

## **Vaccine literacy among Italian travelers: A web-based survey using a brief assessment tool**

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**Background:** Emerging infections, ecological change, and rising global mobility make Vaccine Literacy (VL) increasingly important in travel medicine. We measured VL among Italian travelers and evaluated the 3-item Vaccine Literacy Brief Tool (VLBT).

**Materials and Methods:** We conducted a cross-sectional survey (January–July 2025) using a QR code displayed in nine travel-vaccination clinics across five Italian regions, linking to an anonymous online questionnaire. Measures included the VLBT, the 3Cs antecedents of vaccine hesitancy, demographics/travel variables, and vaccination-related knowledge, behaviors, and intentions. Construct validity was assessed through reliability and factor analyses and by correlating VL with 3Cs. Criterion validity was assessed via associations between VL and vaccination outcomes (number of vaccines received, vaccination recall accuracy, awareness of destination-specific requirements, and influenza vaccination intention).

**Results:** We collected 534 questionnaires (predominantly highly educated adults aged 18–40 years). Mean VL was  $3.07 \pm 0.66/4$ , lower than prior Italian general-population reports ( $3.21 \pm 0.42$ ;  $p < 0.001$ ). Mean 3Cs score was  $1.92 \pm 0.60$ , indicating relatively high hesitancy. VL correlated negatively with 3Cs ( $r = -0.204$ ;  $p < 0.001$ ). VL decreased with older age ( $\rho = -0.132$ ;  $p = 0.002$ ) and increased with higher education ( $\rho = 0.196$ ;  $p < 0.001$ ). Higher VL was associated with more vaccines received, better vaccination recall accuracy, greater awareness of destination-specific requirements, and higher influenza vaccination intention.

**Conclusions:** The VLBT offers a rapid assessment of VL in travelers and may support tailored pre-travel counseling. The high hesitancy observed warrants targeted communication strategies and implementation research in routine practice.