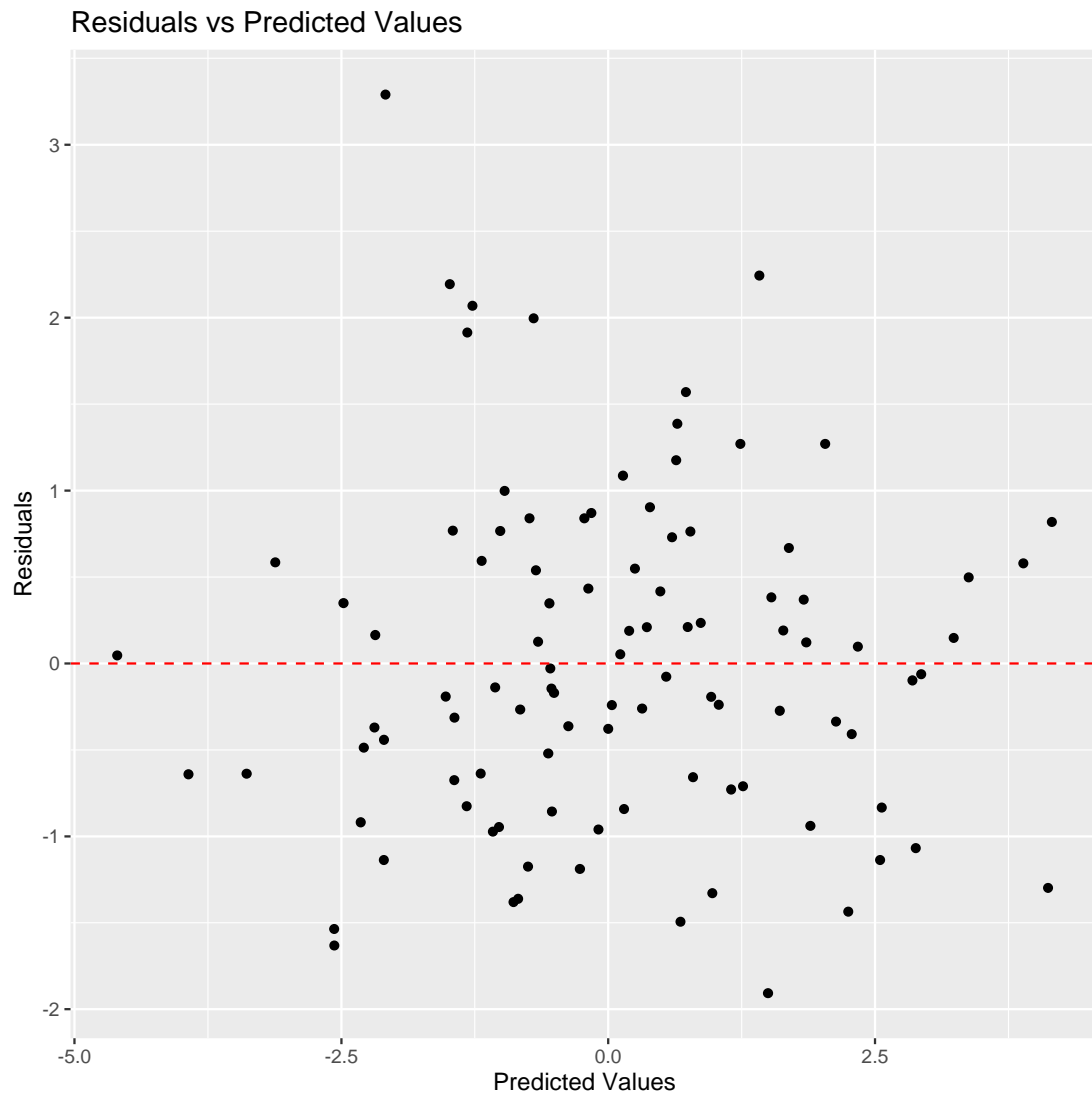


Supplementary material



Supplementary Figure 1 Residuals vs Predicted Values Plot

Supplementary Table 1 Comparison of Model Performance between the Current

Study and Previous Research

References	Country	Accuracy	Internal validation	External validation	Risk stratification
Current Study	China	0.821	Yes	Yes	Yes
study of Wieske et al ⁽²⁾ .	Netherlands	0.72	Yes	Yes	No

Supplementary Table 2 Normal values of interleukins

variables	normal reference values
IL-1 β (pg/ml)	≤ 12.10
IL-2(pg/ml)	≤ 11.40
IL-4(pg/ml)	≤ 12.90
IL-5(pg/ml)	≤ 3.40
IL-6(pg/ml)	≤ 20.00
IL-8(pg/ml)	≤ 21.40
IL-10(pg/ml)	≤ 5.90
IL-12p70(pg/ml)	≤ 3.20
IL-17(pg/ml)	≤ 20.60
IFN- α (pg/ml)	≤ 7.90
IFN- γ (pg/ml)	≤ 17.30
TNF- α (pg/ml)	≤ 5.50

Supplementary Table 3 Performance metrics for the three models in the training

dataset including inflammatory factors

Model	Accuracy	specificity	Precision	Recall	F1 score
LR	0.7298578	0.7300000	0.5235294	0.7295082	0.6095890
RF	0.9201521	0.9331210	0.9009434	0.9009434	0.9009434
XGB	0.9087452	0.9318182	0.9009434	0.8761468	0.8883721

Supplementary Table 4 Performance metrics for the three models in the testing dataset

including inflammatory factors

Model	Accuracy	specificity	Precision	Recall	F1 score
LR	0.7692308	0.7968750	0.6904762	0.7250000	0.7073171
RF	0.6242038	0.7340426	0.5370370	0.4603175	0.4957265
XGB	0.6942675	0.7835052	0.6111111	0.5500000	0.5789474

Supplementary Table 5 Performance metrics for the three models in the training dataset excluding inflammatory factors

Model	Accuracy	specificity	Precision	Recall	F1 score
LR	0.7208672	0.7224335	0.5100671	0.7169811	0.5960784
RF	0.8916350	0.8703170	0.7877358	0.9329609	0.8542199
XGB	0.8802281	0.8934169	0.8396226	0.8599034	0.8496420

Supplementary Table 6 Performance metrics for the three models in the testing dataset excluding inflammatory factors

Model	Accuracy	specificity	Precision	Recall	F1 score
LR	0.5668790	0.5952381	0.2153846	0.4516129	0.2916667
RF	0.5286624	0.5762712	0.2307692	0.3846154	0.2884615
XGB	0.5987261	0.6494845	0.4769231	0.5166667	0.4960000