Total Approach of the Training for Graduate and Undergraduate Students in Medical Related Area in Japan.

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Background:

Legal requirements for pathogen possession as well as continuously occurring near misses and accidents in teaching laboratories led decision to turn experiments for students in the university more "safeter". None hazardous mock bacteria culture and readily prepared dispersed materials use may made experiments safer but degraded technical level of graduate students who expected to work alone on the research bench. Biosecurity and biosecurity basic knowledge and skill teaching prior to handle real "samples and hazards" became absolute necessity.

Biosecurity involves people from wide range of background. Establishing single one standard system for "training for everybody" may not easy. However, it could be more straight forward for the students as they start from the same "close to knowldege".

Objectives:

Create programme for systematic education and training of biosecurity for students employing many different teaching approaches to make importance of risk management unforgettable and understandable in their fresh mind.

Subjects:

Undergraduate and Graduate students in risk management and clinical laboratory technician courses.

Methods:

Based on past 3 years' experiments using various modes of education and training tried at collaborating universities. e-learning, problem oriented group work, gaming and simulation and short introductory lectures were combined for biorisk management training.

Pre and post course and a year later exam were carried out using same questions in different order for evaluation.

Results:

Students in late twenties and thirties responded well to visual and audio approach. They struggled with logical assessments. Shortage of knowledge about pathogens and samples they work with and work place hazards were identified. Interviews to those sample students revealed importance of a textbook of risk assessment and biorisk management in their native language for the reference to use for learning principles, logical thinking and creative approach for real world problems.

We started to put together created materials into educational programme for the students and researchers in academia. It may not for the advanced researchers and experts who are able to seek their skills and further trainings internationally, but will serve to elevate levels of practice to manage biorisks in long term by working with new generation. This interim outcome shows annual continuous training.

Conclusions:

Current programme have good short time effect but limited in long term effect. Further targeted revision is needed.

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