The prevalence of insulin resistance in Malaysia and Indonesia: An updated systematic review and meta-analysis

ABSTRACT

Noncommunicable diseases such as diabetes are strongly associated with the insulin resistance (IR) status of an individual. However, the prevalence of insulin resistance in Southeast Asia is poorly reported. Hence, this study investigated the prevalence of IR in Southeast Asia from the year 2016 to 2021. This study was carried out according to PRISMA guidelines. The literature search was conducted utilizing the PubMed and SCOPUS databases from the year 2016 to 2021 using the keywords '(insulin AND resistance) OR (insulin AND sensitivity) OR (prevalence OR incidence) AND (Malaysia OR Thailand OR Singapore OR Brunei OR Cambodia OR Indonesia OR Laos OR Myanmar OR Philippines OR Timor leste OR Vietnam)'. Funnel plot and publication bias were assessed using Egger's tests. Data were expressed as the prevalence rate. Results: A total of 12 studies with 2198 subjects were considered in the meta-analysis. Significant heterogeneity ($I2 > 94\%$ and p-value < 0.001) was observed in the meta-analysis. The overall prevalence of IR in Southeast Asia was 44.3%, with Malaysia having the highest prevalence rate at 50.4%, followed by Indonesia at 44.2%. Bias was detected in the meta-analysis. It may be that reports published before the year 2016 met the study selection criteria, but were excluded from the meta-analysis. The results from the meta-analysis indicate that the prevalence of IR in Southeast Asia is very high. This provided insights for healthcare policy makers and public health officials in designing IR screening programs.