Examination, Interview and Chart Review, as summary evaluations. It was found that the students gave themselves a higher grading in the first assessment than in later ones, a finding which was reported by others (Rezler, 1989; Frye et al., 1992; Elizru et al., 1994). As the rotation progressed, their assessment of themselves became more critical. This may have been because of an initial lack of comfort with self-assessment and self-criticism (Sclabassi, 1984) or because a well-developed internal representation of their abilities simply did not meet the reality of their performances. Similar findings have been obtained by other

researchers, who stated that students may not have the standard needed for accurate self-assessment of performance in the clinical area (*Hammond & Kern, 1959; Woolliscroft et al., 1988*).

As for students' reaction which are similar to other observers findings, they were very positive about the exercise, and reported that it stimulated their learning behavior and helped them in identifying their weaknesses. Students stated that this activity helped them in continuously observing their knowledge and abilities in order to fulfill the program objectives and since they had to work independently, i.e. consulting patient, they had to make sure that they were prepared for it and study and experience area of difficulties that they encountered with the patients. (*Arnold et al., 1985; Gordon, 1992; Woolliscroft et al., 1993*). This confirms the findings of Farnill (*1997*), who proposed that adequate self assessment enabled individuals to identify strengths and weaknesses in the process of establishing learning goals, and allowed them to monitor progress in remedying deficiencies. Further, Dolmans stated that an undergraduate curriculum which encourages self-assessment skills will not only provide the opportunity for the student to learn these skills, but allow them to gain other benefits, such as increased motivation and achievements, reduced anxiety over grading, and improved communication between learners and teachers (*Dolmans et al, 1993*). Our students appear to have received at least some of these advantages. With this positive finding, it was decided to repeat the study on a large number of students so that this activity could be recommended for implementation.

## **Conclusion**

It was concluded that such a program of self-assessment, implemented for both philosophical and practical reasons, showed potential for development within the clerkship, and the preceding curriculum.

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