



Abstract

Epidemiology is the cornerstone method of public health research, and helps inform evidence-based medicine for identifying risk factors for disease and determining optimal treatment approaches to clinical practice and for preventative medicine. However it is not a popular subject among undergraduate medical students, as nearly half of them find it to be difficult and boring, when being taught via lectures in the traditional way. It was identified that 90.4% of medical students were somewhat or fully aware of the need for knowing epidemiology in their future career as physicians. Only 0.9% of students were very satisfied with their current level of knowledge in Epidemiology, and 28.3% were not satisfied at all.

e-Learning is an effective way of delivering medical education. The information and communication systems, whether networked learning or not, serve as specific media to supplement the learning process. Learning Management Systems (LMS) are an emerging eLearning method to carry out medical education in an interactive and exciting manner.

By using an online module, it is possible to deliver supplementary material in epidemiology to the students, using multimedia enriched content. According to the needs analysis, more than 80% of medical students, and all of the lecturers were in favour of an online module. Both groups have the necessary infrastructure such as computers and internet connectivity for eLearning. They also have a high computer literacy rate, but require additional training in the use of learning management systems. The main positive attributes that were identified by the medical students with regard to online resources are that they can be accessed anytime anywhere (89.5%), are more descriptive (85.7%), more interactive (70.9%), easily searchable (88.1%) and contain updated information (80.2%).

A virtual village was created, to be used as a simulation to teach real life clinical scenarios in epidemiology that affect a community. The virtual village was designed onto a web page to increase functionality and customization, and was linked to the Moodle platform. Identified content areas were developed onto the Moodle platform using multimedia and adult learning theories, and designed according to ASSURE model of instructional designing. It will be evaluated at level two of Kirkpatrick's hierarchy after implementation.