GENETIC LITERACY AND AWARENESS OF PERSONALIZED MEDICINE AMONG UNDERGRADUATES IN HONG KONG

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Background and methods

Personalized medicine describes the use of an individual’s genetic profile to diagnose diseases as well as guide treatments. In a common core undergraduate course with 129 teaching hours at HKU (The World Changed by DNA, https://commoncore.hku.hk/ccst9064/), students were taught on topics surrounding genomics through interaction with patients and guided discussions.

Aims and purpose

To explore university student perspectives on genetic testing

Methods

During the course students took part in pre- and post-teaching online questionnaires on perceptions of personalized medicine and pharmacogenomics, adopted from Mahmutovic et al.1, covering ethical, legal and social aspects of genetic testing (Figure 1).

A total of 118 students were enrolled, and the response rate was 70% (n=83). As a reference, the teaching evaluation for the course reported an above average course effectiveness rating of 78% (mean for the Area of Inquiry: Scientific & Technological Literacy = 70.7%) (Figure 5).

Pre-teaching, 37% of individuals indicated that they have not heard of personal genome testing before, and 52% reported that they would feel “helpless” or “pessimistic” in case of an unfavorable genetic test result, which reduced to 47% after teaching on the basic concepts of genetics (Figure 7). Overall, 78% would consider having a genetic test done for potential illness that may manifest at a later age, and 78% of the students were aware of the related ethical issues, such as patient privacy and racial issues (Figure 8).

Over one-third (37%) of undergraduates have not heard of genetic tests prior to the course. Despite that fact that the course had an above average effectiveness rating, negative perceptions were only reduced by 5%. Almost half (47%) of the students still indicated that they would feel helpless when faced with an unfavorable result which reflects the need for further input in a real scenario of genetic testing.

These findings only represent university students, and the impact on the general population is likely to be more exaggerated. Our results emphasize the need to build an educational framework early in nursing or medical schools extending to the wider community (Figure 9).

Conclusions

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Impact

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References


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