TABLE 2. Validity of caries risk assessment programmes in predicting caries (republished with permission of Elsevier, from Gao X, Di Wu I, Lo EC, Chu CH, Hsu CY, Wong MC. Validity of caries risk assessment programmes in preschool children. J Dent 2013;41:787-95.)

Cut-off point of predicted risk	No. of children	Mean±SD caries increment (change in No. of decayed, missing, or filled teeth [Δdmft])*	% with new caries (Δdmft >0)*	Relative risk (95% CI) for new caries (Δdmft >0)*	Sensitivity (%)	Specificity (%)	Sensitivity+ specificity (%)	Accuracy (%)
Caries-risk Assessment Tool (CAT) [screening]								
≥High								
Non-susceptible	18	0.17±0.51	11.1	1 (reference)	98.9	5.2	104	39.6
Susceptible	467	0.80±1.37	37.7	2.01 (1.06–2.52)				
CAT (screening) excluding socioeconomic risk factors								
≥High								
Non-susceptible	20	0.20±0.52	15.0	1 (reference)	98.3	5.5	104	39.6
Susceptible	465	0.80±1.38	37.6	1.81 (0.99–2.38)				
CAT (comprehensive)								
≥High								
Non-susceptible	11	0±0	0	-	100	3.6	104	39.0
Susceptible	474	0.79±1.37	37.6					
CAT (comprehensive) excluding socioeconomic risk factors								
≥High								
Non-susceptible	13	0.08±0.28	7.7	1 (reference)	99.4	3.9	103	38.9
Susceptible	472	0.79±1.31	37.5	2.20 (0.95–2.64)				
Caries Management by Risk Assessment (CAMBRA) [screening]								
≥Moderate								
Non-susceptible	68	0.10±0.39	7.4	1 (reference)	97.2	20.5	118	48.6
Susceptible	417	0.89±1.42	41.5	2.28 (1.83–2.53)				
≥High								
Non-susceptible	145	0.12±0.45	7.6	1 (reference)	93.8	43.6	138	62.0
Susceptible	340	1.06±1.51	49.1	2.38 (2.13–2.53)				
CAMBRA (comprehensive)								
≥Moderate								
Non-susceptible	137	0.20±0.76	10.9	1 (reference)	91.6	39.7	131	58.7
Susceptible	348	1.00±1.47	46.8	2.20 (1.91–2.40)				
≥High								
Non-susceptible	222	0.23±0.73	13.1	1 (reference)	83.7	62.9	147	70.5
Susceptible	263	1.24±1.58	56.7	2.27 (2.07–2.42)				
Cariogram (screening)								
≥38.5% chance of caries								
Non-susceptible	305	0.40±0.95	21.6	1 (reference)	62.9	77.9	141	72.4
Susceptible	180	1.41±1.67	62.2	2.16 (1.94–2.32)				
Cariogram (comprehensive)								
≥37.6% chance of caries								
Non-susceptible	304	0.41±1.01	20.7	1 (reference)	64.6	78.5	143	73.4
Susceptible	181	1.38±1.62	63.5	2.17 (1.95–2.35)				
NUS-CRA (screening)								
≥32.8% chance of caries								
Non-susceptible	307	0.28±0.79	15.3	1 (reference)	73.6	84.7	158	80.6
Susceptible	178	1.64±1.67	73.6	2.45 (2.32–2.54)				
NUS-CRA (comprehensive)								
≥35.2% chance of caries								
Non-susceptible	301	0.28±0.89	13.0	1 (reference)	78.1	85.3	163	82.7
Susceptible	184	1.59±1.58	75.5	2.47 (2.35–2.56)				

* Significantly different between susceptible and non-susceptible children. The Chi-square test is used to compare proportions. The Fisher's exact test is used when the count in any cell of a 2x2 table is <5. The independent *t*-test is used to compare means when the distribution and homogeneity of variance is normal; otherwise, the Mann–Whitney *U* test is used. Odds ratio and its confidence intervals are generated from logistic regression and converted to relative risk

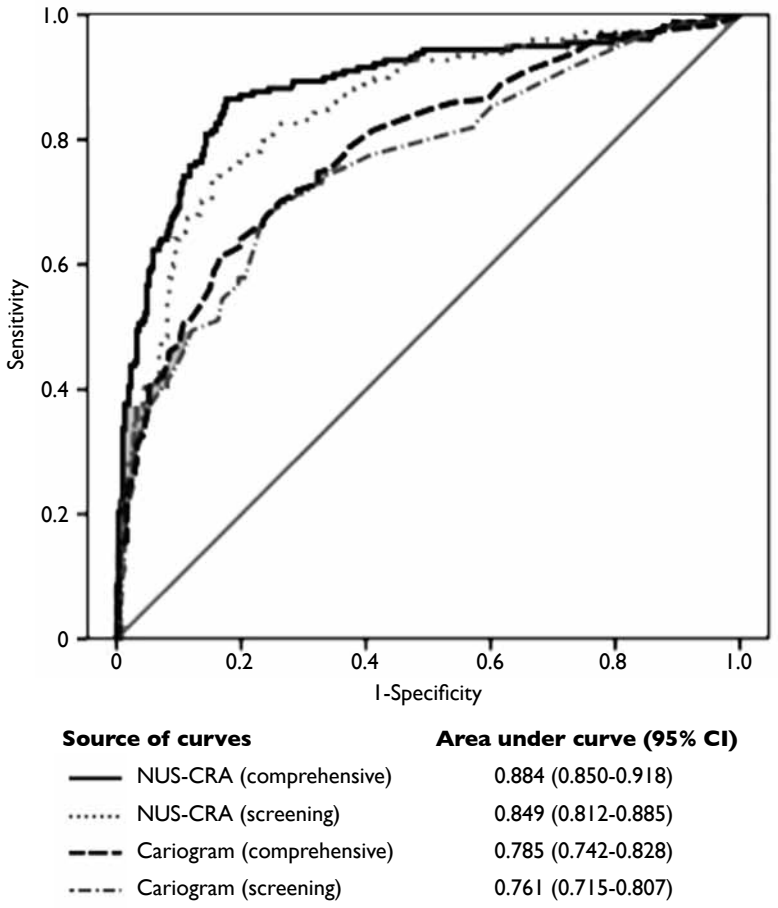

FIG. Receiver operating characteristic curves for programmes with continuous outcomes (republished with permission of Elsevier, from Gao X, Di Wu I, Lo EC, Chu CH, Hsu CY, Wong MC. Validity of caries risk assessment programmes in preschool children. J Dent 2013;41:787-95.)

frequent such review should occur. Across all CRA programmes, the prediction for 12-month caries increment was more accurate than for 6-month and 18-month outcomes. As caries is a chronic disease, a 6-month follow-up may be inadequate for the results of interaction of various factors to be manifested in the form of cavitation. In addition, young children are in the process of changing and establishing their habits, change in their risk profile over an 18-month period may be dramatic. Our findings support the timeframe adopted by Cariogram and NUS-CRA (ie prediction of risk in the coming year) and a periodical risk review on a 12-month basis. These findings will contribute to cost-effective caries prevention/intervention and optimised treatment planning.

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AUTHOR INDEX

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