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## Is there an effect on the knowledge of medical students when the attending time in the course of Obstetrics and Gynecology is reduced ?

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**Is there an effect on the knowledge of medical students when the attending time in the course of Obstetrics and Gynecology is reduced? Chula Med J 2004 Feb; 48(2): 85 - 9**

- Objective** : *To explore whether a 1-week reduction of the attending time in the course of Obstetrics and Gynecology has an effect on the knowledge of medical students determined by the scores in their final examination.*
- Methods** : *The final examination scores of Obstetrics and Gynecology course from the fourth year medical students in academic year 1997 to 2002 were reviewed. The students were categorized into 2 groups according to the durations of their course taken. The averaged scores, scores of essay questions and scores of multiple choice questions of the two groups were compared by student t test.*
- Results** : *The averaged scores of the final examination of the medical students who attended the 12-week course (71.97, 95 % CI 71.38, 72.56) was statistically higher than the scores of those who attended the 11-week course (70.64, 95 % CI 70.01, 71.27, P value = 0.03).*

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**Conclusions** : *There may be some effect on the knowledge of the medical students when the attending time in the course of Obstetrics and Gynecology was reduced. In the new medical curriculum that provides a shorter duration for the course, a relevant teaching strategy is needed to be developed to maintain the quality of the students.*

**Keywords** : *Medical education, Medical student.*

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สุรสิทธิ์ ชัยทองวงศ์วัฒนา, บุญชัย เอื้อไพโรจน์กิจ, สุดาทิพย์ ชูชัยเจริญกิจ, เยื่อน ตันนิรันดร์.  
ระยะเวลาของการเรียนการสอนสูติศาสตร์-นรีเวชวิทยาที่ลดลงมีผลต่อความรู้ของนิสิตแพทย์หรือไม่? จุฬาลงกรณ์เวชสาร 2547 ก.พ; 48(2): 85 - 9

- วัตถุประสงค์** : เพื่อศึกษาผลของการลดระยะเวลาของการเรียนการสอนสูติศาสตร์-นรีเวชวิทยา 1 สัปดาห์ ต่อความรู้ของนิสิตแพทย์วัดโดยคะแนนสอบครั้งสุดท้าย
- วิธีการทำวิจัย** : นำคะแนนสอบครั้งสุดท้ายของวิชาสูติศาสตร์-นรีเวชวิทยาโดยนิสิตแพทย์ปีที่ 4 ปีการศึกษา 2540 ถึง 2545 มาวิเคราะห์ โดยแบ่งนิสิตแพทย์เป็น 2 กลุ่มตามระยะเวลาของการเรียนการสอน นำคะแนนรวมเฉลี่ย คะแนนสอบอัตนัย และคะแนนสอบปรนัยของทั้งสองกลุ่มเปรียบเทียบกันด้วย student t test
- ผลการศึกษา** : คะแนนสอบครั้งสุดท้ายรวมเฉลี่ยของนิสิตแพทย์ที่มีการเรียนการสอน 12 สัปดาห์ (ค่าเฉลี่ย 71.97, ความเชื่อมั่นร้อยละ 95 เท่ากับ 71.38, 72.56) มากกว่ากลุ่มที่มีการเรียนการสอน 11 สัปดาห์ อย่างมีนัยสำคัญ (ค่าเฉลี่ย 70.64, ความเชื่อมั่นร้อยละ 95 เท่ากับ 70.01, 71.27,  $P$  value = 0.03).
- สรุป** : การลดระยะเวลาของการเรียนการสอนสูติศาสตร์-นรีเวชวิทยาอาจมีผลต่อความรู้ของนิสิตแพทย์ ในหลักสูตรแพทย์ใหม่ที่มีการลดระยะเวลาของการเรียนการสอนนี้ จำเป็นต้องพัฒนากิจกรรมในการเรียนการสอนเพื่อดำรงไว้ซึ่งคุณภาพของนิสิต
- คำสำคัญ** : แพทยศาสตรศึกษา, นิสิตแพทย์

Medical curriculum of the Faculty of Medicine, Chulalongkorn University, had been changed in the academic year 2003. This change would reduce the attending time of the fourth year medical students in the course of Obstetrics and Gynecology, from 11 weeks to 10 weeks. Consequently, this raises a concern whether the reduced time would affect a student's knowledge in Obstetrics and Gynecology. The duration of the course had already been once reduced from 12 weeks to 11 weeks since the academic year 2000; however, the effect of this shortening is still unanswered. We undertook this study to explore whether this 1-week reduction had any impact on the students' knowledge determined by the scores in their final examination.

### Material and Method

The final examination scores in the course of Obstetrics and Gynecology of the fourth year medical students in academic year 1997 to 2002 were reviewed. These scores were averaged from score of essay questions and score of multiple choice questions with a total score of 100. There were 6 essay questions and 150 multiple choice questions in each group of

students. The undergraduate committee of the Department of Obstetrics and Gynecology, Faculty of Medicine, Chulalongkorn University, standardized these questions before each examination. Apart from the durations of attending time, there was no difference in curriculum, contents, and teaching and evaluation processes among each academic year from 1997 to 2002. The difficulty indices of both essay questions and multiple choice questions were also set to be similar between each academic year.

To analyze data, the students of the academic year 1997-1999 who attended a twelve-week course were categorized as group 1, and the students of the academic year 2000-2002 who attended the course of the 11 weeks were categorized as group 2. We calculated the mean and the 95 % confidence interval of averaged score in each group and determined the difference by a student t test. We also analyzed these statistics with the scores of the essay questions and that of the multiple choice questions. P value of less than 0.05 was considered significant. Statistical analysis was performed with SPSS statistical package version 10.0.

**Table 1.** Final examination scores.

	Group 1 n = 434	Group 2 n = 465	P value
Average score	71.97 (95 % CI 71.38, 72.56)	70.64 (95 % CI 70.01, 71.27)	0.03
Essay question score	76.72 (95 % CI 75.94, 77.49)	77.21 (95 % CI 76.44, 77.97)	0.38
Multiple choice question score	67.22 (95 % CI 66.57, 67.87)	64.07 (95 % CI 63.40, 64.74)	<0.001

The results were presented as mean (95 % confidence interval).

## Results

There were 138, 151, 145, 153, 160 and 152 students in the academic year of 1997- 2002, respectively. Four hundred and thirty-four students attended the Obstetrics and Gynecology courses for 12 weeks and 465 students attended the courses for 11 weeks. The final examination scores from the both groups are shown in Table 1.

## Discussion

The present study found that the students who attended the Obstetrics and Gynecology courses for 12 weeks got significantly higher average score than the students who attended the courses for 11 weeks. However, the mean difference was only 1.33 points (95 % CI 0.47, 2.19). When explored in details, we found no difference in the scores of essay questions between the two groups. On the other hand, the scores of the multiple choice questions in the students group 1 were significantly higher than scores in the other group with a mean difference of 3.15 points (95 % CI 2.21, 4.08).

To do an examination on essay questions, the examiners need to understand the context of theory or knowledge, including the application of their knowledge in response to the questions.<sup>(1,2)</sup> However, the essay questions cannot cover all the content in the curriculum that we need to test the students. Because the multiple choice questions were found to cover a wider range of comprehensive knowledge than the essay questions<sup>(3)</sup>; we, therefore, test the knowledge in common clinical conditions with essay questions and employ multiple choice questions to test the detail of the contents. Our results may imply that one week reduction of the attending time of the course did not affect the knowledge in common

conditions; however, the students may have less time to get into the details of the contents.

Although we find a statistically significant difference of scores both in average and multiple choice questions scores, these differences were small (1.33 and 3.15 from total score 100). It needs to evaluate whether the lowering of the scores is associated with a poorer clinical proficiency in our students.

The limitation of our study is that the fourth year medical students in the different academic years may have dissimilar baseline knowledge. However, this difference should not be significant because every student had studied in the preclinical years by the same curriculum and learning process. In addition, all of them could pass the same standard criteria prior to become the fourth year students.

This study shows that there were some effects on the knowledge of the fourth year medical students when the time of attendance of the course was reduced. Hence, before the new medical curriculum is implemented, a relevant teaching strategy needs to be developed to help the students gain the knowledge in order to achieve the objectives of our curriculum.

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