

Development and validation of a survey instrument on drowning prevention and water safety among parents of primary school children

ABSTRACT

Introduction: Malaysia has limited educational material on drowning prevention and water safety. Currently, no formal regulations or acts applicable to drowning prevention were identified such as requiring lifeguards to be present in all public pools, pool fencing and wearing floatation devices for children when engaging in water activities. Limited awareness messages are available on drowning prevention, especially for parents. Assessment of parental knowledge, attitude and practice on childhood drowning and its preventive measures will assist in designing essential educational package for childhood drowning prevention and water safety.

Aim: To design and evaluate the survey instrument examining knowledge, attitude and practice on drowning prevention and water safety among parents and guardians of primary school children.

Materials and Methods: Prior to designing the questionnaire, documents analysis and literature reviewed were employed to provide an insight into the research topic. Six experts evaluated content validity with the score of Content Validity Index (CVI). The questionnaire was designed and cross-sectional study was conducted among 130 parents/guardians of primary school children in Selangor, Malaysia. Construct validity was estimated using Exploratory Factor Analysis (EFA); utilising principal components method and varimax rotation. The reliability of the questionnaire was evaluated by face validity and Cronbach's alpha respectively.

Results: An agreement obtained from the panel experts on the adequacy of the instrument; based on the I-CVI score ≥ 0.83 and scale-level content validity (S-CVI/Ave) characteristics of relevancy, clarity, simplicity and unambiguity of each item in the questionnaire $\geq 90\%$. Exploratory factor analysis resulted in 10 factor-solutions (69.4% total variance) constructed for attitude domain whereas nine factor-solutions (65.8% total variance) emerged for practice domain. The reliability for knowledge was KR20=0.58 whereas internal consistency using Cronbach's alpha for attitude and practice was 0.81 and 0.84.

Conclusion: The drowning prevention and water safety questionnaire developed is useful and reliable for quantifying parental knowledge, attitude and practice characteristic related to water safety and drowning prevention for their children.

Keyword: Attitude; Content validity; Knowledge; Practice; Questionnaire development