

Physicians' Knowledge and Perception of Gene Profiling in Malaysia: A Pilot Study

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Abstract : Availability of different genetic tests after completion of Human Genome Project increases the physicians' responsibility to keep themselves update on the potential implementation of these genetic tests in their daily practice. However, due to numbers of barriers, still many of physicians are not either aware of these tests or are not willing to offer or refer their patients for genetic tests. This study was conducted an anonymous, cross-sectional, mailed-based survey to develop a primary data of Malaysian physicians' level of knowledge and perception of gene profiling. Questionnaire had 29 questions. Total scores on selected questions were used to assess the level of knowledge. The highest possible score was 11. Descriptive statistics, one way ANOVA and chi-squared test was used for statistical analysis. Sixty three completed questionnaires was returned by 27 general practitioners (GPs) and 36 medical specialists. Responders' age range from 24 to 55 years old (mean 30.2 ± 6.4). About 40% of the participants rated themselves as having poor level of knowledge in genetics in general whilst 60% believed that they have fair level of knowledge. However, almost half (46%) of the respondents felt that they were not knowledgeable about available genetic tests. A majority (94%) of the responders were not aware of any lab or company which is offering gene profiling services in Malaysia. Only 4% of participants were aware of using gene profiling for detection of dosage of some drugs. Respondents perceived greater utility of gene profiling for breast cancer (38%) compared to the colorectal familial cancer (3%). The score of knowledge ranged from 2 to 8 (mean 4.38 ± 1.67). Non-significant differences between score of knowledge of GPs and specialists were observed, with score of 4.19 and 4.58 respectively. There was no significant association between any demographic factors and level of knowledge. However, those who graduated between years 2001 to 2005 had higher level of knowledge. Overall, 83% of participants showed relatively high level of perception on value of gene profiling to detect patient's risk of disease. However, low perception was observed for both statements of using gene profiling for general population in order to alter their lifestyle (25%) as well as having the full sequence of a patient genome for the purpose of determining a patient's best match for treatment (18%). The lack of clinical guidelines, limited provider knowledge and awareness, lack of time and resources to educate patients, lack of evidence-based clinical information and cost of tests were the most barriers of ordering gene profiling mentioned by physicians. In conclusion Malaysian physicians who participate in this study had mediocre level of knowledge and awareness in gene profiling. The low exposure to the genetic questions and problems might be a key predictor of lack of awareness and knowledge on available genetic tests. Educational and training workshop might be useful in helping Malaysian physicians incorporate genetic profiling into practice for eligible patients.

Keywords : gene profiling, knowledge, Malaysia, physician

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