The Psychometric Evaluation of the Immune Status Questionnaire in Indonesia

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ABSTRACT

Introduction: Immunity is one of the key factors in Covid-19 transmission, thus, assessments of immune status are essential for evaluating transmission risks. This study aimed to assess the validity and reliability of the Immune Status Questionnaire (ISQ), a recently developed immune status measure, among Indonesian adults, during COVID-19 Pandemic.

Methods: Online Indonesian translated version of the ISQ and the Short Form 12 (SF-12) for measuring health-related quality of life were completed by 296 Indonesian adults (58% female, mean age=45±19 years old). Out of those, 102 (34%) completed a second survey one week later for the test-retest reliability assessment. The internal consistency reliability was assessed in both surveys. Confirmatory factor analysis was conducted to assess the construct validity. Correlations among ISQ items and between ISQ with SF-12 component summary were computed to assess the instruments' convergent and divergent validities.

Results: Acceptable internal consistency reliabilities for the ISQ were found in the first and second surveys (a=0.87 and 0.82, respectively). Each ISQ item demonstrated excellent test-retest reliability, with intraclass correlations ranging from 0.70 to 0.88. A good fit of the data was found with a root mean square error of approximation of 0.069, after a model modification. Correlations among ISQ components and between ISQ with SF-12 components provided sufficient evidence for convergent validity of the scale while divergent validity was partially supported.

Conclusion: The validity and reliability of the Indonesian translated version of the ISQ for use in Indonesian adults are sufficiently demonstrated. The algorithm for computing ISQ in Indonesian adults, however, warrants further investigation.

Kata Kunci: *validity, reliability, immune status questionnaire, cross-cultural adaptation, Indonesia, adults*