

Youth Evidence-Based Medicine Camp: Improving Logic Thinking for High School Students

Ka-Wai Tam^{1,2,3}, Chieh-feng Chen^{1,4,5}, Kee-Hsin Chen^{1,6}

1 Cochrane Taiwan, Taipei Medical University, Taipei, Taiwan
2 Division of General Surgery, Department of Surgery, School of Medicine, College of Medicine, Taipei Medical University, Taiwan
3 Division of General Surgery, Department of Surgery, Shuang Ho Hospital, Taipei Medical University, New Taipei City, Taiwan
4 Department of Public Health, School of Medicine, College of Medicine, Taipei Medical University, Taipei, Taiwan
5 Division of Plastic Surgery, Department of Surgery, Wan Fang Hospital, Taipei Medical University, Taipei, Taiwan
6 School of Nursing, College of Nursing, Taipei Medical University, Taipei, Taiwan

Background & Objectives

- Evidence-based medicine (EBM) aims to provide people with choices about the most effective care based on the best available research evidence.
- Earlier exposure to EBM may help teenagers to have better ability to judge fraud news and inspire their interest in learning medicine.
- We held a 4-day-Youth EBM camp in 2018 summer.



Methods

- At first day, 30 young students were arranged to visit the operation theaters.
- The participants gave rises to clinical questions under the inspiration of the lecturer, and were taught to search and appraise for medical literature.
- A systematic review was completed with the assistance of 10 medical students who just finished a semester of EBM course.
- The results of systematic reviews were presented on 2018 Taiwan EBM annual conference.



- We evaluated the efficacy of the Youth EBM camp using a questionnaire of participants. General satisfaction was assessed using a five-item Likert scale (1 = strongly disagree, 5 = strongly agree).

Table 1 Effectiveness evaluation of Youth Evidence-Based Medicine Camp by participants (n=29)

Item	Before training	After training
Evidence-based medicine	2.07 ± 1.13	4.21 ± 0.56
Form a question	2.55 ± 1.24	4.21 ± 0.73
Searching	2.59 ± 1.18	4.38 ± 0.56
Database	2.31 ± 1.14	4.17 ± 0.85
Study design	2.48 ± 1.09	4.38 ± 0.56
Randomized controlled trial	2.07 ± 1.16	4.14 ± 0.79
Risk of bias	2.07 ± 1.10	4.07 ± 0.75
Systematic review	1.97 ± 1.15	4.14 ± 0.79
Meta-analysis	2.14 ± 1.13	4.07 ± 0.70
Forest plot	1.76 ± 1.12	3.86 ± 0.99
Dichotomous data	1.90 ± 1.15	4.07 ± 0.80
Continuous data	1.90 ± 1.11	4.07 ± 0.84
Heterogeneity	2.00 ± 1.12	3.79 ± 0.96

Questions were recorded on a 5-item likert scale (1 = strongly disagree, 5 = strongly agree)

Values are presented as the mean ± standard deviation

Results

- Evaluation surveys were completed by 29 high school students.
- The majority of respondents agreed that participating Youth EBM camp can improve the comprehension of medical researches (mean ± standard deviations, 4.31 ± 0.71), critical appraisal skills (4.34 ± 0.67), and inspiration the interest of learning medicine (4.28 ± 0.80).
- Moreover, respondents replied that the camp help them to clarify the interest in being a medical doctor.

Conclusion

- Implementing Youth EBM camp was appreciated by most of the participants.
- Youth EBM camp may improve the ability to justify health information, promote logical thinking, and can provide teenagers an opportunity to ponder whether to study medicine.
- Teenagers usually feel confused when applying for universities, therefore earlier exposure to EBM training helps the medical system to enroll more decent students in the future.