



#### Supplement 4. Subgroup analysis: Vitamin D deficiency in SEA region by countries (n=18 studies)

VDD: Vitamin-D deficiency; CI: confidence interval, Cohort studies with multiple measurement were presented for each measurement (studies by Diana et al and Oktaria et al), the study by Poh et al were presented by countries; The test of group differences for VDD by country was  $Q_b = 39.52$ , p-value <0.001