PHARMACOCENETICS AS A TOOL FOR TEACHING PRECISION MEDICINE TO PHARMACY STUDENTS

Luana Mifsud Buhagiar1,2, Anthony Serracino Ingollt1,2, Godfrey LaFerla3

1 Department of Pharmacy, Faculty of Medicine and Surgery, University of Malta, Msida, Malta
2 Malta Medicines Authority, Malta Life Sciences Park, San Gwann, Malta
3 Department of Surgery, Faculty of Medicine and Surgery, University of Malta, Msida, Malta

Email: luana.mifsud-buhagiar.06@um.edu.mt

INTRODUCTION

Pharmacy education has the potential to bridge the current gap between exponential growth in pharmacogenetic research and limited incorporation into clinical practice. Teaching precision medicine demands the integration of knowledge in the basic sciences, such as chemical analysis and genetics, with applied pharmacology, pharmacotherapeutics, toxicology, and regulatory sciences.

METHODS

A multiplicity of methods with clinically relevant examples are necessary to stimulate interest in the forthcoming generation of pharmacists for providing patients with the expected benefits of precision medicine. The case of amitriptyline is considered as prospective teaching material. An example of integrated pharmacy teaching is developed, considering three important aspects.

RESULTS

Pharmacy teaching, embracing science and practice, shall expound how the interpretation of pharmacogenetic data, as it correlates to blood levels, can support in exploiting the benefit of drugs. Specific sessions, targeting each of the implicated contexts, complemented by an overarching session, are proposed to outline implementable scenarios for using genotyping to translate biomarkers into personalised therapy.

CONCLUSION

The amalgamation of analytical, clinical and regulatory aspects to explore pharmacogenetics illustrates how effective curricular coverage of precision medicine may be advanced. This sets a pragmatic approach for transposing knowledge of the basic sciences to clinical practice relevance in modern-day pharmacy education.

Acknowledgement The research work is supported by funding through the ENDEAVOUR Scholarships Scheme.

Reference