

Risk on the Menu: The Parasitological Footprint of Raw Fish Consumption

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Abstract

Traditional culinary preferences involving raw and undercooked freshwater fish are the primary driver of *Opisthorchis viverrini* (OV) liver fluke infections across Southeast Asia, particularly in the Lower Mekong Basin. In endemic regions, deeply rooted food traditions—exemplified by local dishes such as Koi-pla (raw minced fish salad), Laab-pla, and short-term fermented preparations like Pla-som—serve as the direct transmission pathway for infective parasite larvae (metacercariae) into humans. While these regional delicacies hold high cultural value, chronic parasite ingestion leads to severe hepatobiliary damage and cholangiocarcinoma (bile duct cancer). Dietary habits, reinforced by community food-sharing networks and household food preparation norms, sustain continuous re-infection even when medical treatments are widely available. To address the dietary root of this epidemic, integrated community interventions—such as the One Health "Lawa Model"—focus heavily on food safety, culinary behavior change, and safer processing alternatives. By combining targeted health education on cooked alternatives with environmental control and domestic host management, this approach directly addresses food-borne risk to break the transmission cycle of liver fluke disease.

Keywords: Raw fish consumption, *Opisthorchis viverrini*, Food-borne trematodes, Koi pla, Food safety, Lawa Model, One Health