

ORIGINAL ARTICLE

Protection Motivation Theory-Based Questionnaire Validation to Predict Acceptance of Healthcare Workers towards Uptake of Pertussis Vaccine

Michal Christina Steven, Jeffery Stephen

Department of Community Medicine and Public Health, Faculty of Medicine and Health Sciences, University Malaysia Sarawak (UNIMAS), Jalan Datuk Mohammad Musa, 94300 Kota Samarahan, Sarawak

ABSTRACT

Introduction: Pertussis is known to cause infection and reinfection to everyone irrespective of ages and countries. Therefore, adults do require vaccination for protection against pertussis infection especially the HCW. However, the pertussis vaccine coverage is low among HCW due to low-risk perception. Protection Motivation Theory (PMT) is one of the most cited theories to explain risk perception and intention to change. Therefore, we developed a questionnaire based on the subconstructs of the PMT to assess the acceptance of the pertussis vaccine amongst the HCWs in Sabah and Sarawak. The motive of this study is to validate this questionnaire to see its validity and reliability. **Method:** Data was collected using a self-administered questionnaire via an online survey (Monkey Survey). The questionnaire was given to 250 HCW. Items that were identified as a problem were modified to increase reliability. Further validation was done among 853 HCWs working in various parts of Sabah and Sarawak. **Results:** The Cronbach alpha of the overall construct of PMT during the first pilot study was 0.66 and improved to 0.82. Principal components factor analysis using varimax rotations showed that the first four factors explained 28%, 2%, 9% and 5% of the variance respectively. Both the one level and two-level modelling indicated that it's a good fit model. **Conclusion:** The study instrument that was developed for the study has been tested and proven to be relevant to assess the risk perception of an HCW towards pertussis.

Keywords: Healthcare workers, Pertussis vaccine, Validation studies

Corresponding Author:

Michal Christina Steven, MPH
Email: michalchristina86@gmail.com
Tel: +6082 58 1000

INTRODUCTION

Pertussis is known to cause infection and reinfection to everyone irrespective of ages and countries (1). The trend of pertussis incidence is observed to be increased in every three to five years, even in countries with high vaccine coverage (2). The mortality rate is reported mostly amongst infants, especially those who are less than two months old (3). The sources of infection in the case of these unfortunate infants are said to be from the parents or siblings. Therefore adults do require vaccination for protection against pertussis infection (4).

Healthcare workers (HCW) are exposed to many kinds of infectious diseases every day. Due to lack of symptoms, some HCW may not realize the possibility of them being a source in spreading pertussis to their patients (5). Because of high potential person-to-person transmission

between the HCW and patient, the Advisory Committee on Immunization Practices (ACIP) recommended all HCWs to be given booster pertussis vaccine (6). Despite the recommendation by the Advisory Committee on Immunization Practices (ACIP) for protection against pertussis, the compliance rate among HCW in receiving the pertussis vaccine is relatively low (7). Many studies have been done to assess the barriers to receive pertussis vaccine amongst HCW and adults. Risk perception is an essential reason for the decision to the uptake of vaccine (7–9).

Risk perception is defined as the ability of an individual to recognize a certain amount of risk (10). In another word, risk perception is an individual's susceptibility to a threat (11). Risk perception is one of the critical factors in determining health-seeking behaviour. Many studies have suggested that disease risk perceptions are a vital determinant of health behaviour (11). Risk perception of an individual is best explained using behaviour theories. Protection Motivation Theory (PMT) is one of the most cited theories to explain risk perception and intention to change (10) whereby it explains that there