

Table S3. Methodological characteristics of machine-learning-based models identified in the included studies*.

Study	ML architecture	Validation approach	Key predictors
Shankaracharya et al., 2012 [46]	Mixture of Experts neural network	Train–test split (training dataset n=1104; validation dataset n=311)	clinical and metabolic variables from hospital records
Choi et al., 2014 [52]	Artificial Neural Network (ANN); Support Vector Machine (SVM)	Internal validation using training dataset (KNHANES 2010) and external validation dataset (KNHANES 2011)	demographic, anthropometric, and clinical predictors (e.g., age, BMI, blood pressure)
Pei et al., 2019 [62]	J48 decision tree algorithm	Model development using filtered cross-sectional dataset	demographic, lifestyle, and clinical variables (e.g., age, BMI, hypertension, family history)
Abbas et al., 2019 [63]	Support Vector Machine (SVM) with feature selection (mRMR)	Train–test split with holdout validation dataset	OGTT-derived glucose features and demographic variables

*Only studies that explicitly reported the machine-learning architecture were included in this table. One study describing a machine-learning–based screening model did not specify the algorithm used and was therefore not included.