

OBSTETRICS

Improving the Reliability of OSCEs for the Royal Thai College of Obstetricians and Gynecologists Board Examination

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ABSTRACT

Background Since 1990, the Royal Thai College of Obstetricians and Gynecologists (RTCOCG) has launched an OSCE as the main assessment of skills in Obstetrics and Gynecology. This OSCE comprised of twenty 5-minute stations, including three pathology and cytology stations. Previous psychometric analysis of the OSCE revealed a moderate reliability. However, pursuing a higher reliability of the OSCE has always been the main goal of the RTCOCG Board Examination Committee.

Methods A descriptive study of the reliabilities (Cronbach μ) of OSCEs for the RTCOCG Board Examination between 1992 and 1998 was performed by using the computerized SPSS program under window operation. From the previous studies, the reliability of OSCEs between 1992 and 1994 ranged from 0.54 to 0.75. In order to improve such reliabilities, the Board Examination Committee decided to replace all stations of pathology and cytology with other stations for data interpretations and treatments. Simultaneously, a new set of 10-item pathology as well as cytology examination was launched.

Results The reliabilities of the new OSCEs between 1995 and 1998 were much higher than those between 1992 and 1994. They ranged from 0.79 to 0.82. Interestingly, the reliabilities of the 10-item pathological examination ranged from 0.55 to 0.66. The average failure in an examination of the original and the new OSCEs were 7.11% and 4.08% respectively.

Conclusion Replacement of pathological and cytological stations with other stations for data interpretations and treatments in the original OSCEs has much improved the reliabilities of the Royal Thai College of Obstetricians and Gynecologists OSCEs. The higher reliabilities of the new OSCEs has resulted in fewer failed candidates.

Key words : OSCE

Since 1990, the eligibility for the Royal Thai College of Obstetricians and Gynecologist (RTCOCG) board examination has included 1 clinical research, 6 case-reports, 150 items of MCQ, 4 items of MEQ, 2 items of Essay, 20 stations of OSCE and 45-minute oral examination.

The RTCOCG OSCE is virtually intended to measure essential skills needed in OB-Gyn practice such as technical skills, clinical skills, communication skills and interpersonal skills. A lot of energy and effort has consistently been invested in order to improve the quality of the RTCOCG OSCE.

In 1994 the RTCOCG convinced the members by revealing the success of the RTCOCG OSCE.⁽¹⁾ The reliability of 0.54-0.75 during 1992-1994 was comparable with those OSCEs for medical licensure in the North America.^(2,3) Nevertheless, pursuing a higher quality of the OSCE has always been the main goal of the RTCOCG Board Examination Committee.

Material and Methods

The OCSEs between 1992 and 1994 were composed of stations of process assessment, mostly operative obstetrics and operative gynecology, and product assessment eg. interpretation of X-ray, ultrasonogram, fetal EKG, pathology and cytology. The item analysis revealed an interesting information that the candidates hardly got good score in pathology and cytology stations.

In order to improve the quality of OSCE, the Board Examination Committee decided to restructure the items of OSCE by replacing all stations of pathology and cytology with other stations for data interpretations and treatments. Simultaneously a new set of 10-item pathology as well as cytology examination was launched. Four years data from 1995-1998 was collected and analysed in comparison with those data from 1992-1994.

The standardized item reliability (Cronbach alpha) was processed by a SPSS program under Window 97 at the Department of Medical Education, Bhumibol Adulyadej Hospital, RTAF.

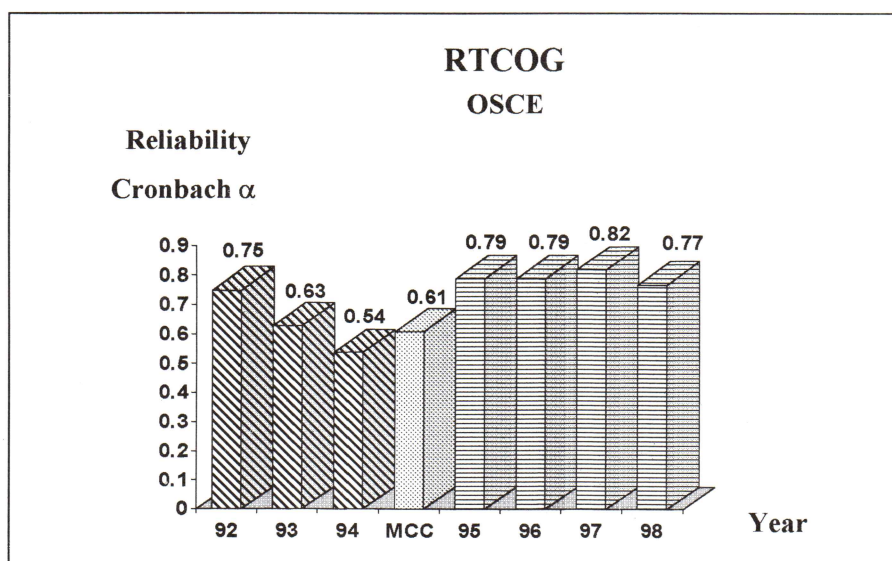


Fig. 1. The reliability of the RTCOCG OSCE before and after restructuring in comparison with the reliability of OSCE used by Medical Council of Canada in 1994.

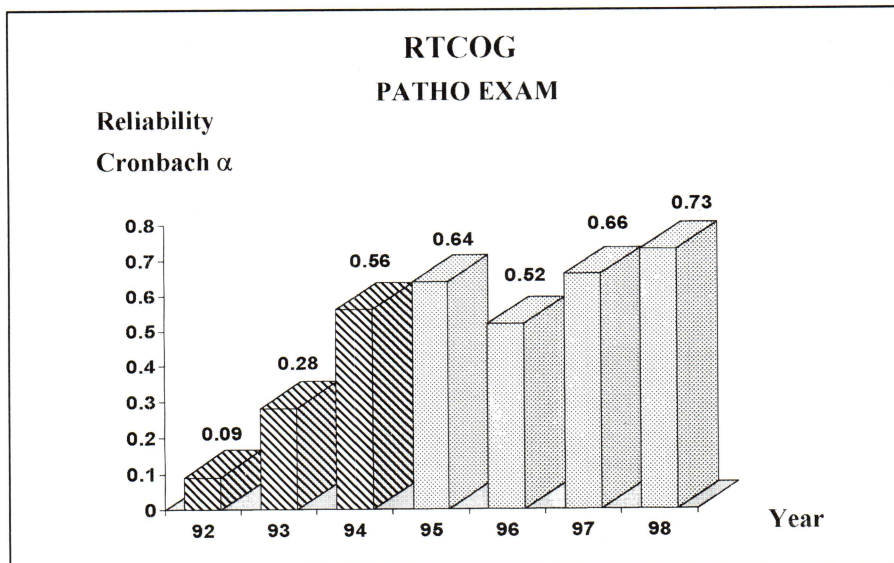


Fig. 2. The reliability of the RTCOG pathology and cytology examination before and after restructuring.

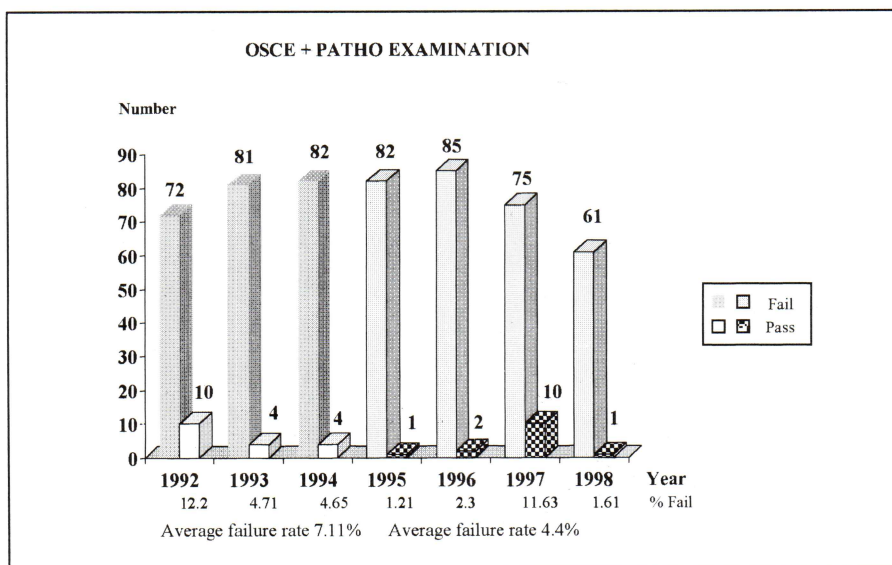


Fig. 3. Failure rate of OSCE in combination with Pathology and Cytology examination before and after restructuring.

Results

The reliability (Cronbach alpha) was 0.79, 0.79, 0.82 and 0.77 for the OSCE year 1995, 1996, 1997 and 1998 respectively. The reliability for the pathology & cytology examination was 0.64, 0.53, 0.66 and 0.73 for the year 1995, 1996, 1997 and 1998 respectively. The reliability of the RTCOG OSCE after restructuring (1995-1998) was much higher than those before restructuring (1992-1994) (Fig. 1). This phenomenon was also happened in the pathology and cytology examination (Fig. 2).

The combination of OSCE and Pathology & Cytology examination after restructuring has had the average failure rate of 4.4% when compared with 7.11% of the examination in the year 1992-1994 (Fig. 3).

Discussion

It is widely accepted that OSCE is suitable for skill assessment. But a good OSCE with high reliability is rather difficult to be organised. Theoretically the reliability at least 0.7 is needed for the instrument used to assess candidates who come from various training centers.^(4, 5) The RTCOG Board Examination Committee has accumulated experiences of OSCE for 8 years. We noticed a higher reliability if some very difficult items such as pathology and cytology were deleted. Simultaneously the increasing number of items of pathology and cytology would result in a better reliability of the test for pathology and cytology themselves. This hypothesis has a lot of impact on the RTCOG Board Examination Committee. Therefore the RTCOG OSCE has been restructured since 1995.

The subsequent result is quite satisfactory that the quality of new OSCEs as well as pathology and cytology examination is more reliable. In addition the failure rate of the examination also decreased.

In conclusion, this descriptive study has elucidated a new structure of OSCE and Pathology & Cytology examination which contained a better psychometric characteristics. The RTCOG Board Examination Committee once again gave emphasis on the success of OSCE.

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