The questionnaire analysis about the urgency and necessity of biomedical informatics education in a medical school

Dukyong Yoon, Rae Woong Park

Department of Bio and Medical Informatics, School of Medicine, Ajou University, Suwon, Republic of Korea

Abstract and Objective

Although the number of medical schools which give a biomedical informatics education has been increasing in Korea, but there is no guideline for medical school students, yet. The result of this research analyzing perception of clinicians and biomedical informaticians could be foundational data for establishing a guideline. The questionnaire consisted of 32 questions related to detailed fields of biomedical informatics. On each question, respondents were asked whether it is urgent and necessary as curriculum for medical school student or not. The questions answered it's not only 'necessary' but also 'urgent' were 'Electronic medical record', 'Medical information system', 'Office programs', 'Graphic programs', 'Evidence based document research', 'Data back-up', and 'Arrangement of references'. These contents should be considered when the curriculum of biomedical informatics is made up.

Keywords:

Biomedical informatics, Curriculum, Questionnaire analysis

Introduction

In health care environment, there is a consensus that it is important to use 'health information system' or 'Electronic medical record' for improving quality, safety, and cost-effectiveness of the medical practice. And in the research fields, the ability to control mass data has also been challenged. These consensuses lead medical schools to start biomedical informatics education. Therefore, the number of medical schools which give a biomedical informatics education has been increasing in Korea, too. But, there is no guideline for medical school students, yet. By questionnaire, perception of clinicians and biomedical informaticians about the biomedical informatics curriculum of medical school was analyzed. The result of this research is expected to be foundational data for establishing a guideline of biomedical informatics education for medical school student in Korea.

Methods

The total number of questions was 32. Between them, 18 questions were about 'Biomedical data processing', 3 questions were about 'Biomedical informatics concepts and technique', 4 questions were about 'Application programs to help routine work', and the others were about 'Education for researches and papers'. On each question, respondents were asked whether it is urgent and necessary as curriculum, and answered with 'yes' or 'not'. To compare clinicians group with biomedical informatics group, the chi-square test was conducted.

Results

126 clinicians (24%) and 24 biomedical informaticians (49%) gave responses. In the case of necessity, more than half of respondents answered with 'yes' on 'Data basement system', 'Visualization of analysis', 'Clinical decision support system' and 'Concept of security'. And questions answered that it is not only 'necessary' but also 'urgent' were 'Electronic medical record', 'Medical information system', 'Office programs', 'Graphic programs', 'Evidence based document research', 'Data back-up', and 'Arrangement of references'

And there was significant difference between two groups in some questions. Clinicians regarded 'Office programs' and 'Graphic programs' as more important. In contrast, biomedical informaticians put stress on 'Data basement system', 'Bioinformatics', Bio-signal processing', 'Electronic medical record', 'U-health', 'Clinical decision system', 'Concept of security' and 'Information protection' more highly.

Conclusion

There are some questions answered that it is 'necessary' and 'urgent' at a time. And in some content, both group agreed that those are necessary as curriculum. Therefore, these contents should be considered when biomedical informatics curriculum is made up. And because in the some contents two groups disagreed, the process to make consensus about those will be needed.