

Research Article

Patterns and Determinants of Attitudes towards Genetic Risk of Cancer: Case Study in a Malaysian Public University

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Genetic risk to cancer is a knowledge largely confined to experts and the more educated sectors of the developed western countries. The perception of genetic susceptibility to cancer among the masses is fragmented, particularly in developing countries. As cancer diseases affect developing countries as much as developed nations, it is imperative to study perception and reception of genetic risk to cancer in Southeast Asia. Here, we report on a novel case study to gauge the awareness and attitudes towards genetic determination of cancer among the undergraduates of a Malaysian public university. A total of 272 university undergraduate students completed an online questionnaire. On causes of cancer, the respondents believed that cancer is caused by lifestyle and environmental factors, but those with science background were more likely to associate it with genetic factors. The results on awareness of genetic profiling of cancer risk showed that there are significant differences between those with science and nonscience background but there are no significant differences for gender and socioeconomic background. As for attitudes towards cancer risk, female respondents, those from middle socioeconomic status and science background, are more likely to believe in genetic determinism of cancer. The findings have implications on target population segmentation in strategic health communication on cancer.

1. Introduction

The belief that cancer is essentially a genetic disease is no longer just a viewpoint but a fact to cancer biology experts since the beginning of the 21st century [1, 2]. Before the end of this century's first decade, cumulative findings on genetic or molecular profiling of cancer have prompted molecular biologists to support efforts in the quest for accurate diagnostic and treatment platforms [3–6]. This has led to an emergence of translational applications ranging from development and utility of big data in cancer [7, 8] to genetic testing avenues and associated policy in practice recommendations, particularly in the USA [9]. Thus far, it seems that awareness of genetic determinants in cancer is largely confined to cancer biologists, oncologists, and informed healthcare providers. The acceptance of this in the context of breast cancer risks is more pronounced among geneticists rather than oncologists [10]. It may, therefore, be necessary to study and gauge the perception and reception of

genetic risks for cancer from the general public comprising every strata of the society.

Research on the public perception of genetic determinism and perceived control of health for the potential purpose of educational communication is not unprecedented. One such study revealed that the genetic susceptibility beliefs (threats) motivate behavioural response in health control, while beliefs in the molecular nature of disease (essentialism) produce an opposite response [11]. Insofar as findings related to perception of genetic predisposition to cancer, indirect and direct pieces of evidence have been made available. Indirect assessment of genetic factors as cancer risk can mostly be obtained from studies that look into people's attitudes and receptivity of genetic testing for cancer susceptibility. One such study done in the US [12] circumstantially revealed a high awareness and acceptance of genetics as an underlying factor in cancer predisposition. On the other hand, evidence from a study conducted in Ireland that directly surveyed public discernment of cancer risk [13] showed that a majority