

# The Association between Malaria and $\beta$ -Carotene Levels: A Systematic Review and Meta-Analysis

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**Table S4.** Subgroup analyses of β-carotene levels between malaria cases and uninfected controls.

Subgroup analyses	P value	Hedges' g (95% CI)	I <sup>2</sup>	Number of studies
<b>Publication years</b>				
Before 2010	< 0.01	-0.77 (-1.01–(-0.53))	0	3
2010-2019	N/A	-3.93 (-4.65–(-3.21))	N/A	1
2010-2023	0.15	-0.88 (-2.08–0.32)	92.84	3
<b>Study design</b>				
Case-control study	0.02	-1.26 (-2.28–(-0.25))	95.66	5
Cohort study	N/A	-1.99 (-3.03–(-0.95))	N/A	1
Cross-sectional study	N/A	-0.73 (-1.08–(-0.38))	N/A	1
<b>Continent</b>				
Africa	< 0.01	-2.00 (-3.22–(-0.77))	94.20	4
Asia	0.21	-0.39 (-1.00–0.22)	83.97	3
<b>Participant's groups</b>				
Children	< 0.01	-1.66 (-2.68–(-0.65))	95.21	4
Adults	N/A	-1.99 (-3.03–(-0.95))	N/A	1
Children, adults	0.71	-0.19 (-1.19–0.81)	89.02	1
<b>Plasmodium species</b>				
<i>P. falciparum</i>	< 0.01	-1.91 (-3.06–(-0.76))	95.30	4
<i>P. falciparum</i> , <i>P. vivax</i> , mixed infections	N/A	-0.69 (-1.11–(-0.27))	N/A	1
Not specified	0.61	-0.34 (-1.66–0.98)	91.90	2
<b>Clinical status</b>				
Symptomatic	< 0.01	-1.64 (-2.52–(-0.76))	94.28	5
Not specified	0.61	-0.34 (-1.66–0.98)	91.90	2
<b>Methods for β-carotene</b>				
HPLC	0.04	-0.53 (-1.04–(-0.03))	80.57	4
Other methods/Not specified	0.01	-2.35 (-4.20–(-0.49))	95.79	3

Abbreviations: CI, confidence interval; HPLC, High performance liquid chromatography; N/A, not assessed