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Title: Validation of a Japanese version of the COPD diagnostic questionnaire in the general Asian population: The Hisayama study

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Body: Although COPD Population Screener (COPD-PS) questionnaire was developed in the United State as a screening tool to assess the likelihood of COPD, its validity is not clear in population-based study. This study determines the validity of the Japanese version of the COPD diagnostic questionnaire in the general Asian population. This was an observational study of Japanese subjects living in the town of Hisayama in Fukuoka, Japan. All registered residents aged above 40 were solicited to participate in a town-wide health check-up including the completion of the COPD-PS and spirometry. Only subjects who had a FEV1/FVC of less than 0.7 were required to have a post-bronchodilator spirometry for further COPD evaluation. Subjects were classified into airway obstruction groups (none, pre-bronchodilator obstruction but not post, airflow obstruction). The sensitivity and specificity of the COPD-PS was assessed by logistic regression and cut-points evaluated for the best predictive threshold. The COPD-PS was evaluated among a total of 2,468 subjects and was found to be acceptable for completion with little missing data. The overall area under the ROC curve for the continuous COPD-PS score was 0.735. A cut-point of 4-points is recommended, resulting in a sensitivity of 63.9% and specificity of 73.7% with an area under the receiver operating characteristic curve of 0.69. The positive predictive value was 17.3% and negative predictive value was 96.0%. The COPD-PS appears to be an adequate measure for large scale screening of possible airflow obstruction requiring further testing with spirometry.